

LNG Unlimited

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Shipment to UK highlights US LNG blindspot for Northwest Europe

Sabine Pass has sent three cargoes to UK and Dutch import terminals and 34 to Med region

LNG Journal editor

The first cargo to be exported from the new Cove Point liquefied natural gas export plant on Chesapeake Bay in Maryland has arrived at the UK port of Milford Haven and is only the second US shipment to be sent to Britain since US LNG exports began in 2016, while almost 40 shipments have been sent to other European nations, mainly to southern Europe.

The 138,100 cubic metres capacity vessel "Gemmata", operated by Shell Shipping, completed the unloading of the shipment from Cove Point, owned by Dominion Energy, on March 21 at the Dragon LNG terminal in Milford Haven, owned by Shell and Malaysian energy company Petronas.

Totals

The US has shipped more than 300 cargoes since the first export plant in the Lower 48 States began operations in February 2016 at Sabine Pass in Louisiana

However, despite Northwest Europe suffering from a cold snap and natural gas shortages because of peak demand there was no surge of shipments heading from the US as Asian and South American destinations are still the preferred option.

Analysts said that Northwest Europe will grow in importance as a destination of last resort as more North America volumes are produced and inter-basin arbitrage trading becomes more regular.

At the same time Russian cargoes from the Yamal plant in Siberia, operated by Novatek and



UK terminals have handled only occasional US cargoes

in which Total is a stakeholder, have begun arriving in Europe for trans-shipment, mostly at French terminals.

With the unloading of the US cargo at the UK Dragon terminal, one of two import facilities in Milford Haven port, just three shipments have been sold into the high-priced Northwest European gas market since the US exports began.

A Sabine Pass cargo was unloaded in June 2017 at the Dutch Gate terminal in the port of Rotterdam and in July 2017 a second Sabine Pass shipment arrived at the UK Isle of Grain terminal, southeast of London and owned by National Grid plc.

While northwest Europe has seen few US shipments, 34 cargoes have been sent to southern European nations such as Portugal (8 cargoes), Spain (11 cargoes), Italy (3 cargoes), Malta (1 cargo) and Turkey (11 cargoes).

East European nation Poland has received one US cargo while the Baltic state of Lithuania has unloaded two US shipments.

Cove Point plant owner Dominion began producing LNG at the end of January as it continued to put the facility through a comprehensive round of testing and

quality assurance activities.

Shell North America provided the natural gas needed for liquefaction during the commissioning process and thus lifted the first LNG produced.

Dominion in the weeks ahead will produce LNG for the Japanese joint venture comprising Sumitomo Corp. and the utility Tokyo Gas, as well as for Gas Authority of India (GAIL) under 20-year, take-or-pay contracts.

Single Train

Cove Point is a relatively small operation with nameplate capacity of 5.25 million tonnes per annum of LNG from a single Train.

This compares with 18 MTPA being produced at Cheniere's Sabine Pass where four Trains out of six are completed and on stream.

Construction of the Cove Point liquefaction facility began in October 2014, following more than three years of federal, state and local permit reviews and approvals.

US LNG export capacity is set to increase to more than 70 million tonnes per annum by 2020-2022 as other new projects come on stream in the Gulf Coast states of Louisiana and Texas.

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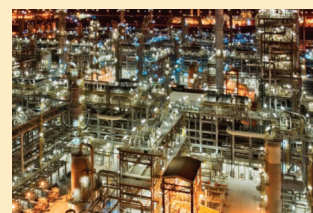
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Sabine Pass LNG plant in Louisiana is now the largest daily consumer of natural gas in US

LNG Journal editor

With four liquefaction Trains in full operation, Cheniere Energy said its Sabine Pass export plant in Louisiana was now the largest physical consumer of natural gas in the US on a daily basis and its fifth Train is now almost 85 percent complete.

Cheniere gave its update in its latest presentation to investors and said its own Creole Trail Pipeline provides 1.5 billion cubic feet per day of the total 3.9 Bcf/d contracted inlet capacity into Sabine Pass.

Over 300 cargoes

The Houston, Texas based company said its plant had delivered cargoes to 25 countries and regions across the globe, amounting to 300 shipments exported.

A second US export plant has come on stream in the Lower 48 States, the Cove Point plant in Maryland.



Creole Trail provides 1.5 Bcf per day of feed-gas

About half-a-dozen industrial-scale plants, larger than Cove Point with its single train and 5.25 million tonnes per annum of output, will come on stream in Louisiana and Texas over the next five years.

Cheniere's 94-mile pipeline, whose bi-directional capabilities were completed in 2015, interconnects Sabine Pass with a number of large interstate pipelines in-

cluding Kinder Morgan's Natural Gas Pipeline of America (NGPL), Transco, Tennessee gas Pipeline, Florida gas Transmission, Bridge-line and Texas Eastern Transmission Pipeline.

"A diverse and redundant pipeline network has allowed SPL to reach into almost every North American supply basin," said the company.

"SPL's redundancy on pipeline

deliverability to the terminal provides the ability to adapt to changing market conditions and manage upstream interruptions," it added.

Its four processing Trains in operation have given steady output of 18 MTPA. Train five will take output to 22.5 MTPA and the sixth coming on stream would take the total to 27 MTPA.

"Train 6 is fully permitted and ready to be commercialized, with attractive expansion economics leveraging existing infrastructure," stated Cheniere.

Cheniere said its "investment thesis" provides long-term, stable, investment-grade cash flows.

"The company's strategy is based on long-term 'take-or-pay' style of commercial agreements (Sales and Purchase Agreements) with investment grade off-takers for approximately 80-95 percent of the expected aggregate production capacity under construction or completed," said Cheniere.

US Gulf Coast LNG export developer posts \$231M loss as engineer Bechtel joins roster of investors

Tellurian Inc, developer of a US Gulf Coast liquefaction and export plant called Driftwood LNG, ended the year with around \$128.3 million in cash while remaining debt free before having to invest up to \$30 billion over the next four years to make their extensive construction, upstream feed-gas and pipeline plans a reality.

Tellurian Inc. reported an annual net loss of \$231.5M though insisted it had a strong balance sheet consisting of \$276.8 million in assets, of which \$90.9M represented proved natural gas reserves of around 327 billion cubic feet equivalent.

The Houston-based company's report consisted of a list of landmark events during 2017 that bought closer its plan to build an export facility with six Trains and around 27 million tonnes per

annum of output. Tellurian said its Driftwood venture completed the pre-filing phase and submitted a formal application with the Federal Energy Regulatory Commission (FERC) to construct and operate the Driftwood terminal and Driftwood pipeline.

A FERC authorization deadline was set for January 10, 2019, allowing Tellurian to make a final investment decision and begin construction of the plant in the first half of 2019.

Tellurian said it was hoping to produce LNG at a cost of around \$550 per tonne, one of the lowest cost liquefaction projects worldwide.

Tellurian also acquired almost 12,000 net acres of natural gas producing assets in the core of the Haynesville shale and said it was targeting delivery of gas for \$2.25

per million British thermal units.

It also revealed plans for the Tellurian Pipeline Network to expand natural gas supply alternatives for the growing demand in southwest Louisiana.

"Tellurian was able to guarantee its project costs, gain a regulatory scheduling notice, and obtain access to capital markets," said company President and Chief Executive Meg Gentle.

"By integrating our business, we are recognizing the strength of the commoditized LNG market, and we are offering customers the opportunity to share in the benefits of the low-cost structure as our partners," added Gentle.

"The experienced team at Tellurian is developing asset opportunities representing \$29 billion of near-term investments that will deliver natural gas to the growing

LNG hub in southwest Louisiana and enable exports to global markets," she stated.

Tellurian also announced that its LNG engineering contractor Bechtel had made a \$50 million investment in the company.

The investment by the US engineer and builder of liquefaction plants around the world was on the basis of a preferred equity investment with an implied Tellurian common share price of \$8.16 per share.

"Tellurian management and Bechtel have worked together for many years and we look forward to continuing our success as equity partners," said Brendan Bechtel, Chairman and Chief Executive of the Bechtel Group, a privately-held company headquartered in San Francisco.

Hong Kong firm granted US Fourchon LNG permit

Fourchon LNG, the US export venture owned by a subsidiary of Hong Kong-based Energy World Corp. and planned for Belle Pass in Louisiana, was granted multi-year permits to ship cargoes for 30 years to countries with a Free Trade Agreement (FTA) with the US and for 20 years to any countries without an FTA.

The Department of Energy awarded the multi-contract authorizations for up to 260 billion cubic feet a year of natural gas.

The Fourchon project is already in the pre-filing environmental review process overseen by the Federal Energy Regulatory Commission.

Fourchon's developers, who also have offices in Houston and Sydney, Australia, plan a two-phase construction of the liquefaction facilities with initial production of 2 million tonnes per annum and a second phase expanding output to a total of 5 MTPA.

The Louisiana project also plans to reserve up to 500,000 tonnes a year of LNG for domestic use, with the intention of providing fuel for offshore supply vessels powered by LNG and operating in the Gulf of Mexico.

Fourchon is being developed by Energy World Corp. subsidiary Energy World (USA) Inc. EWC is engaged in the business of infrastructure, power generation and energy-related projects mainly in the Asia-Pacific region.

The company recently completed a small-scale LNG import terminal in the Philippines linked to a power venture and is in the final stages of building LNG liquefaction and power plants in Indonesia. ■

Freeport LNG is awarded export permit for plant's fourth Train

LNG Journal editor

Freeport LNG, the US export plant being constructed on Quintana Island in Texas, was granted a permit by the Department of Energy to export an additional 5 million tonnes per annum from a fourth liquefaction Train.

The Texas project, led by US energy entrepreneur Michael Smith, has already entered the authorization process of the Federal Energy Regulatory Commission to construct the fourth liquefaction Train.

Schedule

"The proposed Train 4 is being designed with a nominal production capacity of 5.1 million tonnes per annum. Freeport LNG anticipates being ready to commence construction of Train 4 by the end of 2018, with operations starting as early as 2022," said the DoE statement.

Freeport LNG is progressing on building the initial three Trains and it has carried out other work, including dredging the original marine basin at the existing im-



Texas plant development is led by CEO Michael Smith

port terminal to provide better carrier facilities.

The first three Trains will be brought on stream in sequence, between the end of 2018 and the third quarter of 2019, giving around 15.3 MTPA of output.

About 13.4 MTPA of that production capacity from the first three Trains has been contracted under use-or-pay liquefaction tolling agreements with European and Japanese contract holders, BP of the UK, Germany's Uniper and Japan's Jera Co. Inc. and Osaka Gas.

The four Freeport customers

have also signed agreements for pipeline capacity on the Coastal Bend Header pipeline project.

The pipeline is being constructed by Gulf South Pipeline Co. and is scheduled to be in service by November 2018.

Gulf South's pipeline project will deliver feed-gas to the Freeport plant and expand and modify a portion of its existing system in southeast Texas.

The project consists of 66 miles of pipeline located in Brazoria and Wharton Counties in Texas and with additional compressor facilities. ■

Pivotal LNG delivers first LNG to the US space agency NASA

Pivotal LNG, the US clean fuel supplier, has made its first delivery of liquefied natural gas to the National Aeronautics and Space Administration (NASA) after earning the contract award to serve NASA's Marshall Space Flight Center in Huntsville in Alabama.

"We are proud to have earned the trust and confidence of NASA to serve the historic agency," said Tim Hermann, President of Pivotal.

Pivotal won a tender in the third quarter of 2017 for LNG supplies, strictly for ground fuel use, at the Marshall Space Flight Center.

"It was a pleasure to work closely with the John F. Kennedy Space Center, who contracted the

solicitation, and the Marshall Space Flight Center professionals to understand the agency's exclusive schedule of supplies, commodity specifications, and contracting terms," said Hermann.

The Marshall Space facility is a rocketry and spacecraft propulsion research centre set up by the federal government in 1960 to help with the space program.

NASA has previously been involved in the LNG value chain through its Michoud Assembly Facility in New Orleans, the agency's only large-scale advanced manufacturing plant.

Lockheed Martin Corp., the aerospace and defence company, has drawn on Michoud plant and equipment to manufacture storage

tanks for LNG-fueled ships.

Pivotal is part of Southern Company, a leading US natural gas and electricity supplier whose headquarters are in Atlanta, Georgia.

Pivotal and Southern Company Gas operate a network of LNG production facilities with the capacity to produce over 554,000 gallons per day and the ability to store more than 96 million gallons.

Pivotal, through its Jax LNG partnership with NorthStar Midstream, is developing an additional LNG production facility in Jacksonville, Florida.

The Jax LNG facility is expected to be in service by the second quarter 2018. ■

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NEWS NUDGES

Wood Group posts loss

Wood Group, the energy services and LNG project company that completed the US\$2.8-billion acquisition in October 2017 of London-listed peer Amec Foster Wheeler, posted a \$30 million loss for the year. Wood said operating profit before one-time items was \$212M compared with \$244M the previous year, a fall of 13 percent. Revenues from continuing operations amounted to \$5.39Bn in 2017. "The acquisition of Amec Foster Wheeler in October brought together two businesses and three brands to create Wood, a global leader in project engineering and technical services delivery," said Robin Watson, Wood Chief Executive.

Kuwait LNG agreement

Kuwait Petroleum Corp. (KPC) has signed a new long-term agreement for supplies of liquefied natural gas, said the Kuwaiti state news agency. It said the LNG volumes would help the Gulf nation meet rising natural gas demand for the power generation sector. The agreement was signed with Shell International Trading and will start in 2020. According to a previous provisional agreement, it would involve volumes of up to 3 million tonnes per annum for 15 years. Kuwait's Mina Al-Ahmadi floating LNG import facility was the first to be set up in the Gulf region in 2009.

Inpex given offshore permit

Japanese energy company Inpex Corp., the main stakeholder in the Australian Ichthys LNG export plant under construction at Bladin Point near Darwin in the Northern Territory, said it was awarded an exploration permit for WA-533-P as operator in Australia's latest acreage release.

Indian LNG imports decline as costs rise by over 25 percent

LNG Journal editor

Indian liquefied natural gas imports decreased in February as the cost of the shipments soared more than 25 percent compared with the previous fiscal year and India prepared to receive some less expensive volumes in the future from US export plants in Louisiana and Maryland.

Shipments to India's three main import terminals, Dahej, Hazira and Dabhol near the West Coast port of Mumbai amounted to 1.56 million tonnes (2.11 billion cubic metres) last month, which was 1.0 percent lower than in February 2017 when 1.57MT of LNG was brought in.

Volumes

The LNG imports had jumped in January by almost 47 percent to 1.78MT compared with 1.21MT in the same month of last year.

The total of imports for the 11 months of the fiscal year from April to February amounted to 17.69MT of LNG, an increase of 6.1 percent versus the 16.67MT imported in the same period of the previous fiscal year, according to the figures from the Indian Ministry of Petroleum and Natural Gas.



Staff at the Dahej LNG import terminal near Mumbai

The shipments had cost India \$6.9 billion compared with \$5.5Bn in the same 11-month period of the previous fiscal year, a rise of 25.5 percent.

The decline in LNG imports for February was matched by a fall in domestic natural gas production from India's own gas fields.

The Ministry said gross production of natural gas for the month of February amounted to 2.48 billion cubic metres compared with 2.52 Bcm, down 1.5 percent compared with February 2017.

However, the cumulative 11-month production of natural gas was 2.5 percent higher at 29.86 Bcm versus 29.14 Bcm in the same period of fiscal 2017.

Indian LNG imports could have been higher if East Coast destinations were available. A better pipeline network nationwide is

being developed as a government priority.

One Indian company, network operator Gas Authority of India (GAIL), will import more shipments in 2018 from the US and Australia, where it has long-term supply contracts now in force.

LNG volumes available to Indian companies have edged higher overall during this fiscal year from Trains in Australia and the US in addition to regular supplier Qatar. More shipments are also coming from Angola, Nigeria and Equatorial Guinea.

Cheniere Energy, owner of the Sabine Pass LNG export plant in Louisiana, recently marked the start of regular LNG shipments to India with a ceremony for the first cargo departing under a long-term supply agreement with GAIL.

Japan's LNG imports rise as more Australian cargoes offset Mideast fall

Japanese liquefied natural gas imports rose 6.5 percent last month, led by a surge in Australian shipments as Asian cargo numbers also rose and Middle East deliveries fell.

The nation's February LNG deliveries amounted to 8.29 million tonnes compared with 7.79MT in February 2017.

The cost of the shipments jumped by around 18.8 percent in February 2018 to 427.53 billion yen (\$4.04Bn) compared with 359.99Bn yen (\$3.40Bn) in February 2017, according to the preliminary trade figures from the Japanese Finance Ministry.

Japan's LNG shipment volumes had edged lower in January to 8.26MT while the cost of the shipments was 11.5 percent higher than in the first month of 2017.

The cost of the shipments had also risen in January to 416.2Bn yen (\$3.81Bn) compared with 373.2Bn yen in January 2017.

Imports of thermal coal, a main competitor of LNG, also rose in February 2018 to 9.49MT, a rise of 6.6 percent versus February 2017.

Japan ended the year with an LNG import tally in 2017 of 83.63MT, just 0.4 percent higher than the 2016 total but with high

costs. Japan paid 19.3 percent more in 2017 for its LNG with 3,915 billion yen (\$35.58Bn) of expenditure versus 3,281Bn yen (\$29.81Bn) in 2016 for its 83.34MT.

Japan's nuclear power plants, numbering more than 50, were largely still offline in January with only four currently operating.

The Ministry data for February 2018 showed that Asian shipments from nations such as Malaysia and Indonesia, Papua New Guinea and Brunei increased by 15.2 percent from February 2017 to 2.55MT.

TransCanada oversubscribed with bids for Nova pipeline to US after cancelled LNG projects

LNG Journal editor

TransCanada Corp., the Canadian and North American pipeline and infrastructure operator, has completed its second binding capacity expansion on its Nova Gas Transmission Ltd. (NGTL) system for pipeline commitments to the Empress-McNeill export delivery point onward to the US border for surplus volumes formerly expected to be shipped as LNG from British Columbia to Asia.

NGTL offered 280 million cubic feet per day of firm service, targeted to commence in November 2021.

Terms

TransCanada said the Open Season bidding closed on March 15, 2018, and was oversubscribed, with an average awarded contract term of approximately 22 years.

This pipeline capacity offering followed a successful Open Season held in January 2018 for 1.0 Bcf/d of expansion capacity at the same delivery point, with service commencing between November 2020 and April 2021, and underpinning a recently announced \$2.4 billion NGTL System expansion.

TransCanada said this earlier Open Season was also oversubscribed, and industry had ex-



Tracy Robinson, TransCanada's head of gas pipelines.

pressed strong interest for additional market access.

"The success of this Open Season reinforces the critical role that the NGTL System plays to transport clean-burning natural gas out of the Western Canadian Sedimentary Basin and expand market connectivity for producers," said Tracy Robinson, TransCanada's senior vice president for Canada Gas Pipelines.

"We are committed to working collaboratively with industry and

providing competitive options to connect growing basin supply to downstream markets across North America," stated Robinson.

TransCanada said NGTL was working to finalize the scope of expansion facilities required to meet the incremental service requirements resulting from this Open Season.

"Any expansion facilities will be in addition to NGTL's existing capital expansion programs totalling approximately \$7.2 bil-

lion," said the Canadian company.

TransCanada is facilitating economic access for their natural gas to key export markets, including access to Eastern Canada and the US Northeast through TransCanada's Canadian Mainline and downstream systems.

The NGTL contracts will connect new supply in the low-cost Montney shale-gas of northeast British Columbia that was formally expected to be transported to LNG projects on the Pacific Coast such as those previously planned by companies like Petronas of Malaysia.

It will also service as a route for the Deep Basin and Duvernay plays to the NGTL system and provide shippers access to various local and pipeline export markets.

The pipeline expansion was previously mostly linked to a final investment decision on the Pacific NorthWest LNG project of Petronas and to other plans for liquefaction plants on the BC coast.

TransCanada said the existing NGTL system was a strategic asset now committed to providing shippers with timely and competitive options to connect with growing basin supply to downstream markets throughout North America.

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Shell ends presence in NZ with asset sale to OMV

Royal Dutch Shell, one of the leading participants in the global LNG and natural gas market, is to end its 100-year presence in New Zealand by selling its shares in eight businesses for US\$578 million to Austrian energy operator OMV, a company being helped by Shell to become an LNG importer using the Dutch port of Rotterdam.

Shell said its pull-out from New Zealand came after a two-year strategic review of the Anglo-Dutch company's interests in the country as it offloads non-core assets.

"It is consistent with the Shell Group strategy of divesting \$30 billion of assets by the end of 2018 and is in line with Shell's drive to simplify the upstream portfolio and re-shape the company into a world-class investment," said Shell.

OMV, or Österreichische Mineralöl Verwaltung as the Austrian company is known in German, has a growing international portfolio and produces and markets oil and natural gas in Europe and is also involved in the refining industry.

The Vienna-based company additionally operates the gas pipeline network in Austria and gas storage facilities in Austria and Germany.

As part of the deal, the employees of Shell Taranaki Ltd and Shell New Zealand will become part of OMV New Zealand upon completion of the deal.

The six other New Zealand business stakes sold by Shell are: Shell Exploration NZ Ltd, Taranaki Offshore Petroleum Company of NZ, Energy Petroleum Taranaki Ltd (EPTL), Energy Petroleum Holdings Ltd (EPHL), Energy Infrastructure Ltd (EIL) and Energy Petroleum Investments Ltd (EPIL).

MAN Diesel & Turbo plans Korean dual-fuel and LNG testing centre

LNG Journal editor

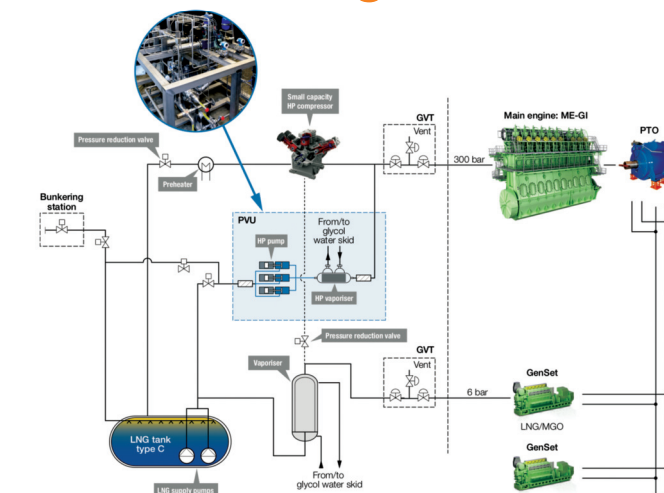
MAN Diesel & Turbo, the German maker of marine engines and turbomachinery, said it was building a new test facility in South Korea in partnership with Hyundai Heavy Industries that will include improving LNG equipment and dual-fuel engines.

The test and gas facility will be located at the Port of Ulsan in South Korea at Hyundai's Engine & Machinery Division (HHI-EMD) works and is scheduled to begin operation in early 2019.

Copenhagen link

"It will be the first test engine with online remote control, supporting MAN's digitization strategy. In this respect, the test engine will also be connected to MAN's research and control centre in Copenhagen, enabling the company's research engineers to closely follow and enhance the testing of future engine technologies," said MAN.

The German-owned company with operational facilities in Denmark said the MAN-Hyundai venture aimed to expand MAN Diesel & Turbo's research and develop-



MAN fuel-gas supply system for LNG-powered vessels

ment test capacity as part of its strategy to improve dual-fuel gas engines using LNG and other traditional fuels.

MAN has chosen Hyundai as its partner as it is among the leading global shipbuilders for LNG carriers and also has plans to construct a new wave of gas-powered vessels for container, cargo and energy companies to meet emission-control regulations.

MAN, based in Augsburg, Germany, said the new test engine set-up will also feature MAN's own electronically-controlled, gas-in-

jection (MEGI) Pump Vaporizer Unit (ME-GI PVU), a high-pressure LNG supply unit that makes installations significantly more compact, reducing both cost and weight.

"The ME-GI PVU is designed to pressurize and vaporize the LNG fuel to the exact pressure and temperature required by ME-GI engines," said the German company.

"Gas pressure is controlled via control of hydraulic oil flow to the pump, ensuring a very quick and precise control of the LNG supply to the engine" it explained.

Nordic supplier Skangas increases Europe's LNG bunkering operations

Nordic LNG supplier Skangas, a subsidiary of Finnish natural gas company Gasum, said it completed 1,000 LNG bunkering operations during a 12-month spell, representing a more than 60 per cent increase over previous years.

Skangas said the driving force behind the rise rested in supplying to new LNG-powered vessels both on regular routes and in the spot market. Its number of bunkering operation was both by ship-to-ship and quayside from trucks.

LNG is the cleanest available marine fuel and is in growing use in Northwest Europe and the US to power all vessel types, including

ferries, passenger ships, tankers, bulk, supply and containerships.

Skangas explained that the fuel market had been awaiting specialized LNG bunkering vessels to deliver to ships at sea.

It benefited during 2017 from its use of the NG bunkering vessel "Coralus" for fuel operations in the North Sea, the Skagerrak area and Baltic Sea.

"As more and more operators convert their ships to clean fuel with LNG and dual-fuelled engines to power them, demand has risen significantly," said Gunnar Helmen, Sales Manager for the marine division of Skangas.

"This is particularly true in

European waters where, until recently, most of the traffic consisted of ferries and RoPax cruise ferries routinely traveling set routes," explained Helmen.

"The supply pattern is more diverse due to the use of a greater variety of vessels that require different types of bunkering solutions," he added.

"We are responding directly by offering a number of solutions for this market," said Helmen.

The European Union is promoting small-scale LNG distribution and more use of the fuel in trucking as part of its clean energy policy.



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Qatar seeks partner for LNG expansion plan from 2023 with new mega-Trains of 7.8 MTPA output

LNG Journal editor

Qatar Petroleum is planning to begin liquefied natural gas production from its North Field expansion by the end of 2023 to reach 100 million tonnes per annum of output from its current 77 MTPA with three new liquefaction Trains and the possibility of a fourth additional Train to take output to 107.8 MTPA.

The company made this point at the award to Japanese engineering company Chiyoda Corp. of the front-end engineering and design of the onshore facilities for the expansion.

Joint venture

Qatar Petroleum, whose Qatargas subsidiary operates the Ras Laffan liquefaction complex in the Gulf state with joint venture partners including US major ExxonMobil, is also looking to form a joint venture with international partners to deliver the North Field project.

The facilities will produce an additional 23 MTPA from the additional Trains to be planned by Chiyoda and they will be the



Qatar's Ras Laffan processing complex will be expanded

largest in the world, surpassing Qatar's current mega-Trains in terms of output.

"The award of the front-end engineering and design contract to Chiyoda Corporation, is a significant milestone in our journey to deliver the first LNG from this new project by the end of 2023," said Saad Sherida Al-Kaabi, Qatar Petroleum President and Chief Executive.

"The addition of 23 MTPA of LNG will not just enhance Qatar Petroleum's position as the world's largest LNG producer and exporter, but also its international image as a reliable and trustworthy energy

provider," added the CEO.

Al-Kaabi noted that the expansion with feed-gas from the North Field resources is part of the company's strategic growth plan.

"We are continuing discussions with potential international joint venture partners for this strategic project to determine an optimized arrangement with the objective of delivering maximum value to the State of Qatar and contribute to the optimal utilization of Qatar's natural resources," stated Al-Kaabi.

The Qataris said the scope of work will provide the basic design for the addition of three liquefac-

tion Trains with 7.8 MTPA of output with associated pre-investment to add a fourth LNG train in the future.

"The onshore facilities will receive approximately 4.6 billion standard cubic feet per day of feed gas from the southern sector of Qatar's North Field, which is the largest single non-associated gas field in the world," the company added.

Qatar has the southern portion of the North Field in the Arab Gulf and the other part is under the jurisdiction of Gulf neighbour Iran.

The Qataris lifted their own self-imposed 12-year moratorium and is resuming development of its North Field gas.

Qatar is still the world's largest LNG supplier 21 years after it first began exporting LNG in 1997. Chiyoda was one of the main contractors on the various projects that constructed Qatar's existing LNG Trains.

However, the government had halted development of the North Field, citing the need to study the impact of rapid gas field development on reserves.

Russian carrier fleet owner Sovcomflot slips to net loss in year of LNG advances

Sovcomflot posted a net loss for the year as it made progress in the LNG shipping sector by starting deliveries from the Russian Yamal LNG plant and securing fuel for a small fleet of LNG-powered, ice-class Aframax oil tankers under construction.

The Russian company reported a loss of \$113.0 million compared with a \$206.8M profit the previous year.

Gross annual revenue for freight and hire amounted to \$1.43 billion compared with \$1.38Bln the previous year, a rise of 3.4 percent.

However, time charter equivalent revenue was down 7.4 percent at \$1.05Bln versus \$1.14Bln in 2016.

Among the company's highlights in the fourth quarter, the world's first ice-breaking LNG carrier, the 172,000 cubic metres capacity Arc7-class "Christophe de Margerie" was delivered into long-term time-charter with Yamal LNG.

The "Christophe de Margerie" earlier completed her first commercial voyage, transporting LNG through the Northern Sea Route from Norway to South Korea, becoming the world's first merchant vessel to travel the full length of the NSR without an icebreaker escort.

The vessel then commenced loadings from the Siberian port of Sabetta in the Yamal Peninsula fol-

lowing the official start-up of the Yamal LNG plant in December 2017 by Russian natural gas company Novatek.

Sovcomflot also previously announced an agreement with Shell for the supply of LNG to fuel the first of a new generation of gas-powered Aframax crude tankers.

The Russian company said it would take delivery of six such ice-class vessels between the third quarter of 2018 and the first quarter of 2019.

"Despite the very strong headwinds seen in the conventional tanker markets over 2017, with freight rates down by almost 50 percent reflecting one of the

worst years in a quarter of a century, we continued to implement our core strategy of industrialising our business model," said Sergey Frank, President and Chief Executive of Sovcomflot.

"We achieved a significant milestone with the decision to power with LNG our new generation of ice-class Aframax tankers, setting new standards for emissions and making the tanker industry greener," added Frank.

"Sovcomflot's growing industrial portfolio (offshore services and gas transportation) enabled us to remain profitable operationally," he said.