

LNG North America

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US LNG reaches new Middle East buyers

Egypt and Jordan joined the LNG-buyers' club by using an FSRU in 2015, which offers a faster, cheaper alternative to land-based regas terminals. In the long run Egypt will develop the Zohr gas field, but in the short-term, it remains reliant on LNG to meet its natural gas demand. At odds, around 82% of the Jordan's electricity is currently generated via imported LNG and there is still upside – making both countries an outlet for spot LNG cargoes from the United States.

Seasonal demand swings, and the need to fill a short-term gap of domestic gas production, lies at the heart of Egypt's growing hunger for spot LNG import – including US cargoes. According to Protiviti calculation, LNG demand in Egypt is expected to peak at 6.3 million tons in 2017, and decline to 21% in 2018 from 2017 level.

"After 2020, the nation may stop LNG imports and the two export terminals may recommence operations at a healthy capacity with new gas feed expected from Egypt's Zohr discovery, BP's West Nile Delta project and offshore

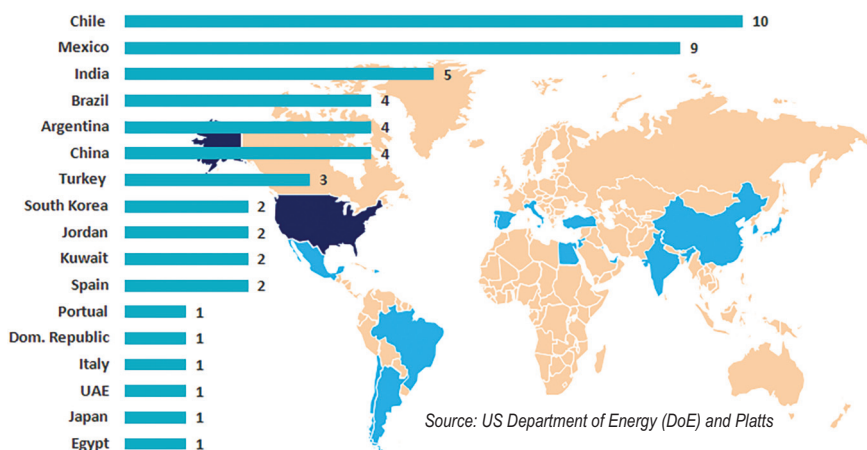
Atoll gas field, and at later stage from Cyprus's offshore Aphrodite gas field and Israel's Leviathan gas," says Priyank Srivastava, oil & gas consultant at Protiviti's Abu Dhabi offices.

Egypt just purchased 12 cargoes for delivery in the first quarter of 2017 through its recent buy tender. A total of 65 cargoes were awarded for delivery in 2017/18 and 2018. Most of these cargoes will be delivered in the course of this year, with a few deliveries in 2018. Trading firms will provide most of the cargoes – Glencore

with 25, Trafigura with 21, Vitol with seven, Noble with seven, Gunvor with two and BB Energy with two. Spanish Gas Natural Fenosa will provide one delivery.

Prices were linked to the previous six-month average Brent crude price, according to Srivastava's insight, who says that "cargoes for the first quarter of 2017 are likely to be around 12%-14% of the Brent price, with some as high as 16%, while the others were at around 11%-11.5% of Brent."

US LNG EXPORT DESTINATIONS AS OF JAN 19 (Number of Cargoes)



Spot imports replace exports

Egypt began importing LNG by leasing two floating storage and regasification units (FSRU) due to major gas shortage amid falling output and rising energy consumption. Norway's Hoegh delivered Egypt's first FSRU in April 2015 and Singapore-based BW Gas supplied the second in September 2015, both started commercial operations under a five year charter with Egyptian Natural Gas Holding Company (EGAS).

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Trump's Russia connection under scrutiny

Uncertainty and speculation about US President Donald Trump's connection with Russia has been fuelled by his appointment of Rex Tillerson, the former ExxonMobil CEO, as Secretary of State. This choice brings public scrutiny to an "exaggerated Russia and ExxonMobil connection", says Anna Belova, GlobalData's senior oil & gas analyst.

Strong reservations in the press and in parts of the industry about Mr Tillerson stem from his close relationships with the Russian President Vladimir Putin and some of the country's business oligarchs. Ms



Rex Tillerson

Belova, however, argues that it would be "natural" that Tillerson formed connections in Russia while he led ExxonMobil's Russian subsidiary in the 1990s.

Yet, these personal relationships "have not resulted in significant

shareholder returns," she said, pointing out that Russia would contribute less than 1.5% to the Exxon's current production, with no new projects in the pipeline.

"ExxonMobil has only one producing asset in Russia, Sakhalin-1 encompassing three fields in Okhotsk Sea; whereas, its much-publicized billion-dollar commitments are early-stage exploration projects focused on deepwater Black Sea and offshore Arctic.

"Sanctions prevented these projects from moving forward; yet, the current low-price environment and

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A third FSRU was expected to arrive at the end of June 2017, however, this tender was dropped when the Petroleum Ministry found no additional gas imports were necessary from 2017.

Once a fairly consistent LNG exporter into the Mediterranean, Egypt's two LNG export terminals – Idku and Damietta (combined capacity 12.2 mtpa) – remained stranded and did not export any cargoes since 2015. Over the last 4 months, however, LNG exports have been restarted and Shell exported three cargoes from Idku, as reported by Egyptian media. Notably Egypt delivered one cargo each to India and Japan in March and June 2016.

Going forward, the Petroleum Ministry is targeting a shipment every 20 days and seeking to utilize a quarter of the Idku's capacity with further aims to operate it at full capacity from 2020. Restart of exports from Idku is vital for plant operators to repay their \$2 billion loan.

Price is key

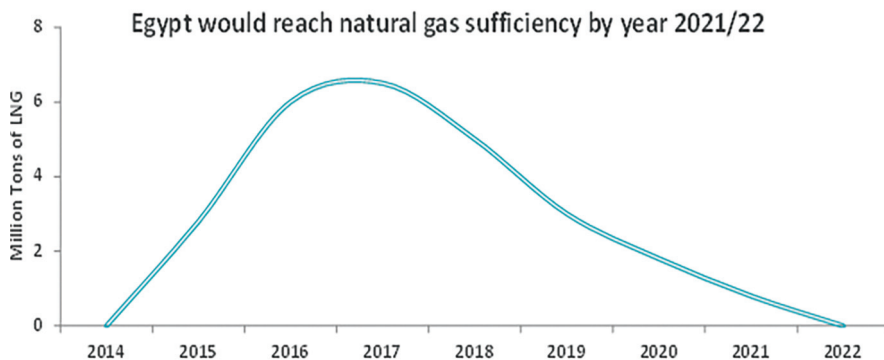
Gas Natural Fenosa's newbuild vessel - La Mancha Knutsen delivered the maiden cargo to the Egyptian port of Ain Sukhna on January 9, making Egypt the 4th nation to buy the US shale gas in the MENA region after Kuwait, UAE and Jordan. The majority of LNG deliver-

ies to Egypt to date have been from legacy exporter - Qatar. Other suppliers include Algeria, Australia, Equatorial Guinea, Norway and T&T, as well as re-exports from Europe.

To determine the source of its LNG imports, price is key for Egypt. A total of 65 cargoes were recently awarded, most of them to the international trading firms and gas portfolio players.

"Consequently, more US LNG may enter as most of the traders/firms/portfolio players have off-take agreement with the United States," Srivastava said with reference to Shell's 20-year contract to buy up to 3.5 mtpa from of Sabine Pass Train 1 and Gas Natural's 20-year off-take agreement for LNG from Sabine Pass Train 2. He cautioned, however, that "low production cost and close proximity of Qatar to Egypt, ensure a competitive advantage over their rivals."

Imported LNG into Egypt can never be competitive with the country's current domestic gas prices - especially since the international gas market has strengthened in recent months. Asian spot



Source: Protiviti Analysis

LNG prices reached \$9.0/mmBtu in mid-January, up from a low of \$4.0/mmBtu last April. Similar trend can be seen in West India/Middle East spot LNG prices. However, the Platts Middle East Marker (MEM) for March was assessed down at \$7.15/mmBtu. March demand in the MENA region remained muted relative to other markets.

Most players with commitments into Egypt, are understood to have already covered their first quarter positions into Ain Sukhna on the expectation of lower spring prices. "In short, more US LNG is expected to feed Egyptian industry in the future and that would come from trading arms and portfolio players. For now, Egypt can take advantage of today's low-cost LNG supplies over the next few years, with the super-giant Zohr gas field likely to eliminate the need for LNG imports," Srivastava said.

US vs Qatar

LNG exports from the United States help increase the flexibility in the global LNG spot market, with most cargoes being sold on a FOB basis. Another 40 mt of liquefaction capacity is under construction in the US, due online by the end of 2018. This is set to make the US Gulf Coast a key source of spot cargoes, and any upcoming export terminal elsewhere is adding to that length in the market.

"Portfolio players and trading firms have already been considerably more active in the global LNG spot market, taking the benefit of uncontracted supply. In response, Qatar is selling spot and short-term LNG to trading firms such as Trafigura, Vitol, Glencore and Noble which looking to fulfill their supply contracts with emerging buyers such as Egypt and Jordan," he said, concluding

"Although, US LNG supplies to MENA region are not grand, but the subversion of traditional energy flows has already begun. With increasingly liquid spot market for LNG, US shale exporters are ready to feed the gas-hungry industry of MENA region."

US LNG Export to MENA Region as of 19 January

Tanker name	Country of destination	Volume (MCF)	Price at export point (\$/mmBtu)	Date of departure
Energy Atlantic	UAE	3,391,066	3.95	3/28/2016
Creole Spirit	Kuwait	3,609,595	3.12	5/10/2016
Gaslog Greece	Jordan	3,566,496	5.60	7/18/2016
SCF Melampus	Kuwait	3,458,203	5.32	9/1/2016
Maran Gas Delphi	Jordan	3,361,693	5.53	9/11/2016
La Mancha Knutsen	Egypt	3,561,493	6.10	1/9/2017

Sources: US Department of Energy, Argus and Platts

LNG North America

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Jordan pioneers FRSUs

Just like Egypt, Jordan's gas needs far exceed its production and supply from Egypt has been interrupted since a 2011 blast that destroyed the pipeline linking Jordan with Egypt. Looking for an alternative, secure option to import natural gas, Jordan arranged with Golar to set up the country's first FSRU Eskimo at the port of Aqaba in May 2015,

underpinned by a 5-year SPA with Shell.

Jordan has since awarded half of its 4-year, LNG buy tender (up to 78-cargoes) to Shell which will cover deliveries in 2016 and 2017.

About 82% of Jordan's power generation relies on LNG, 80% of which is supplied by portfolio players who source most the gas from nearby Qatar. However,

Jordan's state gas company in early 2015 struck a separate contact with Shell to provide the kingdom with 150 mcf/d for the next five years - the two US LNG cargoes were delivered as part of this deal and more are expected to follow suit given Shell's off-take arrangement with Cheniere Energy from Sabine Pass.

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global crude oversupply are just as punishing to their feasibility. ExxonMobil exposure in Russia is similar to other International Oil Companies' (IOCs) positions in the country, with companies such as Total, BP, Statoil, and Shell producing from a limited number of projects while maintaining strategic relationships focused on long-term prospects in Russia's offshore and unconventional reserves. Total and BP also have significant stakes in Novatek and Rosneft, respectively," she explained.

Kazakhstan – not FSU

In the period between 2010 and 2016, Exxon ranks first among IOCs for upstream capital expenditure invested – main investments outside the United States were in Canada with \$21.6 billion and Africa with \$16.6 billion. In the Former Soviet Union (FSU), it spent \$9.09 billion over the same period, with only about 10% going to Russian producing assets.

In Kazakhstan, in contrast, Exxon committed over US\$9 billion to the Tengiz expansion and was "instrumental" in bringing Kashagan online in 2016, which in Ms Belova's view, "raised its position with the country's leadership for opportunities in the under-explored Caspian Sea."

"The current worldwide asset exposure of ExxonMobil is testimony to the broad involvement that the company has in practically every region of the world and also to the depth of Mr. Tillerson's experience in negotiating deals," she said referring to the cooperation's investments exceeding \$93 billion in the upstream sector outside the United States between 2010 and 2016.

"However, this level of investment and global exposure is the norm for key

IOCs. In fact, when compared with its peers ExxonMobil has a smaller footprint in some regions or is involved in fewer projects."



Boost in tonne-mile figures

Shipping observers anticipate a surge in tonne-mile figures as more and more of America's shale gas gets liquefied and exported.

Poten & Partners' analysis of the first 26 Sabine Pass export shipments reveals that every 1 million ton of cargo exported requires 1.75 ships. On this basis, the new US projects will require a total fleet of 113 ships.

1st US cargo reaches Japan

JERA says it believes that "buying US LNG will contribute to a stable energy supply in Japan by diversifying supply sources and LNG price indices." The 50:50 joint venture of Tepco and Chubu Electric, brought the first US LNG cargo to Chubu's Joetsu regas terminal on January 6, following a one month voyage from Louisiana via the Panama Canal.

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Texas LNG signs up Chinese buyers for Phase-2 volumes

Australia's Texas LNG, the midscale LNG projects planned for the port of Brownsville, has entered into its second marketing phase after signing up customers from China and Southeast Asia.

Four 20-year preliminary accords have been signed with unnamed "state-owned and private LNG buyers in Southeast Asia and China" for a volume of 3.1 mtpa, Texas LNG said, elaborating that "Phase 1 capacity was oversubscribed and Texas LNG was now marketing Phase 2 volumes."

FID envisaged for 2018

"Negotiations for definitive liquefaction tolling agreements and sale purchase agreements are ongoing," it added, anticipating that it plans to take a final investment decision (FID) in 2018. First LNG shipments are slated for the period 2021-2022,

to be carried out in line with projected global market requirements.

The 4 mtpa Texas LNG project, is already halfway through the FERC permitting process and is processing with front-end engineering and design. In its DoE filing, the company said that shale plays including the Haynesville, Eagle Ford and Barnett, as well as other pipeline natural gas sources, would provide adequate gas supply for the venture. That feed-gas for the project is meant to be transported to the project site via a 150-mile pipeline, originating at the Agua Dulce Hub near Corpus Christi, Texas.



Render of the project site at the Port of Brownsville, Texas

Magnolia LNG signs HoA for shipments to India

Lake Charles-based 8 mtpa Magnolia LNG, under development in Louisiana, has signed a Heads of Agreement (HoA) with Vessel Gasification Solutions Inc. (VGS) in relation to shipping cargoes to India. The non-binding HoA between Magnolia and VGS stipulates a future free-on-board (FOB) Sale and Purchase Agreement (SPA) over 20 years of up to 4 mtpa, half of the planned initial capacity at the Louisiana plant.

The accord - if and when it becomes a full SPA - would see Magnolia supply LNG to the East Coast of India for the first time. To that

end, VGS has reportedly ordered a floating storage and regasification unit (FSRU) from the Nantong shipyard of China-based Wison Off-

shore & Marine. The FSRU is set to be moored at Kakinada Deepwater Port with a view to importing and supplying natural gas to the eastern Indian states of Andhra Pradesh and Orissa.

"The obligations of the parties are conditional upon MLNG's satisfaction with or waiver of conditions precedent including financial close of the KGLNGT terminal and satisfaction by VGS of defined credit requirements underpinning their LNG purchases within agreed timeframes," the two companies said.

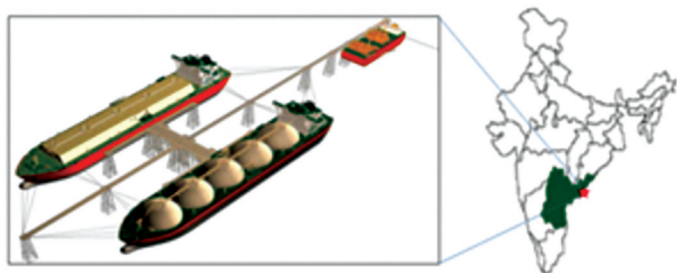
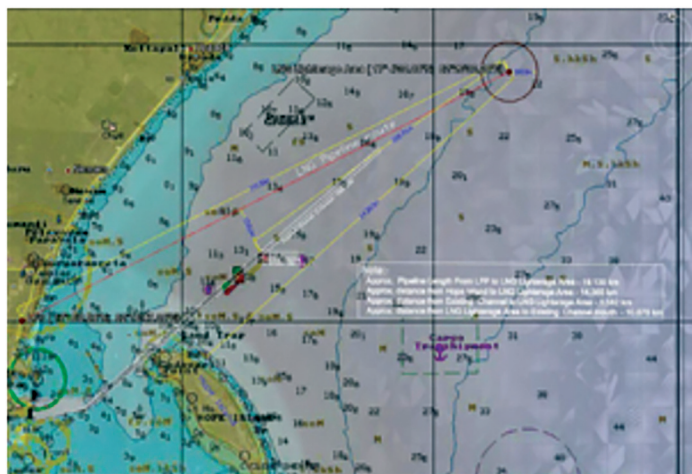
"We look forward to supplying long-term volumes to the Indian market to meet their growing needs for clean energy," Greg Vesey, LNG Ltd's chief executive commented, suggesting this accord would "represents another important step forward for the MLNG Project."

Gaurav Tiwari, president of VGS, said the accord with would put his company in "a prime position" to establish India's first East Coast LNG import terminal. All of the country's four existing terminal are on the West Coast. "We

look forward to ...bring a significant tranche of US-produced LNG to a key new market on the East Coast of India," he said, indicating that part of the project will be located on a barge structure and will have import capacity of just over 7 mtpa of LNG.

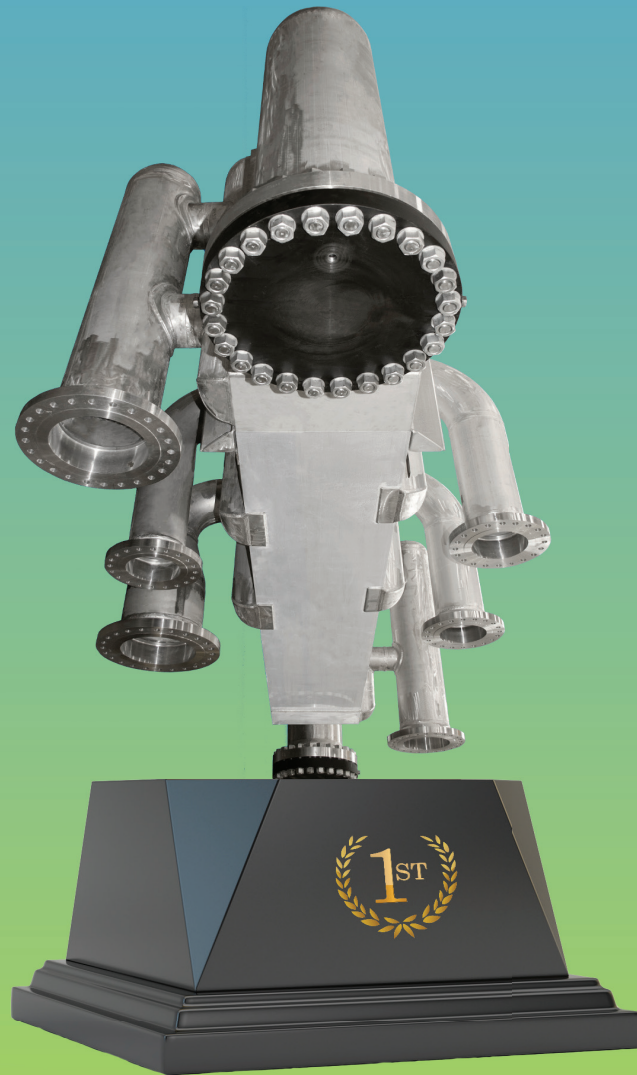
VGS said its Krishna Godavari LNG Import Terminal, named after one of India's main natural gas fields, will also allow for the full utilization of almost 7,000 megawatts power generating capacity located nearby and currently lacking adequate gas supplies.

Shell and Engie have proposed a rival 3.5 mtpa LNG import project nearby with provisions to expand to 5.25 mtpa, that is also located nearby Kakinada Port. Other shareholders in that rival project include Andhra Pradesh Gas Distribution Corp., a joint venture between the state of Andhra Pradesh and Gas Authority of India. Shell already operates India's Hazira onshore import terminal on the West Coast north of Mumbai since 2005.



The projected Krishna Godavari LNG Import Terminal lies on 8km from India's eastern coast

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Supplying New England: Spot LNG vs. new gas pipelines

Is it cheaper to pay for the price spikes of spot LNG cargoes during the winter season or for building new pipelines in New England? That is the key question to solve surging gas-to-power demand in this unique corner of the United States.

"LNG is critical to our winter reliability program," said Peter Brandien, vice president of system operations at ISO New England (ISO-NE), though he added that a survey of operators indicated that they are planning this year to use "a bit more oil, less LNG."

For winter 2016/17, the participating volume of LNG is roughly 41% of the year prior and it's at a lower payment rate. "This is obviously less than winter 2015/16, but it is on par with winter 2014/15 LNG participation."

By contrast, Winter 2015/16 was unseasonably warm, so no LNG was utilized in the program, he said, explaining "this means that gas-fired generators that contracted for LNG via the program were compensated \$2.15/MMBtu on the eligible amount to offset the risk of unused contract volumes."

Incentives to burn LNG

ISO-NE is in its 4th yearly Winter Reliability Program, which according to grid operator incentivizes electric generators that run on oil and dual fuel (oil and gas) to increase inventories. Hereby gas generators would contract for LNG and get compensated for a portion of the costs related to any fuel in-

ventory that is unused at the end of each winter. The program also includes a demand-response component.

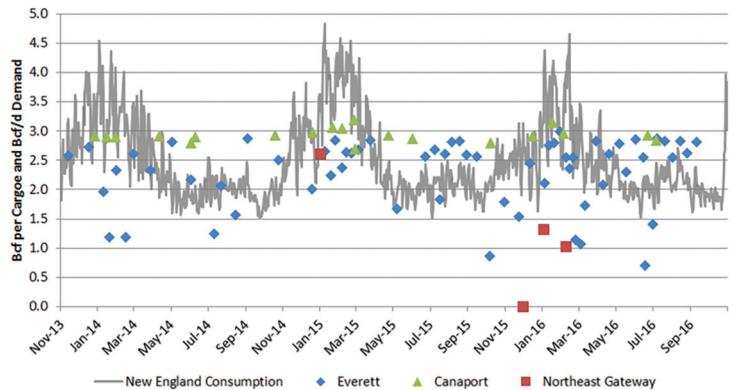
"Gas demand in New England is very cyclical and peaks near 4.5-4.8 Bcf/d - however, neither the current pipeline infrastructure nor upcoming expansions projects are sufficient to fully meet this demand," Mr Brandien said; "Hence, there is a seasonal requirement for spot LNG which is set to rise starkly as the region's power generation mix shifts away from coal and heavy fuel oil towards a much greater reliance on natural gas."

The instrument of an Winter Reliability Program has "worked well," but Winter of 2017/18 will be the final year of the program - by mid-2018 ISO-NE will switch to a "Pay-for-Performance" incentive in the capacity market.

Seasonal imports

Underground gas storage is not much of an option for New England, as the geology doesn't allow for that - instead uses above-ground LNG storage and a few regas terminals to mitigate the shortfalls of long-haul pipeline gas capacity. According to the Northeast Gas Association, there is 29.4 Bcf of LNG storage accessible to

LNG Imports Compared to New England Demand



Source: Dept. of Energy, IHS Markit

New England, and those storage terminals have the capacity to vaporize and send out 4.3 Bcf/d of gas.

Still, ISO-NE says it is "well prepared" to cover New England's gas needs - mainly thanks to its Winter Reliability Program, the implementation of an expansion project on Algonquin Gas Transmission and the likelihood of robust supplies of LNG.

By winter 2019/20, however, the need for more LNG import rises substantially to help supply nearly 2.5 gigawatt of new gas-fired capacity.

Four LNG import facilities serve New England, notably:

- Canaport LNG terminal in Saint John, New Brunswick, Canada, has onsite storage capacity of 9.9 Bcf, and the facility can transport up to 1.0 Bcf/d on Brunswick Pipeline where it interconnects at the U.S. border with Maritimes & Northeast Pipeline (M&NE) which then traverses through Maine southbound towards Boston.
- Distrigas, a subsidiary of ENGIE, has a regas facility in Everett, Mass. with 3.4 Bcf/d of LNG storage capacity with vaporization capacity near 0.7 Bcf/d.
- Northeast Gateway and Neptune LNG are import facilities without storage capacity.

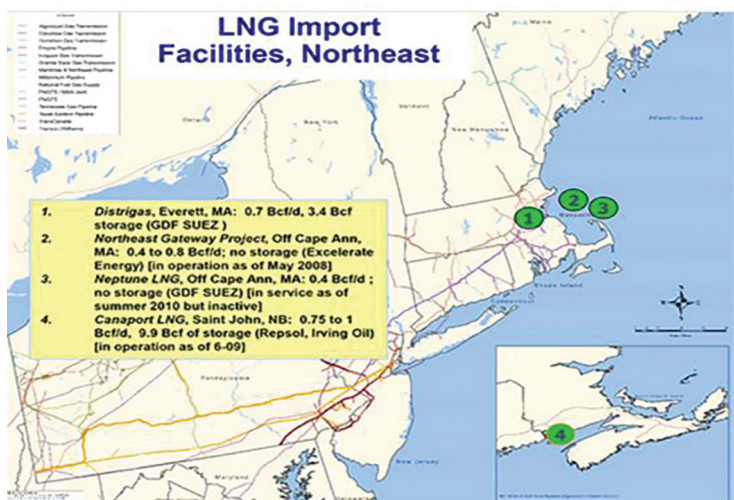
Over the past three winters, Ev-

erett received an average 23.0 Bcf of LNG imports, and in the past three summers it averaged 24.6 Bcf of imported LNG. Northeast Gateway received a marginal 2.5 Bcf of cargoes over the last two winters, while the utilization of Canaport has been declining. Canaport only received 9.0 Bcf of LNG imports during winter 2015/16 while over the prior two winters it received nearly 15.0 Bcf.

Timing of demand

Comparing New England gas consumption against the timing of LNG imports, analysts at Point Logic Energy noted that cargoes arrive almost year-round and don't necessarily bunch during winter peak months. The location and quantity of LNG imports have to be carefully considered when evaluating the region's supply security, since the different terminals' connectivity to infrastructure differ.

Everett is by far the most active facility due to its connectivity to an LDC, a power plant, LNG trucks and several interstate pipelines. Owned by ENGIE, a global LNG player, the vast majority of Everett's imports come from Trinidad under long-term contracts, hence analysts say "it is not totally dependent on New England's short-term price and market fundamentals."



Source: Northeast Gas Association

Eisbrenner's company signs lease for 2nd project in Texas

NextDecade, the US project developer run by former Shell executive Kathleen Eisbrenner, has signed land agreements for a 1,000 acres site with deep water access to the Gulf of Mexico at Shoal Point, Texas, for the development of a "multi-billion dollar" LNG export facility.

The accords were signed with the State of Texas and with the Texas City municipal authorities. Texas City owns almost 376 acres at Shoal Point, while the Texas General Land Office manages the adjoining 618 acres of state land.

"The Shoal Point site, located just east of Texas City's major petrochemical industrial complex and 40-miles southeast of Houston, provides an attractive location for an LNG export terminal," NextDecade said in a statement.

The ample acreage at Shoal Point allows for significant design flexibility and potential expansion capability, increasing the project's appeal to potential customers and investors. The site also benefits from its deep-water access and proximity to nearby natural gas pipeline infrastructure.

Apart from the Shoal Point pro-

ject, NextDecade's main focus is its 27 mtpa Rio Grande LNG project planned for the port of Brownsville in Texas, which is said to be "advancing rapidly" through the Federal Energy Regulatory Commission (FERC) permitting process.

"The project at Shoal Point will benefit from NextDecade's ability to replicate much of the design and engineering work done for Rio Grande LNG, a project that is expected to have one of the lowest construction costs of any LNG production facility in the world," the company said.

The land agreement comes as the State of Texas attracts international attention following the Wolfcamp Shale find, deemed worth \$20 billion and holding estimated reserves of 20 billion barrels of oil, 16 trillion cubic feet of



View of Shoal Point project east of Texas City's petchem complex; image: NextDecade

associated natural gas, and 1.6 billion barrels of natural gas liquids, according to an assessment by the U.S. Geological Survey.

"Now more than ever, the US has the potential to benefit from the incredible natural gas resources we have right here in Texas," commented Ms. Eisbrenner, NextDecade Chairman and CEO.

Together, the Ports of Houston, Texas City, and Galveston form the

largest port complex in North America and the NextDecade project would be the first LNG facility in the area.

NextDecade and Flex LNG signed a heads of agreement December 2016 to create "a full value chain solution" for offtake from the Rio Grande project (FSRU and dockside facilities) with the LNG supply also provided by the Eisbrenner company. ■

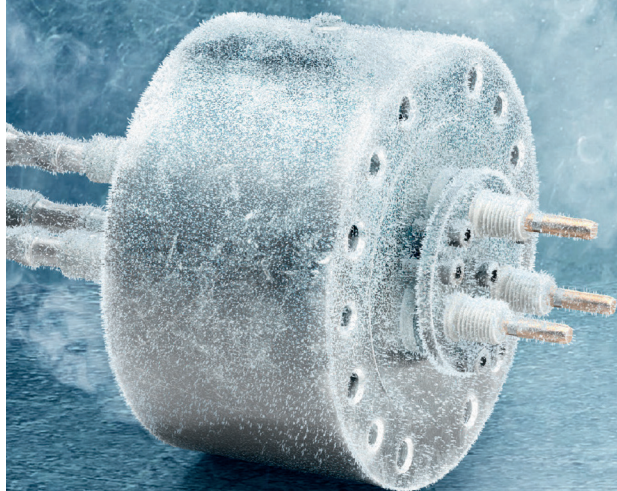
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Point Comfort LNG project files for DoE export permit

The Point Comfort near-shore LNG project in Calhoun County, Texas., run by Lloyds Energy Group, has submitted an application to the US Department of Energy (DoE) to export shipments to countries with a US Free Trade Agreement (FTA).

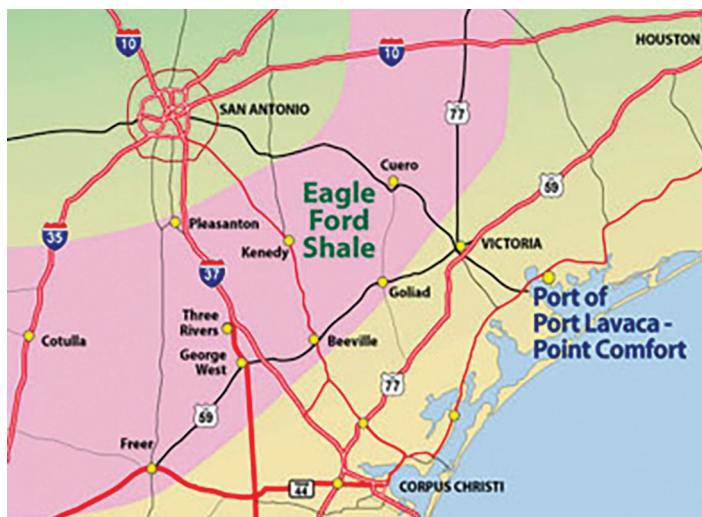
"This is one of the first steps in developing the LNG project, which would bring significant and lasting

benefits to the South Central Texas Coastal region," Philip Holland, CEO of Lloyds Energy com-

mented. He said Lloyds Energy is "strongly positioned to meet client demand", and has submitted its FTA application as "important first step towards making the final investment decision."

Lloyds Energy explained it would use two near-shore floating LNG vessels with each unit able to produce 4.5 mtpa, as well as having additional support barges and related onshore facilities. The company said that over the course of three years, it has grown rapidly in the fields of Near Shore LNG, pointing at its "strong international alliances with offtakers and two major engineering groups specializing in LNG."

In April 2016, Lloyds Energy signed a letter of intent with the US engineering firms KBR and South Korea's Daewoo Shipbuilding and Marine Engineering for front-end engineering and design and other services related to its Near-Shore FLNG concepts. ■



Air Products makes bid for Chinese firm

Air Products, a leading US LNG equipment maker, has made a takeover approach to Yingde Gases - the largest gas services company in China. With this move, Air Products seeks to expand its foothold in this key market in Asia after completing a company overhaul.

"Air Products has submitted a letter to Yingde Gases setting forth a preliminary, non-binding indication of interest to acquire all of the outstanding shares of Yingde, subject to the satisfaction of certain conditions. No agreement between Air Products and Yingde has been reached," the firm said in mid-January.

The Allentown, Pennsylvania, headquartered company specialises in providing LNG heat exchangers, on-site gas generation and other equipment, it has offloaded its Versum Materials unit and its Performance Materials Division as part of a major restructuring. In September 2016, it marked the roll-out of the first completed LNG heat exchanger manufactured at its new production facility in Manatee County, Florida.

Air Products had sales for all of fiscal 2016 of \$9.5 billion, down 4% from the \$9.9bn for fiscal 2015. ■

LNG Ltd scrutinized over share price surge

Australia's Liquefied Natural Gas Ltd, whose ventures include the Magnolia LNG plant in Louisiana and the Bear Head facility planned for Nova Scotia, has been asked by the Australian Securities Exchange (ASX) to explain reasons behind the 23% surge of its shares.

LNG Ltd., received the request after its shares jumped from A\$0.70 to A\$0.86 from January 10 to January 13, and after ASX also noted "the significant increase in the volume of the company's securities traded."

In response, LNG Ltd said it

was "not aware of any information concerning it that has not been announced to the market" which, if known, could explain the recent trading in its securities.

LNG Ltd was obliged to issue a similar statement to the ASX on June 9, 2016, when its shares had

also taken off during a short period amid takeover speculation. The company's market capitalization has gone from a high of A\$2 billion (US\$1.5Bln) in 2015 to A\$543 million on June 9, 2016, down to A\$414M on 16 January, 2017. ■

Plans still on to import US LNG to Cumbria

A project aimed at importing liquefied natural gas cargoes into the UK natural gas market at the port of Barrow-in-Furness in Cumbria, northwest England, from Louisiana on the US Gulf Coast is still alive after an offtake agreement was extended to November 2017.

LNG Ltd, the Australian developer of the US Magnolia LNG project, has extended the closing date of a tolling accord that will see cargoes shipped to a floating terminal offshore Barrow by Meridian LNG Holdings Corp. Magnolia LNG and Meridian LNG stated they have agreed to further extend the financial close date condition from the end of December 2016

to 30 November 2017.

"The extension for Meridian LNG provides additional time for Magnolia LNG to finalize additional offtake agreements and allows for a typical timeline to conclude both project equity and debt following the execution of offtake agreements," said LNG Ltd Chief Executive Greg Vesey. ■



Port of Barrow-in-Furness in Cumbria

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