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French and Finnish LNG terminals expand Northern Europe network

Commissioning has begun at the Dunkirk terminal in France and at Pori in Finland
Our Europe editor

Two European liquefied natural gas import terminals, the French facility at the Channel port of Dunkirk, and Finland's first small-scale terminal at Pori, are both under commissioning and will be ready for commercial operations in September.

The Dunkirk terminal received its first commissioning cargo on July 8, transported from the Nigerian liquefaction plant at Bonny Island on the Niger delta to the Channel port on board the carrier "Madrid Sprit".

Spanish link

The 138,000 cubic metres capacity "Madrid Sprit", operated by Teekay LNG, left Bonny Island with the cargo on June 24.

The Dunkirk facility was developed by Electricite de France (EDF). Other shareholders in the project include French energy major Total and Belgian LNG terminal owner and network operator Fluxys, owner of the Belgian Zeebrugge LNG terminal.

The terminal itself cost 1 billion euros (\$1.13Bn) to build and is managed by the subsidiary com-



Second shipment will arrive at Dunkirk in August

pany Dunkerque LNG. The facilities were connected to the natural gas transmission network by France's GRTgaz at the end of 2015.

The first of an expected two commissioning cargoes will ensure that France's fourth LNG import facility, the first in the north of the country, will be ready for scheduled start-up of commercial operations in September 2016.

The Dunkirk terminal was built by an Italian-Spanish joint venture under a turnkey contract awarded to Techint Engineering & Construction and SENER engineering and technology group.

France's other three terminals are operated by Engie subsidiary Elengy with two of them located in the south near Marseille and one on the Atlantic coast at Montoir-de-Bretagne.

Elengy's first terminal at Fos Tonkin, near Marseille, opened in 1972 to receive cargoes from

Algeria. A second import terminal for the Marseille area has been in operation at Fos Cavaou since 2010.

A second shipment of LNG will follow in August to complete testing and commissioning.

Operating company Dunkerque LNG said the completed terminal will have an annual regasification capacity of 13 billion cubic metres of natural gas, representing around 20 percent of France and Belgium's annual consumption.

It is capable of handling the largest LNG carriers with more than 260,000 cubic metres capacity.

In Finland, the Norwegian-based LNG operator Skangas, a unit of Finnish natural gas company Gasum, saw the delivery of its commissioning cargo for the terminal at the port of Pori on July 10 on board the small-scale LNG carrier "Coral Energy".

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Japanese to underwrite \$1.2Bln in financing for expansion of BP-run Indonesian LNG plant

Our Asia-Pacific editor

Japan Bank for International Cooperation, the nation's export credit agency, will provide \$1.20 billion in financing with other banks for the construction of Train 3 at the Tangguh LNG project, operated by UK major BP in the Papua Barat province in Indonesia.

Japan's financing arrangement follows the recent final investment decision on Train three taken by the shareholders in the production sharing agreement who also include eight Japanese energy companies and Indonesian stakeholders.

Other banks

The JBIC said it was co-financing the project with other financial institutions, including Japanese banks, under the "overseas development assistance financing" programme.

The additional processing Train will increase capacity by 3.80 mil-



Tangguh liquefaction plant began production in 2008

lion tonnes per annum to a total of 11.40 MTPA.

Most of the Train 3 output has been booked by Indonesia's state electricity company, Perusahaan Listrik Negara, and the balance of over 1 MTPA will be supplied to Japanese power utility Kansai Electric Power Co.

"The Government of Japan continues to emphasize the strategic importance of LNG," the JBIC said.

"Resource prices are sluggish and there is stagnation as regards investment in medium-term and long-term LNG development, geographically close to Japan, which is a concern.

"That is why the JBIC is supporting the expansion of the LNG project, which already has proven production to contribute to the stable supply of Japan's LNG," the bank added.

The Tangguh liquefaction facility began production in 2008 and the current expansion project also includes two offshore platforms, 13 new production wells, a new LNG jetty and supporting infrastructure.

The start-up of production for the third Tangguh Train is expected in 2020.

Awards for the project's engineering, procurement and construction contracts are expected before the end of the third quarter of 2016.

Several Indonesian companies are also part of the production share agreement along with the Japanese.

Japan's PSC partners include Inpex Corp., Mitsubishi Corp., JX Nippon Oil & Gas Exploration, Mitsui & Co., LNG Japan Corp., Sumitomo Corp., Sojitz Corp., and Japan Oil, Gas and Metals National Corp.

Italian engineering firm Saipem wins \$1.7Bln contract to build world-class Egyptian Hub

Italian LNG and energy engineering company Saipem was awarded contracts worth \$1.7 billion for developing the world-class Zohr natural gas field offshore Egypt that will form the Arab nation's East Mediterranean Gas Hub and will affect the region's LNG market.

"The most significant contract relates to the field development project for the 'supergiant' Zohr gas field," said Saipem.

Italian energy company Eni was given the go-ahead in February 2016 by the Egyptian Ministry of Petroleum and Mineral Resources to develop the Zohr field discovered in its Shorouk block licence area.

The Eni discovery will go some way to satisfying Egypt's domestic natural gas needs, while possibly helping to revitalize its two liquefied natural gas export plants.

Eni said the Zohr development plan envisages the start of production by the end of 2017, just two

years after the discovery, with a progressive ramp up of output.

Eni holds 100 percent of the Shorouk licence and operations are also being conducted by Petrobrel, a joint venture between Eni and Egyptian state energy company Egyptian General Petroleum Corp.

Petrobrel has awarded Saipem an Engineering, Procurement, Construction and Installation (EPCI) contract for the accelerated start-up of the Zohr gas field.

Saipem said the scope of the subsea contract entails work on six gas wells and the installation of the umbilical systems.

It also includes the installation of a 26-inch gas export trunkline and 14-inch and 8-inch service trunklines, as well as EPCI work for the field development in deep water of up to 1,700 metres.

"In order to ensure that the accelerated development schedule is met, Saipem will mobilize a highly capable fleet of vessels to

carry out offshore operations, consisting of the ultra-deepwater last generation pipelayer 'Castorone', the semisubmersible pipelayer 'Castoro Sei', the trench/pipelayer barge 'Castoro 10', and other specialized vessels," Saipem explained.

"We are very pleased to have been selected for the important objective of delivering first gas from Zohr before the end of 2017," said Saipem Chief Executive Stefano Cao.

"We will mobilize a fleet of vessels with last-generation capabilities, and leverage on our proven expertise and consolidated presence in the area, in order to ensure our clients achieve their targets," Cao stated.

The Zohr gas field was discovered by Eni in August 2015, using the drillship "Saipem 10000", which is still operating in the area.

Saipem has worked on the sub-

sea sections of many LNG projects worldwide and is a leader in drilling services, as well as in EPC, the installation of pipelines and complex projects in harsh conditions.

The Egyptians stopped producing LNG about three years ago as natural gas supplies were diverted by the state energy companies to satisfy pipeline high demand in the domestic market.

Even the existing gas resources were not sufficient and the Egyptians had begun importing LNG when the Eni discovery was made.

Egypt has two Floating Storage and Regasification Units deployed at the port of Ain Sokhna in the Gulf of Suez.

However, the Zohr natural gas in addition to solving Egypt's domestic supply needs, could eventually help restart production at the two Egyptian liquefaction plants at Damietta and Idku on the coast near the city of Alexandria.

Bestobell wins Korea order to supply valves for three ships

UK company Parker Bestobell Marine, a leading supplier of cryogenic valves for liquefied natural gas carriers, received an order from Daewoo Shipbuilding and Marine Engineering of South Korea to supply its valves for the next three vessels being built on behalf of Canadian shipping company Teekay Corp.

These three new LNG vessels are part of a series of eight ships being built by DSME for the Teekay LNG fleet.

Parker Bestobell had received orders for globe and check valves for the previous five vessels and this latest order completes the series for the UK company whose valves division is based in Sheffield, northern England.

"We are delighted that DSME has specified our cryogenic valves for all eight vessels," said Duncan Gaskin, Parker Bestobell Marine's Market Development Manager.

"We have a strong working relationship with DSME with a firm commitment to delivering our high-quality valves on time and in line with their production schedules.

"This is a very important consideration for DSME's LNG new build projects," Gaskin added.

Parker Bestobell has a long-standing relationship with DSME and has supplied many ship sets of valves to the Korean shipyard over a 16-year period and particularly in the last two years.

Recently the UK company received a second major order from DSME to supply globe and check valves for the series of vessels for the Yamal LNG project in Arctic Russia, which will total 15 ships.

Petronet LNG outlines plans for Bangladesh terminal network

Our Asia editor

Petronet LNG, the Indian import terminal owner and cargo importer, said it is on the short list for setting up an import facility in Bangladesh to be located on Moheshkhali Island offshore the port of Cox's Bazar in the Bay of Bengal and has other LNG plans for the country.

The Indian company is one of five international bidders awaiting the outcome of a tender to set up the Moheshkhali Island regasification plant on a build-own-operate basis and to supply gas to power plants.

Shortlisted

Petronet said the others shortlisted were Royal Dutch Shell, China's Huanqiu Contracting & Engineering, Tractebel Engineering of Belgium and Japan's Mitsui & Co's engineering subsidiary.

Petronet is India's largest LNG importer and currently operates the Dahej terminal north of Mumbai, and the Kochi facility in the southwest Indian state of Kerala with respective import capacities of 10 million tonnes per annum and 5 MTPA.



Moheshkhali plant is a build-own-operate project

Bangladesh has said it needs at least two more LNG import terminals in addition to the Floating Storage and Regasification Unit scheduled to be deployed under an agreement signed by state energy company PetroBangla and Excelerate Energy of the US.

The two additional LNG import facilities were outlined by Bangladesh state energy company PetroBangla in tender documents and will be near the ports of Cox's Bazar and Payra. PetroBangla has said that after the FSRU is brought into service it would prefer two land-based LNG terminals.

Petronet said it had additional plans to build an onshore regasification terminal at a cost of 5,000 crore rupees (\$740 million).

"We have proposed to construct a 5 million tonnes per annum capacity LNG import terminal at Kutubdia islands off Cox's Bazar," said Petronet Managing Director and Chief Executive Prabhat Singh.

"The terminal will be besides the 3.5 MT terminal that Bangladesh is looking to set up, for which Petronet is one of the firms that has been shortlisted," the CEO said.

"Bangladesh has huge unmet gas demand particularly to power generation. So during the recent visit of Petroleum Minister Dharmendra Pradhan to Dhaka, we proposed to set up a 5 MTPA capacity terminal on a government-to-government basis," Singh explained.

Australian Ichthys LNG project completes complex tank lifts

Ichthys LNG, the project being developed near Darwin in Australia's Northern Territory, has completed two of its most complex heavy-lifts for the liquefaction plant construction at Bladin Point.

Ichthys is a joint venture to be operated by Japan's Inpex Corp. in partnership with France's Total.

It has released a statement saying a joint effort by Japan's Kawasaki Heavy Industries and the Australian unit of Laing O'Rourke, along with Abnormal Load Engineering (ALE) Heavy Lift of the UK and Alliance Engineering Consultants, saw the installation of both LNG tank platforms.

The tank platforms weigh approximately 320 tonnes each and

were lifted 44 metres to the roof of each LNG tank, involving 23 lifting lugs and 53 different slings.

"The platforms are an essential part of each LNG storage tank as it is the entry point for gas being pumped from the process trains and the exit point for gas being delivered to the product loading jetty," Ichthys LNG said.

"A team of specialist engineers, riggers and workers were involved in the intensive preparation processes down to the inspection of every last nut and bolt behind the lift," it added.

"Each lift took six hours from start to finish and the team has already started working on preparations for the butane and propane

tank platform lifts which are due to take place in the coming months," it said.

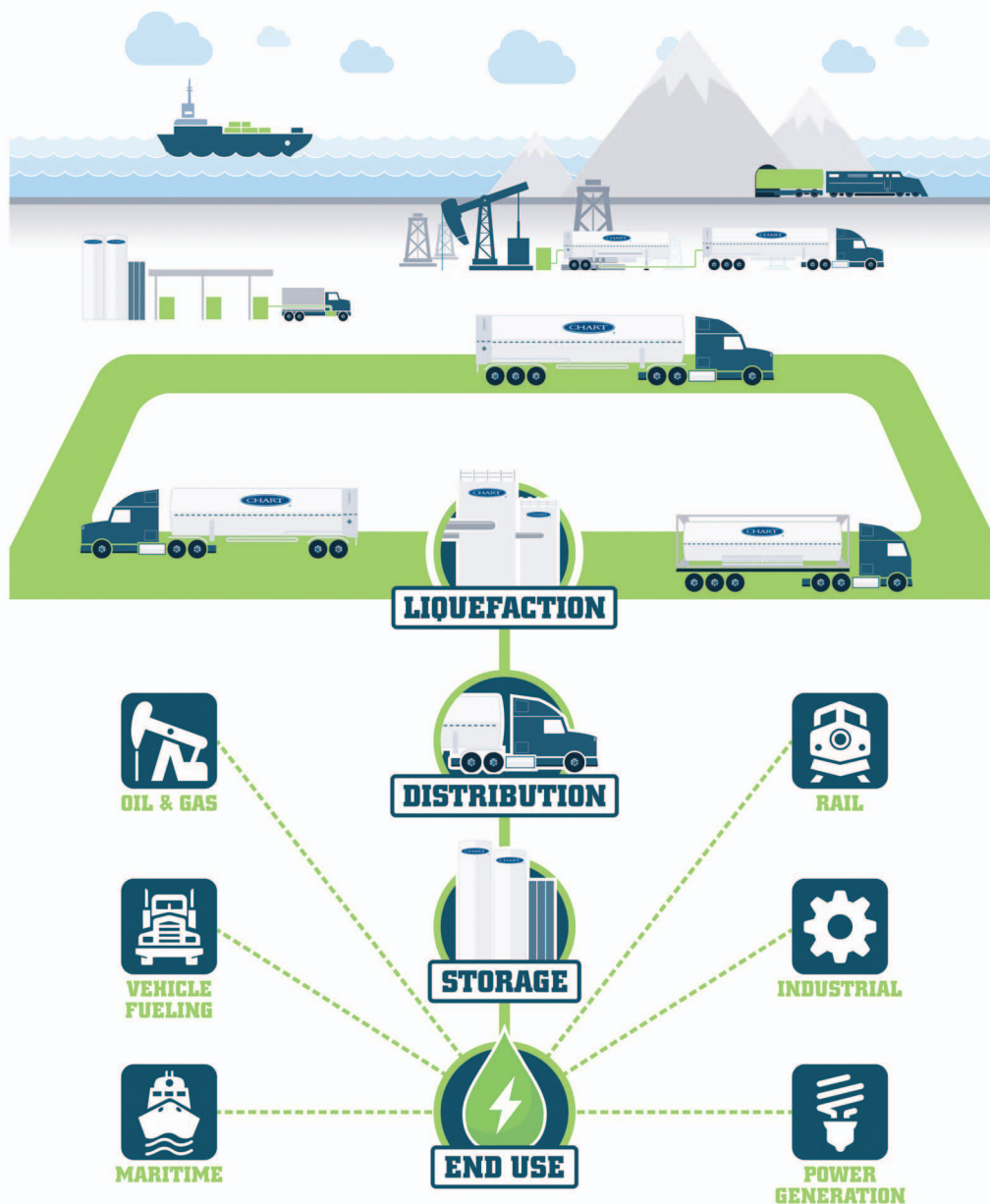
The Ichthys venture is noted for having the largest offshore facilities in the industry in the Asia-Pacific region.

These include an 890 kilometres pipeline linking all the facilities from the feed-gas fields offshore northwest Australia to the Bladin Point plant.

Inpex had announced in September 2015 that the project's commercial start-up had been pushed back by up to nine months and completion costs had increased by around 10 percent to \$US37.5 billion.



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NEWS NUDGES

Sardinia still in LNG focus

Stolt-Nielsen Gas (SNG), a unit of Norwegian-listed energy storage and shipping group Stolt-Nielsen Ltd., said it continued to pursue its plans to develop small-scale LNG storage and distribution supply chains to serve “stranded demand” in locations lacking access to LNG pipelines. SNG said one such venture it was developing was on the Italian island of Sardinia. However, small-scale LNG plans in Canada remain suspended due to the unfavorable impact of low commodity prices in the mining industry there and in other key target markets. The LNG statement was in its latest earnings which showed a net profit in the second quarter of \$38.0 million, down from \$42.8M in the same three months of 2015.

Lake Charles LNG ruling

The Lake Charles LNG export project, whose shareholders include Energy Transfer Partners of the US and Royal Dutch Shell, will proceed on schedule after the US Federal Energy Regulatory Commission denied a request from the environmental activist group, the Sierra Club, for a rehearing of the order authorizing construction of the facility in Calcasieu Parish, Louisiana. This follows two rulings in June 2016 from the Washington DC circuit court against Sierra Club objections to the Freeport and Sabine Pass LNG facilities, also on the US Gulf Coast.

Eni confirms Cyprus plan

Italian energy company Eni said it would begin exploratory drilling offshore southern Cyprus in 2017. Eni Chief Executive Claudio Descalzi confirmed the decision after a meeting with the President of the Republic of Cyprus, Nicos Anastasiades, that Eni remained committed to Cyprus and to the East Med in general as an exploration region. ■

Spain to receive first LNG shipment from US Sabine Pass at Reganosa

Our Europe editor

Spain is scheduled to receive its first liquefied natural gas cargo in July from the new US Gulf Coast export plant at Sabine Pass in Louisiana, with the shipment to be unloaded at the Reganosa import facility at the Port of Ferrol.

The 138,114 cubic metres capacity vessel “Sestao Knutsen” is set to arrive on July 22 at the import terminal, located in the region of Galicia in northwest Spain, according to shipping data.

The first US Gulf Coast cargo was delivered to Brazil in February 2016 and others have been shipped to South America, including Argentina and Brazil, and one has gone to India.

The cargo delivered to Spain would be the 14th shipped from the US since February and would be the second to be unloaded in Europe after the “Creole Spirit” delivered a shipment to Portugal’s Sines terminal at the end of April.

Portugal’s LNG imports last year totalled a modest 1.09 million tonnes, while neighbour Spain imported a net 8.82MT.



Carrier ‘Sestao Knutsen’ is set to arrive on July 22

Spain is the country with the largest number of LNG terminals in Europe, with six operating and a seventh at El Musel in Gijón, also in the northwest, currently mothballed because of the economic slowdown.

The shareholders in the Reganosa import terminal that will receive the Sabine Pass cargo include the Government of Galicia, Grupo Tojeiro and Algerian state energy company Sonatrach.

The six Trains at Sabine Pass when completed will each have a nameplate capacity of 4.5 million tonnes per annum of LNG for 27

MTPA in total production.

With the opening of the expanded Panama Canal in June 2016, Sabine Pass and other US LNG export plants under construction have more options to deliver to Asia via the Canal, to South America or to Europe.

While the Sabine Pass owner, Cheniere Energy, has delivered a cargo to southern Europe no shipment has yet been pointed at any of the northwest Europe import terminals located in the UK, Belgium, France, the Netherlands, Poland or Lithuania. ■

European LNG terminal operators plan strategy meeting at Reganosa facility

European liquefied natural gas terminal operators will hold their fourth-quarter assembly meeting at the Reganosa LNG in the Port of Ferrol to discuss market strategies.

The Gas LNG Europe (GLE) industry association gathering in the first week of October will comprises representatives of 16 European terminals and including a cross-section of the Atlantic Basin LNG trade.

Reganosa LNG will also take the opportunity to outline its own business development ideas.

“For Reganosa this will be an opportunity to present its activity and its development potential,

linked to LNG promotion as marine fuel and its strategic location,” the Spanish terminal owner said.

“It’s located at the Finisterre Corridor, through which pass more than 40 000 ships per year, and is close to the Navantia shipyard, a European leader in repairing gas vessels,” Reganosa said.

The terminal also runs one of the most successful LNG trucking operations for the retail and wholesale markets in the northwest Spanish peninsula where natural gas expansion has been through satellite plants and other small-scale operations.

“During this meeting the partners will discuss issues related to

the strategies they should follow to promote LNG and its future as a fuel,” the company added.

The GLE itself is a body committed to promoting the development of transparent and non-discriminatory access for LNG to the European Union internal market, underpinned by a stable and predictable regulatory framework.

Reganosa said that the GLE assembly, which will also include the presence of its Executive Committee, will additionally involve several presentations and workshops, as well as opportunities to hold bilateral and networking meetings. ■

National Grid positive on LNG and pipelines amid doubts on 'greener' domestic shale gas

Our Europe editor

National Grid, the UK transmission operator and owner of the Isle of Grain liquefied natural gas import terminal near London, was positive on LNG market development, though said the future of shale gas in the country was still undecided.

Producing UK shale-gas could be even more environmentally-friendly than LNG that has to be produced elsewhere and imported by ship.

This shale gas would be greener in terms of overall lifecycle carbon emissions than liquefying gas in the Middle East, shipping it several thousand miles to the UK and regasifying it.

National Grid's latest report called "UK Future Energy Scenarios" has just been published and it contains projections on the nation's energy resources weighted against various levels of economic



UK Isle Grain import terminal on the Medway River

success. The company's licence conditions as a major power and gas supplier require the submission of the future energy report each year to the UK energy regulator, Ofgem.

The report also commented on the likely supply balance for the UK between pipeline natural gas and LNG. Both will offset the ongoing decline of the UK's North Sea output.

"In all scenarios we assume that there will be at least a mini-

mum flow from both LNG imports and continental pipeline gas.

"In the short term, the minimum levels for LNG are defined by the global LNG availability and the recent history for UK LNG deliveries.

"Indications are that LNG availability is likely to be high, at least until the early 2020s. New liquefaction projects have come on line this year, including four in Australia and the first US export terminal, Sabine Pass.

"There is much speculation as

to how much LNG will flow from the US to European markets where it will compete with LNG from Qatar, as well as gas from Norway and Russia," the report said.

"For continental imports, through the IUK and BBL interconnectors, the minimum supply has been defined by contractual volumes and our assessment of any additional flows which could be expected under the conditions in the scenarios," it added.

"In all scenarios there is enough infrastructure capacity for the generic import to be all LNG or all continental gas without the need for any new capacity to be built," it added.

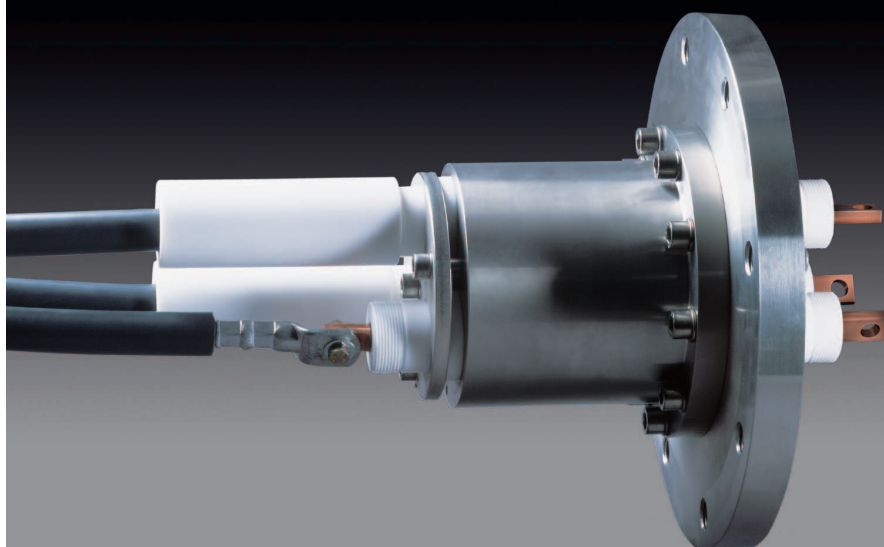
National Grid said its "Consumer Power" natural gas demand scenario is in the middle of the range of market outcomes from 2020 onwards.

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Queensland's CSG development projects inspire Botswana moves

The development of coal-seam gas in the Australian state of Queensland to produce liquefied natural gas for export to Asia has inspired the Southern African state of Botswana to access its own CSG resources to build a small gas-fired power industry to meet domestic needs.

Tlou Energy Ltd, a company listed in London and Australia and aiming to develop CSG, said it had been selected by Botswana for a power plant project using the gas from coal.

The company announced in April 2016 it was carrying out a natural gas testing programme on wells it is developing to achieve the first flowing commercial rates of gas in Botswana.

Tlou Energy is focusing on delivering power from gas in Botswana and southern Africa through the development of its Lesedi CSG project.

Under the Botswana plan, the government is planning a 50 megawatts power plant fired by CSG.

"This 50MW government off-take agreement creates a ready market for Tlou's independently certified contingent gas resources of 3.3 trillion cubic feet," Tlou Energy said.

"We are elated by this decision and look forward to receiving the full details from the Ministry," said Tlou Acting Managing Director Gabaake Gabaake.

"Although we always planned to expand our project beyond the 10MW initially envisaged as being fast-tracked for development, a 50MW project is five times larger than expected and a fabulous result for the company.

"Importantly it provides more certainty to our investment case to increase our power output as we develop our field," Gabaake added.

Singapore port enhances offerings to promote LNG and cleaner fuel use

Our Asia-Pacific editor

The Maritime and Port Authority of Singapore is extending and enhancing its offering to shipowners to promote the use of liquefied natural gas and cleaner traditional fuels in Singaporean waters.

The Maritime Singapore Green Initiative (MSGI) was launched by the MPA back in 2011 and has already received strong support from the maritime industry.

Incentives

"From 1st July, Green Ship Programme incentives will be extended to ships using LNG as part of Singapore's longer term efforts to encourage LNG as a sustainable alternative fuel source.

"In addition, the sulphur oxides limit under the GPP will be reduced further to 0.5 percent for ships calling at our port to enjoy a flat rate of 25 percent concession in port dues for the use of low sulphur fuel during their entire port stay.

"Similar concession is also extended to ships using LNG in the Port of Singapore," the MPA said.

The MPA said ships calling at the Port are opting for cleaner fuel and more than 3,700 vessel



Efforts increased on using LNG and cleaner ship fuel

calls have switched to marine fuel with sulphur content not exceeding 1 percent.

"The extension of the MSGI Programme is a strong demonstration of our commitment towards an environmentally friendly and sustainable global hub port," said Andrew Tan, Chief Executive of the MPA.

"We hope that the enhancement to the MSGI will incentivise the maritime industry to continue with their efforts to provide safe, efficient and sustainable shipping, notwithstanding the challenging economic environment," Tan added.

Singapore currently has one LNG import facility, located on Jurong Island, consisting of two jetties that handle the largest carriers, three storage tanks of

180,000 cubic metres capacity and regasification equipment.

The city state is carrying out a feasibility study on using additional floating LNG import facilities as it builds up its infrastructure as a regional LNG trading and bunkering hub.

Singapore's government has already singled out two sites where Floating Storage and Regasification Units can be berthed, either at a quayside or offshore.

The Jurong Island terminal began operations in May 2013 and will be expanded from the current capacity to import 6 million tonnes per annum to 11 MTPA by 2018. Plans for a second onshore terminal are also being examined.

US notes implications of reductions in shipping LNG to Asia via Panama Canal

The newly expanded Panama Canal will be able to accommodate 90 percent of the world's current LNG carrier fleet with cargo-carrying capacity up to 3.9 billion cubic feet of natural gas and voyage times cut by up to two weeks in shipping US LNG to Japan, South Korea and Taiwan, the US Energy Information Administration has noted.

Prior to the expansion, which was inaugurated and opened for business on June 26, only 30 of the smallest LNG tankers (6 percent of the current global fleet) with capacities up to 0.7 Bcf could transit the Canal.

"The expansion has significant implications for LNG trade, reduc-

ing travel time and transportation costs for LNG shipments from the US Gulf Coast to key markets in Asia and providing additional access to previously regionalized LNG markets," the EIA said.

A transit from the US Gulf Coast through the Panama Canal to Japan will reduce voyage time to 20 days, compared to 34 days for voyages around the southern tip of South America or Southern Africa, or 31 days if transiting through the Suez Canal.

"The wider Panama Canal will also considerably reduce travel time from the US Gulf Coast to South America, declining from 20 days to 8-9 days to Chilean regasi-

fication terminals, and from 25 days to five days to prospective terminals in Colombia and Ecuador," the EIA report said.

For markets west of northern Asia, including India and Pakistan, transiting the Panama Canal will take longer than either transiting the Suez Canal or going around the southern tip of Africa.

In addition to shortening transit times, using the Panama Canal will also reduce transportation costs.

The Panama Canal Authority has introduced new toll structures for LNG vessels designed to encourage additional LNG traffic through the Canal, especially for round trips.

DNV GL advises EU on removing the final barriers to promoting LNG as marine fuel

Our Europe editor

DNV GL, the Norwegian-German classification society, has provided a report to the European Union with recommendations on how to remove barriers to wider adoption of liquefied natural gas as a marine fuel.

All of the EU's 28 member states have to submit national policy frameworks by November 2016 for the implementation of the EU alternative fuels directive and the DNV GL report will help decision makers.

"As air emission requirements are becoming more stringent, one possible solution for reduced emissions is to use LNG as fuel for ship-bunkering," said DNV GL.

"However take-up of LNG as ship fuel in Europe is still at an early stage," it added.

"Two key barriers to take-up of LNG as ship fuel are the gaps in the legislative or regulatory framework, and the lack of har-

monized standards. "DNV GL has undertaken an analysis and evaluation identifying the remaining gaps for completing an EU-wide framework for marine LNG distribution, bunkering and other uses," the class society explained.

The report is part of the high profile "study on the completion of an EU framework on LNG-fuelled ships and its relevant fuel provision infrastructure" commissioned by the European Commission, Directorate-General for Mobility and Transport.

"DNV GL's assessment of the existing rules, standards and guidelines shows that from a legal point of view, there are no remaining major showstoppers for the use of LNG as fuel - for seagoing vessels and inland waterway vessels - nor for the deployment of LNG bunker facilities," says Martin Layfield, global segment leader of the Gas

Value Chain, DNV GL Oil & Gas.

"In November member states will have to submit their national policy frameworks using the report's recommendations," he added.

"DNV GL has advised the EU to implement a low/moderate harmonization scenario as the most workable policy option which will enable member states to transpose the directive on alternative fuels with a 'light touch'. This will reduce effort in implementation, delays and administrative burden while still enabling standardization," Layfield explained.

Liv Hovem, regional manager DNV GL Oil & Gas, said the next three decades will see substantial increase in energy and LNG demand.

"At the same time, a big part of the world expects the energy to be greener, more reliable and more affordable," Hovem said.

"This is what we refer to as the

energy 'trilemma'. Natural gas has a key role to play in the future energy mix and Europe will continue to be a significant import hub for LNG," she added.

DNV GL is already driving "harmonization" in the EU through a Recommended Practice for LNG bunkering and steering co-operation through the recently launched LNG intelligence portal.

The class society also recently published a "Recommended Practice for Development and Operation of LNG Bunkering Facilities", the first industry guidance on securing a high level of safety, integrity and reliability in the design and operations of LNG bunkering facilities.

DNV GL additionally contributed to the EU report on "Creating Awareness on LNG Risks and Opportunities", with consultants Price Waterhouse Cooper.

Becker Marine says supply of regular LNG power to cruise ship in Hamburg is success

Becker Marine Systems of Germany said it was operating a successful service that had gone beyond the test phase in supplying regular power from liquefied natural gas to a cruise ship during its regular stop-overs in the Port of Hamburg.

The LNG power barge is named "Hummel", German for bumblebee, and entered service in the port a year ago.

Becker Marine's subsidiary, Hybrid Port Energy, operates the barge with the objective of supplying environmentally-friendly maritime energy to ships.

The "Hummel" mainly supplies the "AIDA Sol" cruise ship, owned by Germany's Aida Cruises, specializing in voyages around north-west Europe.

"The low-emission power supplied to 'AIDA Sol' by the 'Hummel' LNG Hybrid Barge at the Port of Hamburg continues to work perfectly," said Becker. "Hybrid Port Energy is delighted that the cruise



LNG power barge 'Hummel' serves cruise ship 'AIDA Sol'

ship now receives eight hours of uninterrupted supply during layovers.

"Contrary to reports published elsewhere, 'Hummel' is working smoothly and at full capacity," said Henning Kuhlmann, Managing Director of Becker Marine Systems.

"The LNG Hybrid Barge provided over eight hours of green electricity to 'AIDA Sol' on each of its previous two layovers at the HafenCity Terminal, on May 22 and June 23, 2016, respectively.

"We are extremely satisfied with our record of more than 40 MWh of power over the longest possible period from the morning to

the evening, which is equivalent to an entire supply cycle for 'AIDA Sol' in Hamburg," added Kuhlmann.

"By October 2016, 'AIDA Sol' will have called in at the HafenCity Terminal 15 times in total, receiving environmentally-friendly power from the LNG Hybrid Barge during its layover.

"Last year already, its first cruise season, the floating power plant used its LNG systems to supply power during 11 layovers.

"The inflexible restrictions remain a source of annoyance. The fact that we are still speaking of a test phase despite all the progress

we have made in just one year of operation has less to do with our technical capabilities and is more a result of the restrictions imposed on us," said Kuhlmann.

"This July, for instance, the alternative system of a landside power plant will be subjected to a general certification procedure according to the International Electronic Consortium standard, conducted by the classification society Bureau Veritas.

"Although all components on the barge are already certified, including the transfer station, the ship-to-land cabling and the cable mobile, all of the components will now require another inspection together with 'AIDA Sol' before faultless power supply by the LNG Hybrid Barge can be certified.

"At the moment there are two different landside power supply systems available in Hamburg," added Kuhlmann.

Tallink shipping group in Baltic state of Estonia holds events for \$255M LNG ferry

Our Europe editor

Tallink Grupp, the ferry company based in the Baltic state of Estonia, said its new \$255-million vessel powered with liquefied natural gas is progressing and has been named "Megastar" at a ceremony held at the Meyer Turku shipyard in Finland.

Jane Stalmeister, the Chief Executive of Tallink Grupp said, that construction of the dual-fuel ship is now almost halfway complete and delivery is scheduled for the start of 2017 when "Megastar" will join 16 other ferries in the Estonian company's Baltic Sea fleet

Presidential

The vessel was christened by the former President of Finland, Tarja Halonen.

The float-out of the LNG-powered ferry and sea-trials are planned for July 2016 through



"Megastar" is officially named at Meyer Turku shipyard

to the final months of the year.

The ship is 212 metres in length and will accommodate 2,800 passengers. It matches the capacity of the ferry company's current largest cruise ferry, the "Baltic Queen", and will have a service speed of 27 knots.

"Megastar" will use LNG as fuel, but will also be able to run on traditional diesel fuel.

"With LNG, her environmental performance will improve as no sulphur nor soot particles will be emitted and there will be fewer nitrogen and CO2 emissions," Tallink said.

The LNG-fueled ferry was designed for the Tallinn-Helsinki route exclusively and it will comply with current and future emission regulations for the Emission Control Area of the Baltic Sea.

The total cost of the LNG-powered ferry was 230 million euros (\$255M). The "Megastar" benefited from grants of 4.8M euros of European Union financing under the 28-nation group's "Connecting Europe" programme.

"The ship is coming together and so are the new and innovative services we are preparing to surprise our passengers with in terms of renewing the Tallink Shuttle concept," said Tallink CEO Stalmeister.

"The interesting part of our type of shipbuilding is that we have demanding customers who push the boundaries, also for the environment," Stalmeister added.

"So we are very happy that today our latest LNG ferry is taking shape and after 18 months of design and production work starts to look like a ship," the CEO said.

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