

First German LNG terminal planned by Vopak group to be break-bulk

Dutch-German companies are proposing building a multi-service LNG terminal, including truck-loading
Our Europe editor

Dutch Gate LNG terminal owners, the utility Gasunie and global storage company Vopak, plan to develop Germany's first LNG import terminal at Brunsbüttel on the Elbe River near the port city of Hamburg.

Vopak and Gasunie said they were teaming up with German company Oiltanking GmbH for the LNG project and had already gained the European Commission's approval under merger regulations to establish a joint venture.

Feasibility

The three companies are jointly investigating the possibilities for constructing and operating a multi-service LNG terminal, including imports and additional services such as truck-loading and bunkering.

However, it is likely to be mainly a break-bulk terminal concentrating on LNG distribution for the fuel markets rather than being in competition to the huge volumes of Russian pipeline gas that flow into Germany from Gazprom.

"This positive decision of the European Commission is an important milestone in developing an LNG facility in Northern Germany," the three companies said.

"The feasibility study consists of economic, technical, nautical and regulatory assessments as well as the permits procedures.

"Now that the EC approval is in place, the parties are ready to



Terminal facility may be at Brunsbüttel on the Elbe River

jointly work towards the next development phases. No financial investment decisions have been taken yet," they added.

Germany is the only major European Union nation without LNG import facilities, though it is advancing some LNG fuel and bunkering services in Baltic ports such as Rostock and on the European river networks for barge traffic.

Building an LNG terminal at Brunsbüttel would put it near a nuclear power plant set for closure in 2022.

The Brunsbüttel plant is in the German state of Schleswig-Holstein on the banks of the Lower Elbe and three kilometres east of the port town of Brunsbüttel.

Germany's transition to the cleaner fuel era, outside of nuclear plants, has not so far depended on LNG, but on Russian pipeline natural gas.

German gas imports from Gazprom soared by almost 16 per cent in the first five months of 2017 compared with last year.

Gazprom said it supplied 22.3 billion cubic metres of gas to the German market from January until the end of May, which is 3 Bcm more than in the same period last year.

The volumes of German gas received from Russia amounted to almost 50 Bcm in 2016.

This is the equivalent of 37 million tonnes of LNG while the Brunsbüttel import terminal would have initial capacity of around 5 million tonnes a year.

The Russians are also currently expanding the Baltic Sea pipeline route for pipeline gas called Nord Stream II to pump more gas into Germany and Western Europe.

Up until now Europe's largest economy has been forging closer pipeline ties with Gazprom as the Russian natural gas giant also acquires more German gas assets.

More than 900 natural gas filling stations for fuel are now available to customers across Germany, though mostly compressed natural gas rather than LNG.

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IEA turns focus on future of Algeria as an LNG exporter and recent EU winter supply tightness

Our Europe editor

The future of Algeria as an LNG exporter and the recent winter supply tightness experienced by three European LNG importers, France, Italy and Greece, led the International Energy Agency in its annual natural gas report to analyse the two issues.

Algeria currently holds 28 million tonnes per annum of LNG export capacity, but some upstream production issues constrain its export capacity.

Limited

As a result, long-term contracted volumes are limited to 14.8MT of LNG (20 billion cubic metres of gas) and 7.5MT (10 Bcm of gas) of the contracted volumes will expire by the end of 2019.

Although the extension or renewal of some of these contracts is possible, given the limited availability of upstream production and the expected oversupply situation



About 7.5MT of Algeria's contracts to expire after 2019

in the global LNG market, Algeria might prioritise pipeline exports instead of pursuing the LNG contract renewals.

"In its LNG export strategy, Algeria is focusing on the Mediterranean region. Amid a relatively weak LNG demand in Asia and Europe, Sonatrach has been increasing exports to Mediterranean countries such as Turkey, Egypt and Jordan during the recent

years," said the IEA. "At the end of last year, Sonatrach signed a co-operation agreement with the state-owned company of Turkey, Botas, aiming to strengthen its position in the regional markets, illustrating the increasing importance of the Turkish market," the report added.

"In 2000, 12 percent of all exported Algerian LNG volumes went to Turkey, and currently around 25

percent of Algeria's LNG reaches the regasification facilities at the Turkish coast, delivering around 4 Bcm per year based on a long-term contract that will expire in 2020," it said.

The IEA pointed out that Turkey's LNG imports might decline due to pipeline imports via the Turkish Stream pipeline project in the future.

The report also noted security of supply issues in the winter of 2016-2017 for Greece, France and Italy.

The three LNG importing nations experienced tight energy and gas markets because of a number of different factors.

"In Greece, the national gas system was declared to be at a crisis alert level by the Greek authorities in winter 2016-2017 because of concerns about very low storage levels while demand increased due to cold weather and high consumption of gas for power," it said.

US may be on track to challenging for top spot as exporter by 2022 on second wave of shale

The US will take the lead on global natural gas supply as the shale revolution gets a second wind and the world's largest producer increases output and LNG exports over the next five years, accounting for almost 40 percent of global gas output growth, the International Energy Agency said.

The continuing development of the Marcellus and Utica shales is being supported by the extension of pipeline infrastructure from the Appalachian region to ship more gas to markets in the Northeast, Midwest, and Southeast regions where LNG plants are being constructed.

The Paris-based IEA made its points in its latest natural gas report entitled "GAS 2017 - Analysis and Forecasts to 2022".

By 2022, the US will produce

around 890 billion cubic metres of natural gas, or 22 percent of the total gas produced worldwide.

"Although US domestic demand for gas is growing due to increased demand in industry, more than half of the production increase will be turned into LNG for export.

"By the end of our forecast period, the United States will be well on course to challenging Australia and Qatar for global leadership among LNG exporters," the IEA stated.

Global LNG trade by 2022 will be at around 460 Bcm and growth in LNG supply capacity will be faster than the growth in LNG demand, while 75 percent of new supply capacity will come from just two countries, Australia and the US.

"China will be the main driver of the global LNG demand growth, and relatively new importers will also show large increases in LNG demand," the report said.

Gas consumption in the US will increase in the forecast period by an annual rate of 0.8 percent, from some 780 Bcm to 815 Bcm.

"Gas demand in the United States has shown regional differences, with the South being the main consumer of gas," the IEA said.

"The South will remain significant for gas demand thanks to the importance of the chemical industry in the region and incremental liquefaction capacity of around 100 Bcm, connecting the US to the global LNG market.

"Improvements in pipeline infrastructure will ensure that the

South will also benefit from the Appalachia region's vast and competitive gas supply potential," the report added.

Global Gas demand will reach 3,986 Bcm by 2022, increasing annually by 1.6 percent on average over the forecast period, a bit faster than the 1.5 percent recorded over the prior six years.

"Gas demand growth in the power generation sector has slowed significantly. Over the past dozen years, global gas demand for power generation has been the main driver of global gas growth. This is no longer the case," the IEA stated.

"Natural gas generation is getting squeezed out thanks to more renewables and competition from coal.

Iberian LNG fuel market will need over \$1Bln spent

European classification society DNV GL has conducted a study of future liquefied natural gas use in the Iberian Peninsula and concludes that one of the main obstacles to the accelerated uptake of LNG is the uncertainty regarding future market volumes.

DNV GL recent study of LNG in Spain and Portugal is part of a European Union policy to promote cleaner fuels and develop LNG infrastructure and refuelling stations across the 28-nation community.

The class society conducted the market study on behalf of the six-year "CORE LNG" project that aims to provide an investment plan for LNG fuel in Spain and Portugal by December 2020.

This is a study costing 33 million euros (\$37M) coordinated by Spanish natural gas transmission company and LNG terminal owner, Enagas, and co-funded by the European Commission, the EU's executive arm.

The class society estimates that to realize the forecast LNG supply chain in 2030, about 1 billion euros (\$1.14Bln) of investment will be needed, adding up to a total cost of 3.7Bln euros in 2050.

Liv Hovem, Senior Vice President of DNV GL's Oil & Gas division had clearly shown the major potential LNG has as a fuel in the region.

"We hope that the conclusions from our study will help ship owners, natural gas suppliers, bunker companies, port authorities and LNG terminal operators gain the confidence they need to move forward with LNG as a fuel for a more sustainable shipping industry," added Hovem.

Singapore welcomes expansion of international LNG bunkering ports

Our Asia-Pacific editor

The Port of Singapore said three other ports in Asia, Europe and North America had joined it and seven other organisations in the international LNG bunkering port group formed to underpin the drive for the uptake of LNG as a marine fuel.

The new members of the LNG bunker-ready ports are China's Ningbo-Zhoushan Port, the French Port of Marseille Fos and the Canadian Pacific port of Vancouver.

The group was first formed in 2014 by the Maritime and Port Authority of Singapore (MPA), the two Belgian ports of Antwerp and Zeebrugge and the Dutch Port of Rotterdam.

The founding members were later joined by the US Port of Jacksonville, the Norwegian Maritime Authority, the Ministry of Land, Infrastructure and Transport in Japan and the Ulsan Port Authority in South Korea.

"All members of the group are committed to working together to deepen cooperation and information sharing in relation to LNG bunkering, to develop a network of LNG bunker-ready ports across



Andrew Tan, Chief Executive of Singapore's MPA, signs deal with Cai Shen-Kang, Vice-Chairman of the Zhejiang province ports authority

the East and West and Trans-Pacific trade," said Singapore's MPA.

The first group meeting was held on 20 April 2015 in Singapore followed by an April 2017 gathering in Yokohama, Japan, where the group agreed to focus on more collaborative efforts.

The inclusion of Ningbo-Zhoushan, Marseille Fos and Vancouver came at the 3rd Port Authorities Roundtable held from July 8-11 in China by the Ningbo Municipal Port Administration Bureau.

"The Port Authorities Roundtable, initiated by Singapore, is a useful high-level platform to forge closer collaboration between ports based on like-minded inter-

ests," said Andrew Tan, Chief Executive of Singapore's MPA.

"We are pleased that at this meeting, three more ports, including the first Chinese port, will be joining the LNG Bunkering Port Focus Group.

"We are confident that the inclusion of Port of Ningbo-Zhoushan will add further impetus to enable the uptake of LNG bunkering for the Far East-Europe and Intra-Asia trade routes," added Tan.

"With this expansion, the network will comprise a total of 11 ports and maritime administrations across Asia, Europe and North America," the Singaporeans noted.

Total signs LNG bunkering deal with Brittany Ferries for Portsmouth route

French energy major Total has signed an agreement with Brittany Ferries to supply LNG bunkering fuel to the port of Ouistreham in north-west France and for the first LNG-powered French cruise ferry that will provide regular services to Portsmouth in England from 2019.

The LNG will be supplied to the newbuild, the "Honfleur", to start its France-UK service in two years' time by Total's bunkering affiliate responsible for marketing marine fuels worldwide.

Total has partnered with the Dunkirk LNG import terminal, which began commercial operations in January 2017 and in which Total is a shareholder, to start sup-

plying LNG for bunkering using ISO containers.

The other partner is Groupe Charles André, a French trucking and tanker firm in the petroleum products and furl sector.

"Transported by truck from the LNG terminal of Dunkirk to the port of Ouistreham, the containers will be lifted aboard the cruise ferry using onboard cranes to supply a fixed LNG storage tank at the rear of the superstructure," Total explained.

"Once empty, the containers will be offloaded from the ferry at the next call at Ouistreham and replaced by full containers," it added.

"The agreement with Brittany

Ferries is a landmark one - our first contract to supply LNG bunker," said Olivier Jouny, Managing Director of the Total fuel unit.

"In addition, the work carried out with Dunkirk LNG and Groupe Charles André has made it possible to supply the LNG by developing a safe, innovative logistics solution.

LNG's environmental performance is set to make it a particularly attractive solution for shipping, allowing operators to meet the International Maritime Organization's new sulfur regulations, applicable in Emission Control Areas since 2015 and worldwide from 2020.

At the Core of LNG

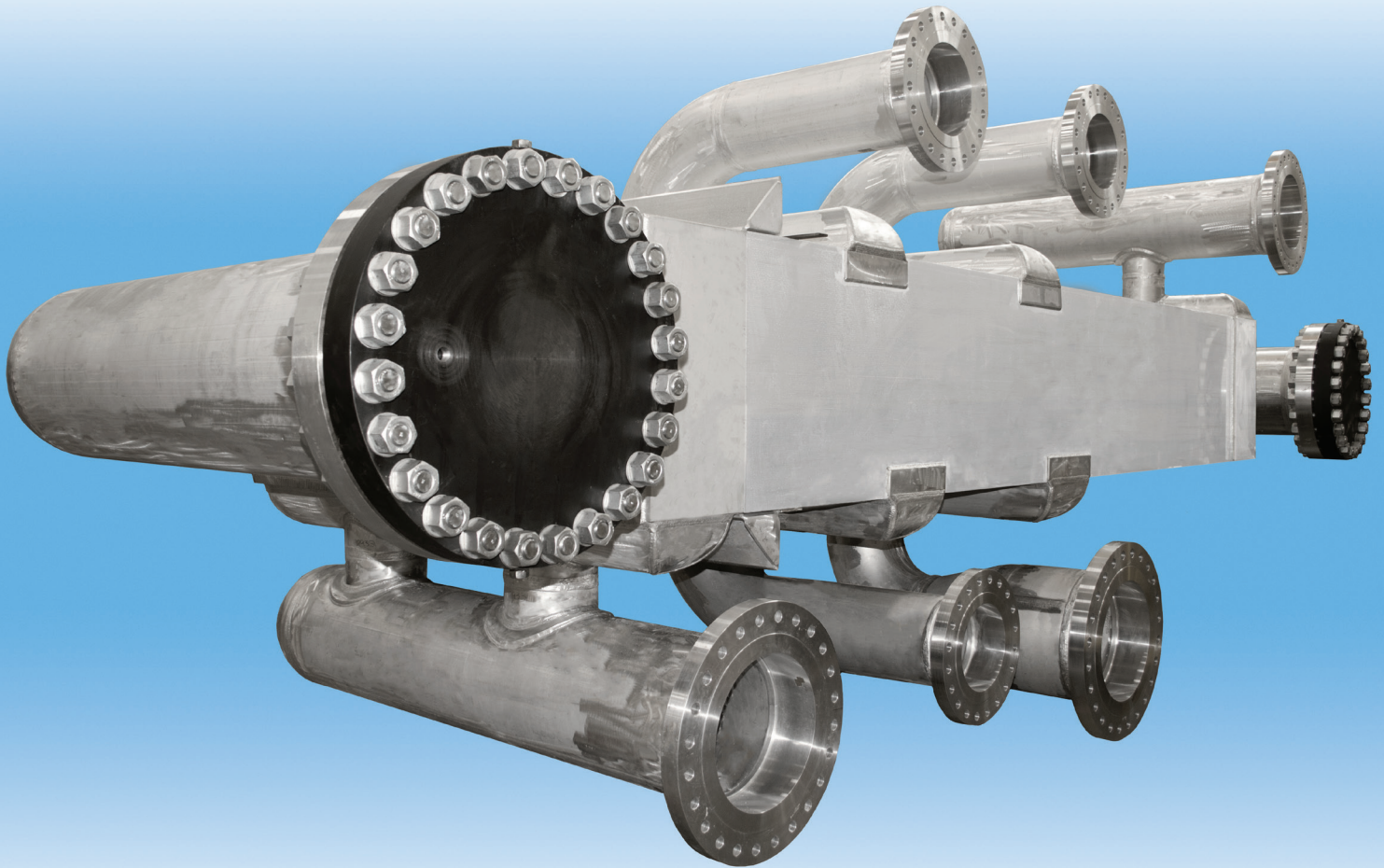


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NEWS NUDGES

Dubai charter is shortened

Golar LNG Partners, the Nasdaq-listed US unit of the Norwegian fleet owner, said it had agreed certain amendments with the Dubai Supply Authority for the charter of the "Golar Freeze" floating storage and re-gasification unit deployed at Jebel Ali Port in the United Arab Emirates until May 2020. Dubai has two FSRUs on contract and does not currently fully use the "Golar Freeze". Consequently, the charter has been shortened by a year until April 2019.

Dutch LNG truck boost

The Dutch Gate LNG import terminal, a joint venture facility owned by the utility Gasunie and global storage giant Royal Vopak, has started commercial operations at two new truck-loading bays. "By adding two new truck-loading bays to the existing bay, the Gate terminal is prepared to efficiently cater for future growth in the demand for LNG distribution via road or containers. This will support the efforts of Gate terminal customers to deliver LNG to retail stations, industry and ships," Gate said.

Woodfibre LNG permit approval

Woodfibre LNG, the Canadian project to produce 2 million tonnes per annum at a brown-field site in British Columbia, said an application to amend its Environmental Assessment Certificate for the construction and operation of the plant had been approved. The permit was originally granted on October 2015. Woodfibre then applied to amend it in early 2017 to address design changes, including some proposed by the Squamish First Nation native tribe.

Eisbrenner's NextDecade LNG firm in Texas to be Nasdaq-listed by end of July

Our North America editor in New York

The US Rio Grande LNG project development company in Texas run by former Royal Dutch Shell senior executive Kathleen Eisbrenner called NextDecade is expected to be listed on the US-based Nasdaq global stock exchange before the end of July.

Stockholders will meet to vote on the agreed merger on July 24, 2017 at 11:00 am Eastern Time.

"Following the closing of the merger, NextDecade will be a publicly listed company on the Nasdaq traded under the 'Next' ticker symbol," NextDecade said.

Eisbrenner's move for the LNG development company she started to list on the Nasdaq is following the trend for large liquefaction projects on the Gulf Coast to list on the stock exchange by setting up a merger with a firm or entity already listed and with the long-term benefits of raising capital easier and more economically.

Eisbrenner's privately-held company NextDecade signed a letter of intent for a business combination transaction to enable the listing. It is using a specialized



Eisbrenner following recent trend for Nasdaq listing

firm set up for the purpose called Harmony Merger Corp.

The Rio Grande export venture is currently advancing through the Federal Energy Regulatory Commission permitting process aimed at building a plant to produce 27 million tonnes per annum of LNG.

The Tellurian Inc. development company of former Cheniere Energy Chief Executive Charif Souki recently completed a reverse takeover of a small oil and gas exploration outfit to give Tellurian a listing on the Nasdaq global exchange to help funding for its Driftwood LNG project in Louisiana.

"NextDecade's first proposed LNG export facility, the RGLNG project located in Brownsville,

Texas, is optimally located," said NextDecade.

"RGLNG and its associated Rio Bravo Pipeline, originating in the Agua Dulce market area, are well-positioned among the second wave of US LNG projects," the Eisbrenner company added.

Eisbrenner has said that after conducting an extensive review regarding development financing it was decided to move forward with the reverse merger.

"We believe that the proposed merger will enhance NextDecade's ability to provide flexible solutions to customers and producers, and create value for our current and future stakeholders and partners," she stated.

Export plan for second Jacksonville plant in Florida to supply Caribbean

Eagle LNG Partners has filed an application to export liquefied natural gas from a second production and storage facility currently under construction at a site in West Jacksonville in Florida.

The company's subsidiary Eagle Maxville is seeking the permit from the Department of Energy for small-scale volumes up to a total of 60,000 tonnes per annum of LNG for a period of 20 years to nations with or without a Free Trade Agreement with the US.

Eagle LNG is in the process of completing its principal facility at Jacksonville to supply fuel to US shipping company Crowley Mar-

itime Corp. and its LNG-powered cargo ships sailing between Florida and Puerto Rico.

The Eagle Maxville unit is at a separate site and would involve new and some remaining supplies for export and domestic use. The company said volumes for the overseas market would be shipped in ISO containers to serve industrial customers in the Caribbean Basin.

"The Maxville facility is separate and distinct from the LNG production and export terminal which Eagle Maxville's affiliate, Eagle LNG, is developing at a site on the St. Johns River in Jacksonville," the company explained.

Eagle Maxville expects that the Maxville facility would be placed into commercial operation and begin producing LNG in September 2017.

At the Maxville facility, Eagle would receive domestically produced natural gas via a local utility, process this gas into LNG and temporarily store it.

It would then be periodically loaded into cryogenic transport trailers or ISO containers for transportation by truck to ports for transfer into vessels for use as marine fuel for their trading between Florida and the US territory of Puerto Rico.

Lebanon finally enters world of upstream oil and gas exploration with East Med licence plans

Our Middle East editor

Lebanon plans to award exploration and production licences in five off-shore blocks in the East Mediterranean by November 15 this year in the Middle East country's first attempt at establishing a domestic oil and gas industry to secure resource revenue and future infrastructure for LNG and gas-fired power.

Lebanese Minister of Energy Cesar Abi Khalil has explained the licensing tender process in a roadshow for investors in the US hosted by law firm Mayer Brown in America's energy capital, Houston.

Late starter

Lebanon has been so far absent from the East Med energy rush as huge natural gas discoveries such as the Leviathan and Tamar fields have been made offshore Israel



Lebanese Energy Minister Cesar Abi Khalil started tender

and Greek-speaking Cyprus has celebrated its Aphrodite gas find in Mediterranean waters.

Lebanon, bordered by Syria to the north and Israel to the south, is attempting to reassure oil and gas exploration companies whose impressions of Lebanon and the

region are of chaos and high risk.

The US roadshow to publicise the licensing round is being backed up by Lebanese officials also attending international energy events.

"We want to make this sector a success story for the Lebanese," said Minister Khalil during the

small conference in Houston.

"This is our natural and sovereign right," he added.

Lebanon is showcasing five off-shore blocks, three of which are located along Lebanon's southern border with Israel.

It is offering exploration and production agreements to investors and Khalil said Lebanon has benefited from the experience of others in developing what he called an attractive legal framework.

Lebanese energy officials hope its low domestic gas demand and proximity to European markets will provide export options.

The country is also pointing to its options in the existing Arab Gas Pipeline, the 1,200 kilometres line built to allow the export of Egyptian natural gas to Jordan, Syria and Lebanon.

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Paris-based Cedigaz says gas growth outstrips rivals

Paris-based energy consultants Cedigaz said natural gas growth in absolute terms would outstrip that of all other energy sources and the strong expansion of LNG supply and the abundance of both conventional and unconventional resources would help gas to expand its role in the energy mix to the detriment of coal and oil.

Cedigaz also said in its “Medium and Long Term Natural Gas Outlook 2017” that demand would pursue its short and medium-term growth trajectory to 2035, rising at a gradual pace of 1.6 percent per annum under the impulsion of China and the Middle East.

“Natural gas will increase its relative share in the world primary energy supply from 21.2 percent in 2014 to 23.9 percent in 2035,” said Cedigaz.

“Gas is viewed as a bridging resource in the transition towards an increasingly renewable-based and decarbonised energy system,” it added.

“China and the Middle East lead the way in gas demand growth, accounting for respectively 28 percent and 24 percent of the incremental volume over the projection period,” the report stated.

“At the national level, the largest growths in gas demand are recorded in China, India, Iran, the US and Saudi Arabia,” it said.

Cedigaz explained that net Inter-regional (long distance) trade is forecast to grow by 3.1 percent a year from 392 billion cubic metres in 2015 to 729 Bcm in 2035.

It thus increases much faster than demand, as import dependence grows both in Europe and Asia. In these markets, the diversity of both pipeline and LNG sources tends to improve the security of supply.

Japanese delivered spot LNG cargo prices hit \$5.60 from \$4.50 in 2016

Our Asia-Pacific editor

Japanese government figures show that the average delivered price of spot liquefied natural gas arriving in Japan in June was \$5.60 per million British thermal units, a rise of \$1.10 per MMBtu versus the \$4.50 per MMBtu price registered in June 2016.

The government did not issue a price for LNG shipments contracted in June but not yet delivered as the minimum number of cargoes was not notified.

Trades

The spot cargo numbers come from the commerce division of the Japanese Ministry of Economy, Trade and Industry and are only issued if a minimum number of two trades are recorded.

The preliminary average contracted price for May 2017 had been up compared with a year ago and was given as \$5.70 per MMBtu versus \$4.10 per MMBtu in May 2016.

The ministry emphasizes that “spot LNG” refers to fuel traded on a cargo-to-cargo basis and does



LNG shipments to Japan may decline overall this year

not mean shipments under contracts on a short-term, medium-term or long-term basis. The statistical accounting of the spot prices started in March 2014.

“Subjects of these statistics are companies which are end-consumers of spot LNG. In order to avoid double counting, companies that mediate transactions (for example trading companies) are excluded from subjects of these statistics,” the Ministry noted.

Overall Japanese LNG imports jumped 13 percent in May compared with a year ago and the cost to Japan of the shipments was \$1.13 billion more in terms of higher volumes and rising prices.

Cargo deliveries to Japan

increased to 6.23 million tonnes in May compared with 5.52MT in May 2016.

A decline in Asia cargo volumes was offset by rises in deliveries from Australia, the Middle East and Russia and the start of a steady trickle of US cargoes, set to rise in the future.

Shipments to Japan last month also reflected a higher year-on-year cost of the fuel to the tune of more than 68 percent on a weaker yen against the dollar.

May 2017 shipments cost 309.54 billion yen (\$2.78Bln) compared with 183.62Bln yen (\$1.65Bln) in the same month a year ago.

American Bureau of Shipping gives approval to Kawasaki Moss design

The American Bureau of Shipping, the US classification society, has granted an approval in principle (AIP) for a new Moss-type LNG tank design concept developed by Japan’s Kawasaki Heavy Industries to boost shipment capacity through the Panama Canal.

“We are pleased to issue this AIP that further demonstrates our commitment to technology advancements and safety,” said ABS Vice President for Global Gas Solutions Patrick Janssens.

“KHI’s concept applies the latest technologies, introducing new efficiencies and innovations that promote a safer and more sustainable shipping industry,” added Janssens.

According to KHI, the non-spherical design concept allows Panamax-size LNG carriers to expand their total carrying capacity to 180,000 cubic metres, a 25,000 cubic metres volume increase when compared to using traditional Moss spherical tanks.

The larger-sized Kawasaki carriers are at the optimum limit for the economics of shipping US cargoes to Asia from the US Gulf Coast via the expanded Panama Canal.

In issuing its AIP, ABS said it reviewed the strength and fatigue analysis to support KHI in demonstrating the feasibility of the new concept.

Designated as an IMO Type B independent tank, it takes a new

approach by applying a non-spherical tank design to increase the use of space on board an LNG carrier.

“As the Panama Canal expands and LNG demand increases, owners and operators are looking to gain efficiencies without compromising safety,” said Hideaki Naoi, a general manager for KHI’s Ship & Offshore division.

“This new concept adds 15 percent more carrying capacity while maintaining the size of the new Panamax tankers.

“By working with a proven technology leader like ABS, we were able to prove the feasibility of this innovative design,” added Naoi.

Indian minister puts Dhamra port in Odisha state on path to be first East Coast LNG import terminal

Our Asia editor

Indian Petroleum and Natural Gas Minister Dharmendra Pradhan has led a ceremony marking the start of construction of the first liquefied natural gas import terminal on the East Coast of India.

The main developer of the Dhamra LNG project is the Adani Group's petroleum subsidiary, Adani Petroleum, headquartered in Ahmedabad in the state of Gujarat in northwest India.

Adani has a 49 percent shareholding in the first East Coast terminal, while Indian Oil Corp. and Gas Authority of India have a combined 49 percent stake in the development. The 2 percent balance of shares will be held by banks and financial institutions.

Ground breaking

The project launch included a ground-breaking ceremony and the installation of a plaque for the development of the facility at Dhamra Port in the eastern Indian state of Odisha (formerly Orissa), located on the Bay of Bengal.

"In eastern India, Dhamra will have the distinction of hosting the



Indian Minister Pradhan (centre-left back) leads LNG event

first LNG terminal, which will import gas from countries like the US and Qatar," said Pradhan.

"This LNG terminal with 5 million tonnes per annum capacity is expected to be commissioned by 2020-2021 at an estimated cost of 6,000 crore rupees (\$930 million).

"It will be a source of huge employment and investment opportunities for Odisha and eastern India along with access to clean fuel," added the minister.

The Dhamra project is one of up to half-a-dozen planned for the East Coast where there are no import terminals currently operating.

GAIL has regasification capacity at three of India's four operating import terminals on the west coast of India, at Dahej and Dabhol near

Mumbai and at the Kochi facility in the southwest state of Kerala.

"Besides, an investment of 4,500 crore rupees (\$695M) would be made for the laying of pipelines and the establishment of city-gas distribution," said Minister Pradhan.

"Dhamra will be a vital link in connecting eastern India to the gas infrastructure of the country and will also benefit neighbouring countries.

"Natural gas from this LNG terminal will also be an important gas supply source to the Urja Ganga Project," the minister stated.

This is a reference to the fast-tracked project being pushed forward by Prime Minister Narendra Modi to boost city-gas pipeline connections in eastern India.

The pipeline expansion venture

is led by GAIL and involves laying 2,540 kilometres of pipelines in five eastern states to provide gas for 40 districts and 2,600 towns and villages.

The total cost of the project is 12,940 crore rupees (\$2 billion) of which the government will co-finance about 40 percent.

City-gas deliveries are then planned for seven cities named as Varanasi, Patna, Jamshedpur, Kolkata, Ranchi, Bhubaneswar and Cuttack, all on the new Urja Ganga pipeline route.

"The terminal will also meet the gas requirements of the Indian Oil Corp.'s refineries at Barauni in Bihar, Haldia in West Bengal and Paradip in Odisha," said the minister in launching the LNG project.

"The Dhamra LNG terminal is a step closer towards realising the dream of the Prime Minister of development of eastern India for the overall growth of our nation.

"I have requested all possible help for the State Government to ensure a smooth execution of the terminal infrastructure for the benefit of the people of Odisha," added Pradhan.

Moheshkhali Island terminal in Bangladesh signs finance deal with Excelerate and World Bank body

Excelerate Energy, the US floating liquefied natural gas LNG terminal project company, and the World Bank have arranged the debt financing for the first floating LNG facility for Bangladesh.

The World Bank's International Financing Corp., which offers advice and investment to the private sector in developing countries, and Excelerate will bring LNG to the Asian nation for an initial investment of \$179.5 million.

The floating storage and regasification unit (FSRU) and shore-based infrastructure will be put in place at Moheshkhali Island in the Bay of Bengal.

The construction of the terminal will commence in the fourth quarter of 2017 and is expected to be in service by mid-2018.

The Moheshkhali terminal will include an FSRU with 138,000 cubic metres of LNG storage capacity supplied by Excelerate, the installation of a subsea buoy system anchored offshore and the employment of port service vessels during operations.

The equity for the project had been tied up earlier with the IFC coming in with a contribution of \$10.8M and Excelerate's equity amounting to \$43.1M.

As lead arranger for the project, the IFC said it helped ar-

range the debt financing package of \$125.7M for venture.

"The funding will support the timely construction and installation of the fixed infrastructure required for the project," the IFC said.

Bangladesh's first LNG import terminal will enable state energy company PetroBangla to increase natural gas supply in the country by up to 20 percent, sufficient to support up to 3,000 megawatts of gas-fired power generation capacity.

A ceremony for the signing of the financing documents for the LNG facility was held in a hotel in the capital Dhaka.

The event was attended by

Excelerate and IFC executives as well as the Bangladesh government's main energy adviser Tawiq-E-Elahi Chowdhury, the country's Minister for Power, Energy and Mineral Resources Nasrul Hamid and PetroBangla Chairman Abul Mansur Mohammed Faizullah.

"Our partnership with the IFC has been essential to the development of this project," stated Excelerate's Chief Financial Officer Nick Bedford.

"The IFC has demonstrated its commitment to bringing new energy to Bangladesh with the execution of these agreements.

Jordan Cove LNG export project owner Veresen gains shareholder approval for Pembina merger

Our North America editor
in New York

Canadian energy Veresen Inc., developer of the Jordan Cove LNG export project in the northwest US state of Oregon, has had its agreed US\$4.3-billion takeover by Pembina Pipeline Corp. ratified at a meeting of shareholders in the city of Calgary.

The deal was overwhelmingly approved and creates one of the largest energy infrastructure companies in Canada.

"Completion of the transaction is subject to final acceptance of the Toronto Stock Exchange and approval under the Canadian Competition Act," said Veresen.

Close date

Pembina and Veresen currently expect that the transaction will close late in the third quarter or early in the fourth quarter of 2017.

"We are very pleased with the overwhelming support of our shareholders to create a leading Canadian energy infrastructure business," said Don Althoff, President and Chief Executive of Veresen.

"We strongly believe that the combined company is greater than



Don Althoff, President and Chief Executive of Veresen

the sum of its parts and will be well positioned to compete for future investment opportunities," added Althoff.

Pembina's President and CEO Mick Dilger said he was very pleased that Veresen shareholders had recognized the merits of the transaction and showed their support at the meeting.

"With increased size and scale, and the significant operational synergies we will realize, the integration of Pembina and Veresen positions us for top-tier performance going forward," he added.

The Jordan Cove LNG export project will be near the top of the

agenda for the merged Canadian company as well as its planned pipeline build-outs.

A week before the Calgary shareholder vote to approve the merger, Veresen awarded engineering and construction contracts for the Jordan Cove venture.

JGC Corp. of Japan and Kiewit Energy Group of the US were selected by Veresen on 6 July to construct the liquefaction plant and related infrastructure at Coos Bay in Oregon.

Another US company, Black & Veatch of Kansas, will provide the liquefaction technology and other aspects of the project as part of

the EPC awarded to the KBJ joint venture.

The Jordan Cove facility is expected to produce up to 7.8 million tonnes per annum of LNG and have around 320,000 cubic metres of LNG storage capacity as well as deepwater marine facilities.

Jordan Cove will be constructed on an undeveloped 400-acre industrial site on the North Spit of lower Coos Bay.

Veresen and Pembina recognize that they have a unique venture to build as it is the most advanced LNG export development on the West Coast of North America.

JGC is one of the world's most experienced LNG liquefaction plant builders while Kiewit Energy, based in Houston, is currently building the Cove Point LNG export facility at Chesapeake Bay in the US state of Maryland.

JGC, based in Yokohama, Japan, said it would work closely with Black & Veatch to perform the engineering, procurement and module fabrication for the Jordan Cove venture.

Kiewit, a direct hire union construction contractor with significant experience throughout North America, will manage the construction of the facility.

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