LNG Unlimited

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China seeking LNG volume positions from both Mozambique licences

China National Petroleum has Area 4 stake and seeks Area 1 offtake

Our Europe editor

African country will have multiple wells in Rovuma Basin

China will have a strong hand in future production from the Mozambique LNG projects in southeast Africa, with a stake in one licence held by Italian energy company Eni and likely volume purchases from the onshore liquefaction plant development planned by the holder of the second block licence, Anadarko Petroleum of the US.

Anadarko said it was in talks to supply Chinese buyers with shipments, while China itself has a stake in the offshore Rovuma Basin Area 4 licence held by Eni.

The US company controls the separate offshore Area 1 licence and said it was in discussions with "a variety of Chinese counterparts including national oil companies and emerging independent buyers" of LNG.

Targeted demand

"Mozambique's favorable central geographic location means the country is well positioned to meet the needs of customers in the Atlantic market and Asia-Pacific markets, in particular tapping into the growing demand for energy in China," said Anadarko in a statement.

The Houston, Texas-based exploration and production company, mostly focused on US natural gas and oil activities, added that it regarded China as a "long-term strategic market" for the Anadarko- led onshore Mozambique LNG project.

Eni is progressing with the construction of a floating LNG joint venture underpinned by its Area 4 licence with a $7-billion final investment decision already taken.

However, Anadarko is awaiting more sales and purchase agreements before proceeding to its FID.

Anadarko is leading the development of the onshore liquefaction plant proposed for near the port of Pemba in the northeast Cabo Delgado Province.

The Eni project called South Coral FLNG is above a gas field discovered in 2012 and with around 16 trillion cubic feet of gas resources.

The first phase of the Coral field development will involve 5 Tcf of gas and production is expected to begin by 2021.

The Eni-led project is targeting the southern part of the Coral reservoir of the prolific Rovuma Basin and will produce around 3.4 million tonnes per annum from the FLNG hull.

Eni has a Sale and Purchase Agreement in place with BP of the UK for all of the Coral LNG production.

Eni in December 2017 also completed the sale of a 25 percent indirect interest in the Area 4 Rovuma licence block to ExxonMobil, including a payment of $2.8 billion that gets the US major on board to run all other ventures after the first FLNG venture.

The Italians said that their Eni East Africa subsidiary would be renamed the Mozambique Rovuma Venture, which owns 70 percent of the Area 4 concession.

The shuffling of the shareholdings now gives Eni 35.7 percent, ExxonMobil 35.7 percent and state-backed China National Petroleum Corp. 28.6 percent.

The remaining interests in Area 4, each of 10 percent, are held by Mozambican state-run energy company Empresa Nacional de Hidrocarbonetos, Korea Gas Corp and Portugal's Galp Energia.

In the Area 1 licence shareholdings, Anadarko has a 26.5 percent stake and Japanese trading house Mitsui holds 20 percent.

A combination of Indian companies, including Bharat Petro Resources, ONGC Videsh and Oil India Ltd., hold a further 30 percent.

The Mozambican state energy company ENH has 15 percent of the licence and Thailand's PTT Exploration & Production has an 8.5 percent shareholding.

Anadarko's US operations are centred on the Delaware Basin of West Texas and southern New Mexico, the DJ Basin in Colorado and in the deepwater Gulf of Mexico. ■

Qatar Petroleum CEO outlines LNG strategy after merger and status of other major gas projects

Our Europe editor

Qatar Petroleum President and Chief Executive Saad Sherida Al-Kaabi said he was looking ahead to a no-nonsense future for the combined companies of Qatargas and RasGas after the one-year completion of a corporate union.

"There are many benefits that are not talked about," said Al-Kaabi.

"For me, the number one benefit is that I have one entity in Qatar marketing Qatar's LNG.

"Until this we had RasGas in India, Qatargas in China for instance, and it was nonsense," said Al-Kaabi.

Factors

"Now we have one company, one marketing arm, one operation, and one finance. All of your competencies in LNG are in one place. And the savings are huge. Two billion riyals operating costs saved annually," added al-Kaabi.

Asked whether the long-term sales deals that are expiring over the next five to 10 years would be renegotiated, Al-Kaabi said this

Al-Kaabi is Qatar Petroleum CEO and head of Qatargas

would depend on various factors.

"Our preference is a long-term deal, and the buyers' preference is for a long-term deal," said the CEO.

"To us and to buyers, long-term stability, reliability and security of supply are the number one elements," he added.

"The majority of the big buyers will have a good baseload with long-term contracts and they will then top it up with fluctuating spot volumes to have a better competitive advantage," said in an interview with the "Middle East Economic Digest".

Both LNG production companies are now formally under the Qatargas banner of a single company as part of a merger between Qatargas and Rasgas first announced at the end of 2016.

Al-Kaabi extended his thanks to all the buyers of Qatari gas around the world for their trust and confidence in QP and in the State of Qatar.

Qatargas now has 14 LNG production Trains under its control, including six of the world's largest each producing 7.8 million tonnes per annum of Qatar's 77 MTPA of production.

Its joint venture partners at the Ras Laffan production complex include oil majors ExxonMobil, Royal Dutch Shell, Total and ConocoPhillips.

On the reported delay in Barzan Gas Project, Al-Kaabi said it was held up because of issues with the pipeline.

Barzan project is a more than $10-billion venture being developed by Qatargas and ExxonMobil.

It is designed to meet rising domestic energy demand in Qatar itself and its growing industries.

"That is not a secret. The contractor did not perform as well as we wanted them to. The mitigation is already being done, we are buying a new pipeline and have done all of the engineering for that.

"We are proceeding to rectify the issues and hopefully in a couple of years that will be fixed," he added.

"It's very unfortunate, but things like that do happen. All of the onshore facilities are finished and ready, the wells are done.

"It is the pipeline that had an issue. For us safety and the lives of people are paramount," stated al-Kaabi.

To a question related to financing the North Field expansion in Gulf Waters, Al-Kaabi told the publication Qatar was contemplating international financing.

South Korean President pledges to keep nation's LNG shipbuilding focus with technology and fuel use

South Korean President Moon Jae-In has given a speech at the Geoje shipyard complex of Daewoo Shipbuilding & Marine Engineering, pledging to keep the nation's strategic LNG shipbuilding sector at the cutting-edge of technology and backed by more use of LNG fuel.

The President toured the Daewoo yard, located on the south-east island of Geoje 450 kilometres southeast of Seoul, and then addressed the workforce.

Daewoo executives showed him vessels being constructed for several European and Asian companies, including ice-breaker LNG carriers for the Yamal export plant in the Arctic region of Russia.

The President said that such leading-edge technologies required for LNG carriers meant South Korean shipbuilders would remain competitive after emerging from one of the industry's worst recessions.

"Over the past few years, our shipbuilding industry has been experiencing the worst recession in its history due to a drop in global orders," said Moon.

"However, I believe in the strength of our shipbuilding industry that has world-class technology and competitiveness," he added.

"The world's first LNG-powered ice-breaking cargo ship built with our own technology proves this fact," stated the President.

Moon chose the Daewoo yard in Geoje to launch his 2018 industrial policy as shipbuilding is one of the nation's main export earners.

The three main shipbuilders, also including Hyundai Heavy Industries and Samsung Heavy Industries, have combined export earnings of around $8 billion per annum.

"Let us join our forces to overcome this downturn. The government will provide its full support to help secure more orders for new ships, starting with LNG tankers," said Moon.

"We will also push for measures to enhance the competitiveness of our shipbuilding industry in the future. Environmentally-friendly, autonomous driving technologies will become new growth engines," he added.

The President was accompanied by the Minister of Trade, Industry and Energy Paik Un-Gyu and Oceans and Fisheries Minister Kim Young-Choon.

The Ministry of Oceans and Fisheries signed an accord on December 2017 with state-run Korea Gas Corp., the shipbuilders and other companies to begin constructing an 80,000-ton LNG-fueled vessel in 2018 along with more LNG fuel infrastructure.

US Transco expansions are peak demand and LNG boost

Williams Partners, the US natural gas pipeline, said it delivered a record amount of natural gas during the frigid weather on its Transcontinental (Transco) interstate gas pipeline, the nation's largest, providing supplies to gas distribution companies and power generators from South Texas to New York City - made possible by five pipeline expansions executed in 2017.

Transco, operated by Tulsa Oklahoma-based Williams, delivered a record-breaking 15.58 million dekatherms (MMdt) of natural gas in one day, January 5.

The new peak-day mark surpassed the previous high that was set on January 1, 2018. The records were set as Transco also notes that it's a key supplier for the emerging LNG export industry, with plants already in existence in Sabine Pass in Louisiana and Cove Point in Maryland.

The Transco system, which stretches from the East Seaboard to the Gulf Coast, also established a new three-day market area delivery record, averaging 14.90 MMdt from January 4 to January 6, 2018.

Natural gas supplies came to the fore during the weeks of cold weather at the turn of the year, providing heating for more than half of American homes.

"The natural gas delivery records were made possible thanks to additional firm transportation capacity created by five fully-contracted Transco expansions completed in 2017," said Williams.

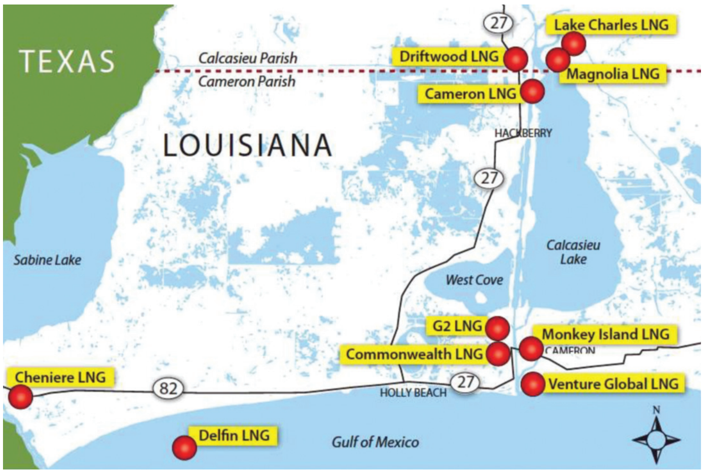
Transco has around 10,200 miles of pipe in its system and runs from Corpus Christi in Texas, near the Mexican border, to New York City, transporting and delivering supplies to at least 12 states along its route of 1,800 miles, south to north.

Commonwealth LNG in US takes Sumitomo Mitsui bank as advisor

Our North America editor in New York

Commonwealth LNG, the US liquefaction and export plant proposed for the west bank of the Calcasieu River in Cameron Parish in Louisiana has named Japanese bank Sumitomo Mitsui Banking Corp. as its financial advisor to help raise capital and advance the venture.

"We are pleased to be partnered with this global financial leader as we move forward with our innovative LNG investment," said Commonwealth LNG President and Chief Executive Paul Varello.



Commonwealth LNG and other ventures in Louisiana

Capital assets

"SMBC's experience and reputation in capital asset advice and management will help ensure the stability and predictability of our development project in southwest Louisiana," he added.

The US project developers noted that SMBC was one of only four banks to have played a primary role in each of the LNG liquefaction project financings closed to date in North America.

"SMBC is very happy to be associated with such an innovative project as Commonwealth LNG," said Nobuyuki Kawabata, CEO of the Americas Division of the Japanese bank.

Commonwealth LNG was accepted into the FERC "pre-filing" process in August 2017 and current plans are for construction to begin as early as 2019, with operations to commence by 2022.

At full capacity, Commonwealth LNG is expected to produce 9 million tonnes per annum of LNG.

The facility would be located along the South Prong of Grand Bayou in Cameron Parish, where several other projects are being built.

Commonwealth said it intended to file a formal application for the project with the FERC no later than August 2018.

Its industry partners for equipment include, compressors and drives maker, Siemens of Germany, and US-based consultants CH-IV, a subsidiary of Australian engineering group Clough Ltd.

The project company said it planned to construct eight single mixed-refrigerant LNG liquefaction Trains, one marine loading berth with three loading arms, six 400,000 cubic metres capacity LNG storage tanks and four miles of pipeline to connect to interstate feed-gas supplies.

LNG equipment-maker Air Products buys Shell coal gasification unit

Air Products of the US, the leading LNG equipment maker and technology company, has agreed to purchase Royal Dutch Shell's Coal Gasification Technology business as well as Shell's patent portfolio for liquids residue gasification.

The companies said financial terms were not being disclosed. The acquisition was expected to close in the coming months.

As a leading industrial gas company, Air Products has extended its onsite supply model to use coal gasification to generate synthesis gas (syngas) for major projects.

"Acquiring Shell's coal gasification process capabilities will further support previously announced projects by Air Products, such as Lu'An in Changzhi, Shanxi Province, in China, and future projects," said the Lehigh Valley, Pennsylvania-based Air Products.

Air Products was referring to its agreement to provide industrial gases by pipeline to a Chinese plant in the city of Jincheng in the northern province of Shanxi to help with the nation's environmental clean-up campaign.

The US company signed the accord with a subsidiary of Shanxi Jincheng Anthracite Coal Mining Group, China's leading coal mining conglomerate, for the supply of the industrial gases to Phase One of Shanxi Jinmei Huayu Coal Chemical Co.'s coal-to-clean-fuels project in Jincheng.

Air Products explained that previously it had signed a sale of equipment agreement with Jinmei Huayu to supply two air separation units (ASUs) with a total capacity of over 4,000 tons per day for this project, which uses coal to produce the cleaner fuels.

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NEWS NUDGES

Schulte-Pronav merger deal

The Schulte Group has signed a contract to acquire all the shares in the LNG ship manager Pronav, subject to merger approval of the German Federal Cartel Office. "The transaction puts the Schulte Group in a strong position to further exploit ship owning and ship management potential in the growing LNG market," said a statement. Schulte owns about 100 vessels, mainly containers, tankers and bulkers and manages 600 vessels in all segments.

Capuano starts at EIA

The US government said Linda Capuano has formally taken over as Administrator of the US Energy Information Administration (EIA). "As the EIA's ninth administrator, Capuano is responsible for directing the nation's primary energy statistical and analytical agency," said the government. Capuano said she was grateful to President Donald Trump and to Energy Secretary Rick Perry for their confidence. "There are important challenges facing the US Energy Information Administration in the current dynamic energy environment, and I look forward to leading this distinguished organization to set and achieve goals," she said.

Sixth Guyana discovery

ExxonMobil, one of the leading global LNG producers through its partnership with Qatar, has had positive results from its Ranger-1 exploration well, marking ExxonMobil's sixth discovery since 2015 offshore Guyana on the North Atlantic coast of South America. The US major said the Ranger-1 well discovery adds to previous world-class discoveries at Liza, Payara, Snoek, Liza Deep and Turbot, which are estimated to total more than 3.2 billion recoverable oil-equivalent barrels. ■

Japanese project engineer Chiyoda sees LNG as essential to energy mix

Our Asia-Pacific editor

Cameron LNG in Louisiana is one of Chiyoda's contracts

Chiyoda Corp. President and Chief Executive Masaji Santo said he believed society's energy needs required a mix of fuels, led by liquefied natural gas, as the Japanese engineering and construction company forecast an upturn in the industry in 2018.

The Yokohama-based company, one of the leading global LNG project companies had previously reduced earnings forecasts and overhauled its senior management because of troubles at its Emas Chiyoda Subsea venture which it has now exited.

Support

Santo also called for more support in Japan for renewable energy even as companies like his own was built on constructing plants for the fossil fuel industry to supply natural gas and oil.

Chiyoda's key contracts include the US Cameron LNG plant in Louisiana, the recently completed first phase of the Yamal LNG project in Russia, the Tangguh plant expansion in Indonesia and is also working on Qatar's plans to expand output. "Chiyoda will support a society with total solutions for the most optimized energy mix, consisting of LNG, oil, renewable energy, storage of electricity and hydrogen," said Santo.

"Energy from fossil fuel has been in a conflicting position to the environment in terms of aiming for a low-carbon society and decarbonization.

"Fortunately, these two goals, energy and the environment, are achievable in tandem because of the greatly lowered cost of renewable energy," he added.

"Renewable energy does not necessarily require subsidy and sometime even has advantages in the cost level. This situation seems not favorable for Chiyoda which was actively engaged in the field of energy based on fossil fuel.

"Nevertheless, Chiyoda is adjusting to now further endorse renewable energy and storage of electricity," stated the Chiyoda CEO.

Chiyoda reported a net loss of 12.37 billion yen ($109.12M) versus a net profit of 10.27Bln yen ($90.58M) previously.

The Japanese company's revenue from construction projects dropped by 8.3 percent to 250.6 billion yen ($2.23Bln) versus 276.9 ($2.44Bln) in the year-ago period. ■

Jacobs wins second Khazzan gas project contract in Oman to help LNG

Jacobs Engineering Group of the US was selected by BP to provide engineering, procurement and construction management (EPCM) services for Phase 2 of the Khazzan Gas Project in the Sultanate of Oman that has already helped the nation on the Arabian Peninsula to revitalize its LNG exports.

Under the terms of the three-year contract, Dallas, Texas-based Jacobs will deliver engineering, procurement and construction management (EPCM) services in support of the Phase 2 project, including the ongoing expansion of the gas gathering system, wellsite facilities and export pipelines.

"We are committed to continuing our relationship with BP through the next development phase of this world-scale gas project," said Jacobs Petroleum and Chemicals President Vinayak Pai.

"Upon completion of the project, this field has the potential to produce gas for Oman for decades to come," he added.

Jacobs noted that Khazzan is considered to be one of the biggest tight gas projects in the Middle East and Phase 1 is expected to supply about 7 trillion standard cubic feet of gas, deliver plateau production of one billion standard cubic feet of gas per day and 25,000 barrels of gas condensate per day.

Phase one of the project was brought on stream by BP in September 2017. Jacobs delivered the EPCM services for the process and infrastructure work during the first phase of the greenfield venture.

Oman LNG said its three liquefaction Trains at the export facilities near the port of Sur are expected to be at full capacity in 2018 because the Khazzan project had ended concerns over feed-gas being used for exports instead of meeting domestic requirements. ■

Reganosa's LNG terminal in Spain supplies fuel by truck for first European LNG-powered train project

Our Europe editor

Reganosa, the owner of the Mugardos liquefied natural gas import terminal at the port of El Ferrol in northwest Spain, said it supplied fuel for the first experimental European passenger train locomotive to be powered by LNG.

The first cargo was delivered by a tanker truck for the project backed by Spanish state-run train company Renfe.

Testing of the LNG-powered Train will be carried out over a four-month period on a locomotive from the Feve diesel train depot in northwest Spain along a 20-kilometres section between Trubia and Baina stations, extending to Figaredo in Asturias.

LNG trial is for four months on train from Feve diesel depot

EU-backed

"These tests are part of a package of projects of the European Union to promote the use of cleaner energy in transport, both land and sea," said Reganosa, which takes its name from the Spanish words "Regasificadora del Noroeste", or Northwest Regasification.

"Reganosa is also committed to the implementation of LNG to propel ships. The different experiments are aimed at reducing the cost of fuel and minimizing greenhouse gas emissions, since in both aspects LNG has very significant advantages compared with diesel and fuel oil," it added.

"The train in which the tests are carried out is a narrow-gauge vehicle, from which the diesel machinery has been removed to incorporate another of LNG, in addition to a special tank for the new fuel.

The experiment will also include a tractor driven by diesel, which will allow comparisons of emission results in the use of the various technologies.

Reganosa will supply a tanker of LNG every week over the fourth-month test period from its Mugardos import terminal, which runs one of the most successful LNG regional trucking operations in the EU for the retail and wholesale fuel markets.

"The gas will reduce emissions of nitrogen oxides, sulfur oxides, carbon monoxide and particulates. It will also reduce the noise pollution. Likewise, a significant reduction in costs will be achieved, given the lower price of LNG," it said.

According to train company Renfe, Spain was chosen by the EU because it has Europe's largest network of LNG terminals and "has long experience in management of liquefied natural gas" and its transportation.

Reganosa is also involved in providing LNG for fuel to the shipping industry and in 2017 launched its hub project for the Iberian Peninsula.

The Muardos terminal is close to the busiest shipping lanes in the world at the edge of the Bay of Biscay, an area traversed by around 40,000 commercial ships per annum en route to and from Europe, America and Africa.

The majority shareholders in the Reganosa facility are the Government of Spain's Galicia region and the privately-held Tojeiro investment group. Algerian state energy company and LNG production plant owner Sonatrach has a 10 percent stake.

Mugardos received one of the first shipments to Europe of US LNG in July 2016 from the Sabine Pass liquefaction plant in Louisiana.

The Finisterre corridor shipping route is also close to the Navantia shipyard, a European leader in repairing gas vessels. ■

Spain imports five fewer cargoes during December

Spanish net LNG imports declined in December compared with a year ago as 20 shipments were unloaded from a range of nations including Algeria, Peru, Nigeria, Norway and Qatar.

The country's LNG imports had amounted to 25 cargoes in December 2016.

Spain's natural gas network owner Enagas has four fully owned regasification terminals in Barcelona, Cartagena, Huelva and Gijon.

It also has 50 percent of the Bahía Bizkaia Gas (BBG) plant in Bilbao and a majority stake in the Saggas terminal in Sagunto.

The Barcelona regasification facility in northeast Spain received the most cargoes in December 2017 with nine, followed by Huelva in southwest Spain with six loads, while Bilbao in the northwest received three.

The terminals at Sagunto in the southeast and Mugardos in the northwest each handled one cargo.

Among the cargoes received, the 140,000 cubic metres capacity vessel "Arctic Voyager" delivered a cargo on December 11 to the Huelva from the Hammerfest plant in Norway.

Two vessels, the "Methane Princess" and the 'Methane Heather Sally" delivered cargoes from the Peru plant at Pampa Melchorita to Bilbao and Huelva respectively.

The Mugardos facility also reloaded one cargo during December.

According to the Enagas data, LNG imports amounted in power terms to 16.80 terawatt hours (TWh) in December compared with around 20.15 TWh in the same month the year before.

Mitsui OSK Lines forecast growth after bold shipping sector moves

Our Asia-Pacific editor

MOL CEO Ikeda gave optimistic message to employees

Mitsui OSK Lines President and Chief Executive Junichiro Ikeda said the Japanese shipping group, with a liquefied natural gas fleet operation of 70 vessels, had made bold decisions on LNG and other sectors and looked forward to long-term growth and steady earnings.

"Notably, in the LNG carriers and offshore businesses, we entered the self-elevating platform vessel business, providing offshore wind power generation installation services, along with taking part in a floating LNG receiving terminal project in India and expanding the Yamal LNG project," said the CEO in his 2018 company message.

US LNG

The Japanese company has an LNG carrier ready for the newly commissioned US export plant at Cove Point in Maryland.

The newbuild carrier, the "Energy Liberty", is jointly owned by MOL and the Tokyo LNG Tanker Company of utility Tokyo Gas. It was constructed at the Tsu Shipyard of Japan Marine United Corp.

The MOL chief said that looking at the shipping market in general, conditions were mixed across the various businesses.

"There were firm conditions in dry bulkers but weaker trends in tankers, for example. A full-scale recovery is still in the making.

"However, amid suboptimal shipping market conditions, we expect to finish fiscal 2017 with results largely in line with our initial forecasts, as steady operational enhancements and efforts on the sales frontline come to fruition," state Ikeda.

He said that the MOL Group was transforming itself into an enterprise capable of generating steady profits following business structural reforms.

"I am confident that a new 20,000 TEU-class containership and "MOL FSRU Challenger" both of which were delivered last year, will serve as part of the core fleet underpinning our future," he added.

Gas Natural Fenosa progresses LNG transfer system with Norwegian firm

Gas Natural Fenosa, the Spanish utility and liquefied natural gas sector player, is advancing with its technology development with a Norwegian partner for an LNG cargo transfer system.

"This unique floating system, protected by various patents, consists of a platform fitted with a connection system compatible with any type of methane tanker," said GNF.

"Once connected to the ship, the LNG is transferred, safely and efficiently to land through floating cryogenic hoses.

"Both the joint system, applied offshore for the first time in the world, and the floating cryogenic hoses, constitute two milestones that highlight the platform's innovative nature," added GNF.

The Spanish company said the system, called DirectLink LNG, means LNG can be discharged from a ship to land without the need for expensive fixed infrastructures such as docks and with minimal environmental impact.

GNF said that the infrastructure was implemented in collaboration with the Norwegian technology company Connect LNG.

"It was designed and manufactured in a record time, just six months, in a shipyard in Brevik (Norway), from where it was towed to the Norwegian town of Heroya where the first unloading operation was carried out, proving its functionality, versatility and quick commissioning," explained GNF.

GNF said the DirectLink LNG system means the fuel can be supplied in locations where it is not currently economically or environmentally feasible, making it possible to open up new markets.

"This solution does not require any type of modification to the existing LNG tankers and reduces the access times to the energy in the market and for the recipients," explained GNF.

The Spanish company said the floating system, in combination with the land-based infrastructures, which complete the DirectLink LNG transfer method, is a flexible and scalable solution.

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US makes first natural gas production and LNG export and price forecasts through to 2019

Our North America editor

US dry natural gas production is forecast to average 80.4 billion cubic feet per day (Bcf/d) in 2018, a 6.9 Bcf/d increase from the 2017 level, which would be the highest rise on record as more LNG export plants come on stream and domestic demand from industry gathers pace.

"Forecast dry natural gas production increases by an average of 2.6 Bcf/d in 2019," said the short-term US Energy Information Administration outlook, the first with forecasts for 2019.

Marketed natural gas production is forecast to rise to 86.44 billion cubic feet per day in 2018 from 78.88 Bcf/d last year and to 89.46 Bcf/d in 2019.

Average volumes

The EIA said LNG exports would average 3.0 Bcf/d in 2018, up from 1.9 Bcf/d in 2017.

"In 2018, US liquefaction capacity will continue to expand. EIA expects the Cove Point terminal in Maryland to ramp up to full capacity.

"At the Elba Island facility in Georgia, six of the 10 small modular trains, each with a capacity of 0.03 Bcf/d, are expected to enter service.

"The first liquefaction train (capacity 0.7 Bcf/d) at Freeport LNG in Texas is also expected to come online by the end of 2018," said the report.

The EIA forecasts that gross LNG exports will average 4.8 Bcf/d in 2019, when the four remaining modular trains at Elba Island come online and the remaining two trains at Freeport LNG enter service.

"Two trains in Corpus Christi, Texas, and three trains at Cameron LNG in Louisiana are also expected to enter service in 2019," it added.

The EIA forecasts exports will ramp up in the second half of 2019 to an average of 5.5 Bcf/d, up from 4.1 Bcf/d in the first half of 2019.

"In both 2018 and 2019 the new liquefaction facilities will require a ramp up period, and they are forecast to operate below nameplate capacity for a period of time, lowering the overall LNG export capacity utilization rate," stated the EIA.

The report also noted that natural gas pipeline exports to Mexico through October 2017 increased by 0.4 Bcf/d in 2017 compared with the same period in 2016.

The agency expects growth to continue over the forecast period with ongoing Mexican energy market reform.

"A relatively low natural gas export price, rising demand from Mexico's power sector, and increased pipeline capacity in both the United States and Mexico have led to increased exports.

"US gross pipeline exports are expected to increase by 0.6 Bcf/d in 2018 and by 0.8 Bcf/d in 2019 to an average of 8.0 Bcf/d," it said.

According to the EIA dry natural gas production continued to reach record levels, with year-on-year increases estimated at nearly 7 Bcf/d in December 2017.

Natural gas output will also rise steadily to 80.42 Bcf/d from 73.57 Bcf/d in 2017 and to 83.02 Bcf/d in 2019.

"Dry natural gas production averaged 73.6 Bcf/d in 2017, up 1.0 percent from the 2016 level and reversing the 2016 production decline.

"The strongest growth in dry natural gas production occurred late in the year, as improved economics related to expanded pipeline capacity contributed to a 3.8 percent increase in production between the third and fourth quarters of 2017.

"The rate of production growth is expected to moderate in 2018," said the EIA.

"The EIA expects dry natural gas production to rise by 6.9 Bcf/d (9.3 percent) in 2018 and by 2.6 Bcf/d 3.2 percent in 2019," the agency stated.

"If achieved, the forecast 6.9 Bcf/d increase in 2018 would be the highest on record. Growth is expected to be concentrated in Appalachia's Marcellus and Utica regions, along with the Permian Basin region.

"Much of the expected increase in natural gas production is the result of rising pipeline takeaway capacity out of the Appalachia producing region to end-use markets.

"The greater pipeline connectivity contributes to higher wellhead natural gas prices for producers and is expected to encourage production growth," added the report.

Pricing

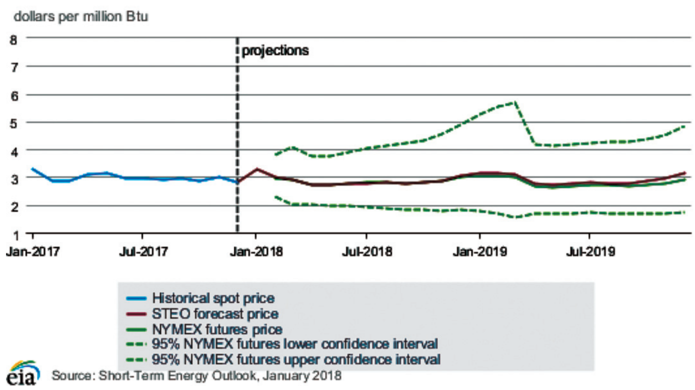
On the prices front, the benchmark Henry Hub natural gas spot price is forecast to average $2.88 per million British thermal units (MMBtu) in 2018 and $2.92 per MMBtu in 2019, compared with the 2017 average of $2.99 per MMBtu.

Benchmark North Sea Brent crude oil spot prices averaged $64 per barrel in December, an almost $2/b increase from the November average and the highest monthly average since November 2014.

The report said Brent crude oil prices averaged $54/b in 2017 and are expected to average $60/b in 2018 and $61/b in 2019.

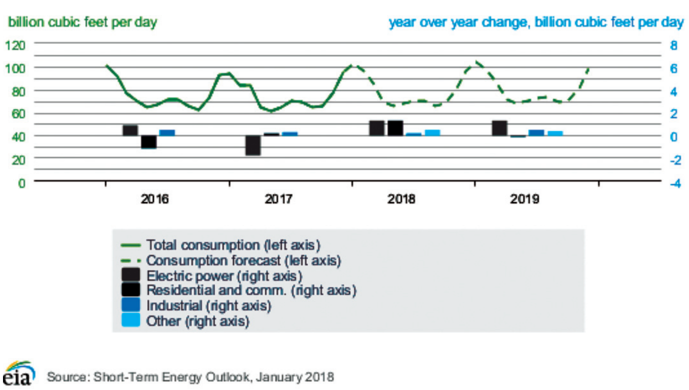
West Texas Intermediate crude oil spot prices are forecast to average $4/b less than Brent prices in both 2018 and 2019. ■

Henry Hub natural gas price



Benchmark prices and comparisons in two-year window

U.S. natural gas consumption



Natural gas consumption across all customer sectors

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