

Tough LNG market makes Cheniere consider delaying FID on Corpus Christi Stage 3

A triple whammy of a warm winter, sluggish demand in Asia and cancelled cargoes in China due to the coronavirus outbreak is prompting Cheniere to slow down its midscale expansion FID timing. Corpus Christi Stage 3 will most likely be delayed due to a lack of stable off-take and record low LNG prices in Asia Pacific which render netback prices unattractive.

Houston-based Cheniere remains the strongest U.S. LNG producer by market capitalization but commercial prudence will not allow it to go ahead with the proposed 9.5 million tons per annum (mtpa) Stage 3 expansion at Corpus Christi, Texas, until sufficient secure off-take agreements are in place. So far, only two small off-take deals are tied to the expansion project which is insufficient to meet Cheniere's investment criteria.

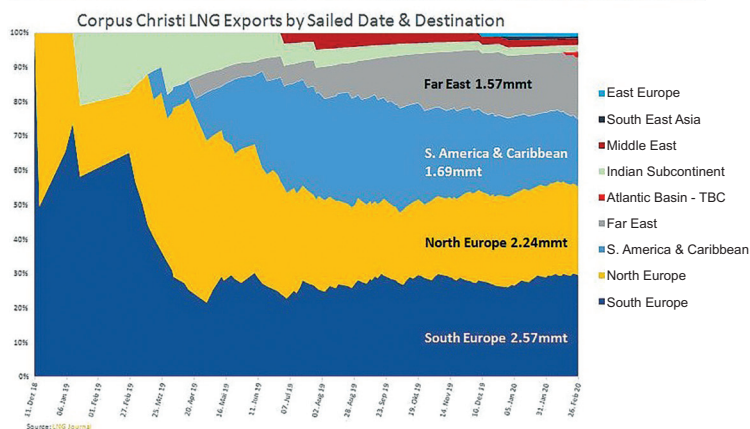
CEO Jack Fusco said during Cheniere's latest earnings conference call that the whole urgency among customers to sign long-term contracts has dropped. "The market will be tough to continue

to get our fair share of contracts and continue to commercialize Stage 3 at this point," he said, indicating that the final investment decision (FID) will not be taken as initially planned in the first half of 2020, but rather "sometime later this year, though this could be pushed back further."

Shut-ins on the cards

Rampant US LNG supply has squeezed margins, forcing liquefaction capacity holders along the U.S. Gulf Coast to consider temporary shut-ins. Landed LNG spot futures for U.S. cargoes into Asia for March are around \$2.2 per million British thermal unit (mmBtu).

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Lack of upstream investment jeopardizes U.S. energy independence

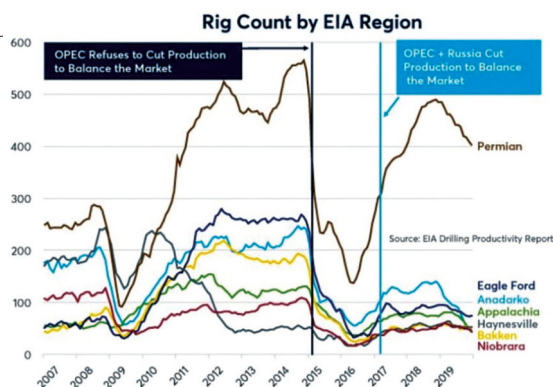
Energy independence of the United States will be tested in the 2020s, unless there is a sharp reversal in the collapse of fresh capital expenditure in the shale sector, CME Group finds. Currently, CAPEX in shale oil and gas fracking is dwindling, and rig counts are falling.

Appalachia, Permian and Haynesville are the most prominent shale oil and gas producing regions in the U.S. However, Appalachian production growth slowed significantly in 2019 due to dwindling capital investment in new rigs.

The number of operating rigs in Appalachia between April and December 2019 dropped from 81 to just 50, and from 63 to 52 in Haynesville. Meanwhile, the rig count in the Permian fell from 485 to 402 between February and December.

CAPEX cuts amid falling revenues

"The recent natural gas sell-off will put even further downward pressure on rig counts," analysts com-



mented. Bearish markets exert additional pressure on the exploration and production sector, which has been suffering from falling revenues and tight cash flows.

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"At such price, there is no profit even with liquefaction fees at US terminals considered sunk costs," LNG Unlimited data editor, Alex Wilk commented.

"Although low spot charter rates and cheap Henry Hub gas help to prevent deeper losses, shippers can expect to make a loss of around \$0.04/mmBtu, assuming your vessel has 165,000 cubic meter capacity, is travelling for 29 days and Panama Canal fees of \$380 million," he explained.

Looking at landed prices, which include long-term contracts with a

price floor, the average price/mmBtu goes up to \$3.17. "Then shippers could get a net-back of \$0.93/mmBtu on a single laden journey," Wilk indicated. "In that case, lower charter rates and low Henry Hub make a real difference to prevent losses."

Once deemed a 'market of last resort' for LNG, Europe has "theoretically" reached levels low enough to undermine the operating costs of US exporters "several times this year," said Sam White, director of commercial structuring at Cheniere. Analysts believe that

shut-ins and planned maintenance will be more price-related as US volumes surge through 2024.

FID on Cameron Train-3 delayed until 2021

With profit margins for shipments to Asia below 15 \$cent, and under 35 \$cent to Europe, Sempra-led Cameron LNG has delayed the 'Expansion Project' of Cameron LNG until May 2026 to gain time. FID on the Cameron LNG Extension will now not be taken before mid-2020.

The Cameron plant was first conceived as a 3-train export plant

and is currently operating on two 4.98 mtpa trains. Phase 2 of the project comprises the construction of Trains 2 and 3 to increase the site's gas liquefaction capacity by 9.97 mtpa to 14.95 mtpa.

The future has become less certain for several large-scale US projects waiting in the wings. Projects such as Port Arthur LNG, Gulf LNG Liquefaction, Eagle LNG Partners and Venture Global LNG have FERC approval but lack FID. It remains to be seen whether any of these will be constructed as quickly as planned. ■

China ready to exempt U.S. LNG and crude oil from extra tariffs

The Chinese Government is open to applications for tariff exemptions on several U.S. products, including crude oil and LNG, starting from March 2, 2020. The long-anticipated announcement was widely welcomed by traders, though there are concerns about long-term demand destruction due to the coronavirus outbreak.

China had imposed additional tariffs on U.S. goods in retaliation to the U.S. Section 301 tariff measures. It had imposed a 10 percent tariff in September 2018 and increased the tariff to 25 percent from June 1, 2019, effectively halting gas trade between the two countries.



By granting exemptions on some retaliatory tariffs, Beijing strives to comply with commitments in latest Phase-1 trade agreement with Washington. The deal stipulates China will take an additional U.S. energy exports worth some \$18.5 billion this year and another \$33.9 billion in 2021.

Analysts anticipate this commitment will ultimately help rekindle Chinese demand for U.S. commodities. China had imported 1.64 million tons of US LNG in 2018 but imports plunged in

2019 to just 258,955 tonnes in 2019 because of the trade war, while Chinese buyers purchased 60 million tons from other countries. CNOOC, which has long-term off-take contracts, has been forced to swap U.S. cargoes for non-U.S. cargoes to avoid tariffs of 25 percent, sometimes at high premiums, because of uneconomic US-Asia arbitrage.

Coronavirus curbs China's gas demand by 14 Bcm

An escalating coronavirus health crisis has slashed China's gas demand by 2 billion cubic metres

(Bcm) by the end of the first week in February, mostly due to industry closures and quarantined workers. Anticipating a "limited resumption of economic activity," Wood Mackenzie says full-year 2020 gas consumption could be between 6 Bcm and 14 Bcm lower.

"LNG will bear the brunt of this reduction in domestic gas demand," analysts commented, estimating the downside impact to Chinese LNG demand as between 2.6 million tonnes 'best case' with recovery by April, and 6.3 Mt in a more 'prolonged case' with a slower return to normal. ■

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Pursuing different restructuring strategies, some producers have been imposed strict saving measures while others have been raising capital through debt.

"Unfortunately, the low-price environment has eroded equity valuations, amplifying the problem of holding uneconomic assets," analyst noted. This has been "pushing some companies to write-offs, fire sales, financial distress and even bankruptcies."

The decline in CAPEX, for the moment, has had little impact upon production amid soaring productivity per rig - but this can be short-lived. The average shale play lasts for only 18-24 months. Eventually per-rig productivity could begin to decline. "If that happens, the combination of low rig counts and falling productivity could cause U.S. oil and natural

gas production to begin to fall," analyst suggested. "Falling US production could, in turn, reduce storage levels and allow prices to drift higher."

Exports rise despite narrowing price spreads

The U.S. shale revolution, unfolding since 2009, has been key to reduce risk premium in oil market and has been closing price gaps with Asia and Europe while putting the focus on Henry Hub as a pricing benchmark. Even if prices at Henry Hub were to "go somewhat higher," the gap between U.S. and gas global prices will "remain significant, so US

LNG exports will likely to continue to rise," concluded CRM Group analysts.

Natural gas exports from the United States increased to over 4.5 billion cubic feet (Bcf) per day by mid-2019, up 37 percent from the pre-year period. Total US LNG export capacity rose from 5.4 billion Bcf per day in June 2019 to 6.1 Bcf by year's end.

By the end of 2020, US LNG export capacity is expected to rise to 8.9 Bcf per day. Soaring gas production and falling prices have also accelerated the coal-to-gas switch in the U.S. power generation sector, and spurred demand from the petrochemical industry. ■

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Trade tensions unlikely to vanish in U.S. Election Year

All eyes are on China's economic and energy demand growth. But with the U.S. election looming large in November, it is unlikely that President Trump will facilitate real breakthroughs on trade with China. Russia's Gazprom might turn out to be the 'laughing third' as it strives to ramp up deliveries to China through the new 38 Bcm/y Power of Siberia pipeline.

Though a U.S.-China trade deal includes a promise for \$52.4 billion in further purchases of American energy such as LNG, crude oil and coal in 2020 and 2021, Beijing has left import tariffs in place. This could allow Russian gas to gain the upper hand over US LNG imports in the short run.

Beijing strives to diversify China's gas sources, but the cost of any new supply option matters. Considering the huge expenses of transporting Russian pipeline gas over thousands of miles towards Beijing and Shanghai, analysts deem it "unlikely" that CNPC will want to quickly ramp up gas supply from Siberia at the expense of imported LNG.

Eventually some 8 Bcm/y of Russian gas will be exported to China's CNPC through the new interconnector, but the competitiveness of PoS gas imports in China is entirely dependent on where it is sold.

Costs hinge on point of sale

Considering the cost of PoS gas

into the Yangtze River Delta versus recent LNG contracts, Wood Mackenzie says this is "not a major competitive threat." Particularly because the Yangtze River Delta is a region that already has six regas terminals, with a further three greenfield projects under construction and two more proposed.

Things look different further north. "In the Northeast, tariffs from the Russian border will only be around \$1/MMBtu to reach a city such as Shenyang, making 'Power of Siberia' gas attractive against LNG," Mr. Thompson said. "But to take gas further south to Shanghai will increase tariffs to around \$3/MMBtu."

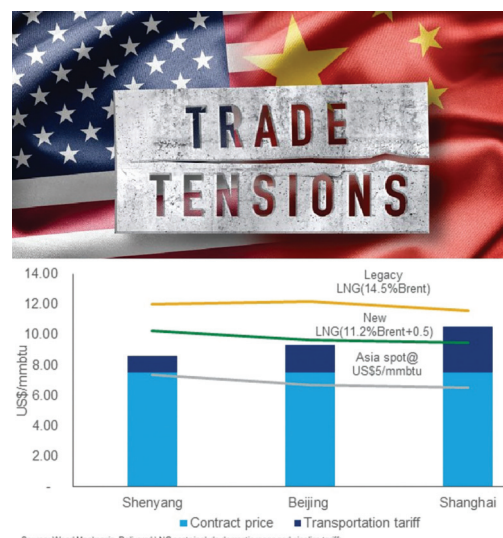
"LNG doesn't have this problem. And the world is awash with dirt cheap LNG right now," he added, suggesting "this will continue over the next couple of years as more projects come onstream." Moreover, China is rapidly expanding regas capacity and pushing third-party access policies to encourage more participants.

While legacy LNG contracts are

the marginal source of supply into China, recent LNG contracting trends are seeing term deals signed around 11% of oil, Wood Mackenzie understands. At this level of oil indexation, new LNG projects would not really have fear Russian pipeline gas into China.

Uncertainty on PoS gas price, future tariffs

Wood Mackenzie's team of China gas analysts hence argue that the 'Power of Siberia' pipeline will take 7 to 9 years to reach full capacity. Analysts in the West, however, have only limited understanding of exactly how the Power of Siberia gas contract is priced and what future pipeline tariffs will be following the establishment of China's new national pipeline company in early December.



"China's recent proposals to exclude city-gate prices from national regulations, mean Russian gas prices will be deregulated, potentially encouraging PetroChina to raise wholesale prices (which would also benefit LNG)," Mr. Thompson said. "But what we do know for sure is that even with Russian pipeline gas now in China, LNG is increasingly competitive into China and should continue to play a key role in supplying cleaner energy into this most critical of markets." ■

U.S. Congress mulls new sanctions against Nord Stream 2

Lawmakers in the U.S. Congress are preparing to hit European investors in the Nord Stream 2 pipeline with a new set of sanctions in an effort to derail the project as Washington seeks to sell more US LNG to Europe.

Uniper, Winterhall, Engie, OMV and Shell are invested in the Baltic Sea interconnector, and the sanctions could come as soon as February or March.

Determined to stop the completion of the controversial Russian-German gas interconnector, the U.S. Congress already threat-

ened to levy sanctions against construction and pipe-laying companies involved in the project. Allseas, a Swiss pipelay firm, consequently suspended works. Just 160 km of the 2,460 km long pipeline is left to be laid. Allseas' deep sea pipe laying ship Solitaire has been laying most of Nord

Stream-2 but the Swiss company has now suspended works.

The Nord Stream consortium, a purely commercial entity, stressed it remains focused on bringing the \$11 billion pipeline project to a "success-

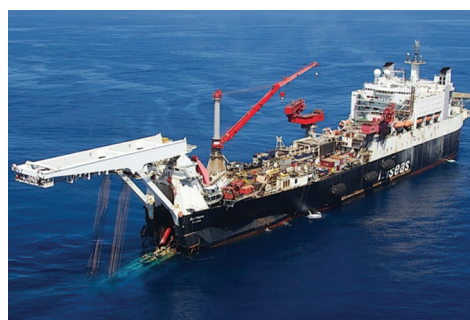
ful end. Russia vowed to complete construction works anyway. A pipe-laying vessel named Akademik Cherskiy, currently moored in the port of Nakhodka, is widely expected to carry out the work. However, the Russian President Vladimir Putin cautioned recently that the pipeline may not start flowing gas until the first quarter of 2021.

ROI likely to come "later" but at "higher level"

Austria's OMV, one of the investors in Nord Stream 2, has already financed around Eur700 million of its share in the project. Chief executive Rainer Seele remains

calm, saying "we are not expecting high cash calls from the Nord Stream 2 company in 2020." The delay, in his view, means that the Return on Investment (ROI) would come "a bit later" but at a higher level.

The Russian gas giant Gazprom is financing half of the project worth about 9.5 billion Euros (\$10.5 billion). Other partners in the project are Austria's OMV, the German firms Uniper and Winterhall, Royal Dutch Shell and France's Engie. The European project partners have each invested between 950 million and 9.5 billion Euros into the project, adding up to 50 percent of total cost. ■



The background is a photograph of a large white and blue LNG carrier ship docked at a terminal. The ship is connected to a complex network of pipes and structures. In the foreground, there is a large blue triangular graphic that contains a white technical drawing of a circular component, likely a compressor or expander, with various dimensions and labels. The scene is set against a backdrop of mountains and a body of water under a hazy sky.

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Cheap shale gas production keeps Henry Hub prices low through 2050

Natural gas prices at Henry Hub are forecast to stay lower than \$4 per million British thermal units (MMBtu) through 2050 amid an abundance of low-cost resources, primarily in the Permian Basin. "With continued technologically-enabled growth in production, we see the United States remaining a net exporter of energy for some time," said the head of the U.S. Energy Information Administration (EIA), Linda Capuano.

Production of natural gas grows at a faster rate than consumption in most cases after 2020, leading to an increase in exports. Continued development of tight oil and shale gas resources in the East and Southwest regions, U.S. crude oil production is seen to set annual records through the mid-2020s while natural gas production will keep growth through 2050.

However, dry gas production is seen grow just 1.9 percent from through 2025, which is considerably slower than the 5.1 percent growth rate in the five years running up to 2020.

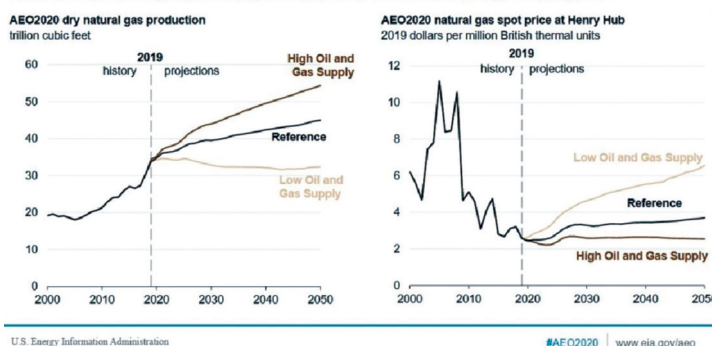
Rampant US gas supply has

been outpacing demand growth for the past year, slashing prices in Europe and Asia. Some US exporters are considering shutting in production as record low gas prices at the Dutch TTF hub challenge the profitability of liquefying and shipping gas to Europe.

Yet, shut-ins of US gas production is still unlikely at this point - given the political clout surrounding American gas exports as well as the importance and competitiveness of Henry Hub-indexed supply for global markets. American LNG supply is gearing up to make up 46% of Atlantic Basin trade by 2022.



AEO2020 natural gas prices depend on resource and technology assumptions—



U.S. net gas exports forecast to almost double by 2021

Growth in exports of U.S. gas production will nearly double over the next two years, as new liquefaction facilities are placed in service and new gas interconnectors to Mexico begin operations. Exports are forecast to exceed imports by an average 7.3 billion cubic feet per day (Bcf/d) in 2020, and 8.9 Bcf/d in 2021.

Growth in gas demand for export started to exceed growth in gas burn for power generation in 2019, as the U.S. shale gas revolution continues to unfold. Deliveries of shale gas production via national U.S. pipelines to liquefaction and export facilities accounted for 12 percent of gas production.

Imports from Canada, meanwhile, declined over the past four years as domestic U.S. gas supplies from Appalachia into the Midwestern states have displaced some Canadian gas pipeline imports. U.S. pipeline exports to Canada have increased since 2018 when the NEXUS pipeline and Phase 2 of the Rover pipeline entered service. Overall, EIA projects the United States will remain a net natural gas importer from Canada through 2050.

Exports of U.S. pipeline gas to

Mexico, meanwhile, keep growing amid expanded cross-border pipeline capacity which averaged 5.1 Bcf/d from January through October 2019. The increase in export was primarily caused by the newly commissioned Sur de Texas-Tuxpan pipeline the southern Mexican state of Veracruz.

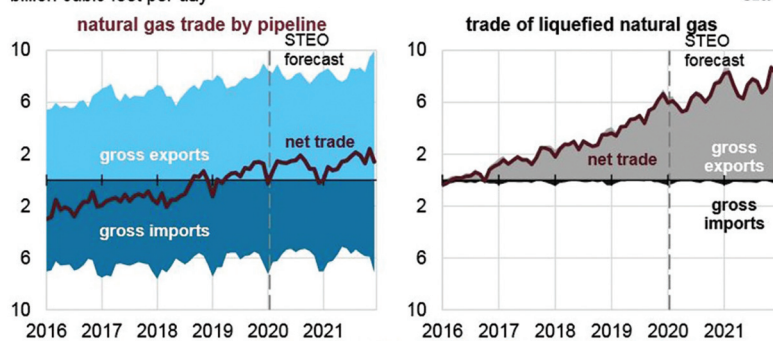
Several new pipelines in Mexico that were scheduled to come online in 2019 were delayed are expected to enter service in 2020: Pipelines in Central and Southwest Mexico (1.2 Bcf/d at La Laguna-Aguascalientes and 0.9 Bcf/d at Villa de Reyes-Aguascalientes-Guadalupe); and pipelines in Western Mexico (0.5 Bcf/d at Samalayuca-Sásabe).

U.S. LNG exports averaged 5 Bcf/d over the past year, 2 Bcf/d more than

previously, due to several new facilities that placed their first trains in service. In 2020, several new liquefaction units (referred to as trains) are scheduled to be placed in service: Trains 2 and 3 at Cameron LNG in Louisiana, Train 3 at Freeport LNG in Texas, and Trains 5-10, six Moveable Modular Liquefaction System (MMLS) units, at Elba Island in Georgia.

In 2021, the third train at the Corpus Christi facility in Texas is scheduled to come online, bringing the total U.S. liquefaction capacity to 10.2 Bcf/d at baseload, and 10.8 Bcf/d at peak capacity. Analyst at the EIA expects LNG exports to continue to grow and average 6.5 Bcf/d in 2020 and 7.7 Bcf/d in 2021, as facilities gradually ramp up to full production.

Monthly U.S. natural gas trade (Jan 2016-Dec 2021)



Source: U.S. Energy Information Administration, *Natural Gas Monthly* and *Short-Term Energy Outlook*

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Edge LNG uses mobile liquefaction units at Marcellus Shale

Stranded gas wells at the Marcellus Basin in Pennsylvania, U.S., are being tapped via mobile trailer-mounted liquefaction units. Initial operations were launched and are set to last until at least 2020, Edge LNG announced, stressing the technology allows to “reap economic benefits on assets unreachable by pipeline.”

In early 2020, Eagle LNG monetized a source of previously stranded gas in the Marcellus field and delivered it as LNG to a New England electric utility where the gas is used for power generation.

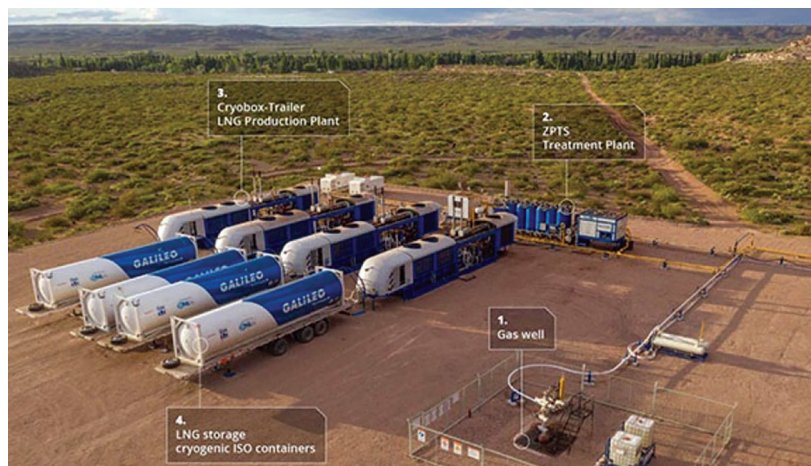
Under the latest contract, Edge LNG’s second deal in 2020, it is acting as a service provider at stranded gas wells in Tioga County in Pennsylvania. The name of the owner of the gas wells was

not disclosed.

“The Marcellus is an important region for us, there is lots of potential here with a large number of stranded wells,” said Mark Casaday, CEO of Edge LNG. “So much gas goes unharvested, purely because lack of access to a pipeline has meant there is no economic way to take it to market. We provide operators with an opportunity to profit from wells that would otherwise not be used and we make it into valuable fuel,” the CEO added, calling it a win-win solution.

To tap stranded wells, Edge LNG uses Cryobox liquefaction units, created by Galileo Global Technologies, which can be delivered to any site accessible by road. “After set-up and safety checks, production can begin within hours, with minimal investment required of the site owner and without the need of pipeline infrastructure,” Edge LNG explained.

The LNG produced from these stranded wells is being purchased by Edge and delivered to nearby customers by truck. A supply deal is also in place with City of Norwich, Connecticut, where the LNG will be regasified and used in local homes and businesses. ■



LNG about to reach U.S. power producers by rail

Rail tankers will soon transport LNG to power generators across the United States, as the regulator seeks to advance the use of this cleaner-burning fuel in decentralized location like the Midwest. Trucks and ships are currently the only means of transport for liquefied natural gas.

Eager to get cheap domestic shale gas transported to decentralized power producers, the U.S. Department of Transportation is pushing to establish regulations for shipping the LNG by rail. If adopted, the move could boost the market for ISO container exports from ports not already served by the coast-based LNG production expansion.

President Donald Trump has thrown his political weight behind the ‘LNG on Rail’ initiative by issuing an executive order earlier this year to speed up the opening of the railroad network to LNG rail tankers. With this move, Trump recognized the continued rise in cheap domestic shale gas production in the U.S. which is high in demand both at home and abroad.

In Europe, Chart Industries together with Germany-based VTG has already built the first LNG tank car (pictured) - the units keep the

natural gas in a liquefied state and can be leased or purchased.

Trains compete with pipelines

Observers noted that LNG transportation by rail could be a “viable alternative to pipelines,” which are not always able to meet the demand of, or reach, certain areas in the United States that are accessible by rail.

LNG can currently only be transported via rail in a portable tank with a special approval from the U.S. Federal Railroad Administration (FRA) but the Transport Department

has singled out rail transport as a “safe, reliable, and durable mode of transportation” for LNG.

Other potential benefits of transporting LNG by rail include the high safety levels inherent to rail transport and the use of approved tank cars, fuel efficiency, fuel accessibility to remote regions, increased US energy competitiveness, and fewer emissions,

said the Department’s Pipeline and Hazardous Materials Safety Administration (PHMSA).

“Safety is the Department’s number one priority and during the comment period,” it stressed and the agency noted it will continue to collect and analyze data on rail cars, ensuring that any rulemaking will utilize the latest data in establishing safety standards. ■



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FERC rejects re-hearings for two Brownsville projects

The Federal Energy Regulatory Commission (FERC) has refused re-hearing requests from environmental groups for the rehearing of its orders authorizing construction and operation of the Texas LNG Brownsville and Annova LNG Brownsville LNG export projects.

The opponents of the projects had accused the FERC of failing to adequately consider the environmental and other impacts of the ventures.

"Approval of the projects was not inconsistent with the public interest," stated the Commissioners. "Although the Final Environmental Impact Statements (EIS) for the projects identified some adverse environmental impacts, the Commission found that the projects, if constructed and operated as described with the required conditions, were environmentally acceptable actions," the FERC explained in its ruling.

Both the Texas LNG project and Annova LNG, along with a third venture, NextDecade Corp.'s Rio Grande LNG, were recently given permits by the Department of Energy granting authorization to export cargoes for 20 years to non-free trade agreement countries.

The Rio Grande venture will export around 27 million tonnes per



The proposed Rio Grande LNG Facility looking west along the Brownsville Ship Channel

annum (mtpa) and its associated Rio Bravo Pipeline will transport 4.5 billion cubic feet per day of feed-gas from the Agua Dulce natural gas hub. The two other plants at Brownsville are much smaller. Annova plans around 7 mtpa of output and Texas LNG 4 mtpa.

Brownsville LNG gets FTA permit

The Department of Energy (DoE) recently authorized Texas LNG Brownsville to export US-sourced natural gas to any country with which the US has not entered into a Free Trade Agreement (FTA). The

authorization's 20-year term will begin on the date when Texas LNG commences commercial export of LNG for a total volume of 204 billion cubic feet per year.

Its production will come from two proposed liquefaction Trains with total output of 4 mtpa and located in the Port of Brownsville in south Texas. The DOE previously authorized Texas LNG to export to countries that have an FTA with the United States. In its order, the DoE stressed the US will experience net economic benefits from the export of domestically produced LNG.

NFE seals long-term LNG supply deal to Caribbean

New Fortress Energy (NFE), the owner of LNG facilities in Florida and in Jamaica and projects in Puerto Rico and the US northeast, said it signed a long-term LNG supply agreement for eight cargoes a year for 10 years through January 2030.

In addition to its 100,000 gallons per day liquefaction plant in Miami, NFE operates a floating LNG terminal in Montego Bay, Jamaica, along with a fuel-handling facility in Puerto Rico. Its Puerto Rican subsidiary NFEnergía has entered a 5-year gas supply contract and committed to convert two out of six units at the San Juan combined-cycle power plant (CCGT).

The Miami facility began operations in April 2016 and enables the company to produce LNG for export in intermodal ISO containers to the Caribbean and to small-scale customers in southern Florida. The company is also looking at developing a Pennsylvania LNG distribution facility.

IEnova gets earning boost from start of South Texas-Tuxpan pipeline

Sempra Energy's Mexican subsidiary IEnova has seen fourth quarter earnings rise 22 percent to \$253.4 million as the South Texas-Tuxpan pipeline went in service. However, these gains were partially offset by the revenue deferment at the Guaymas-El Oro gas pipeline.

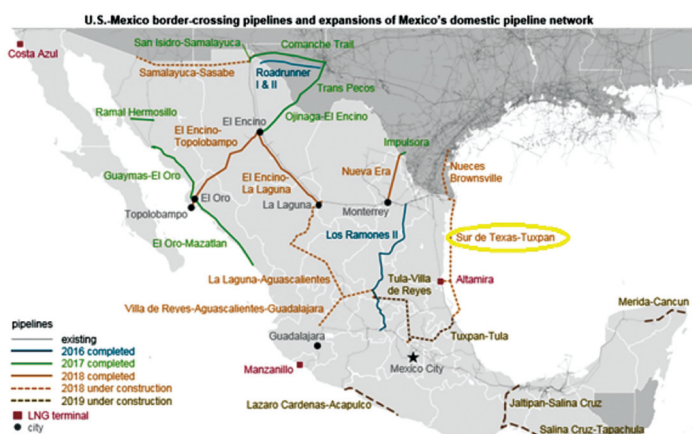
Built at a cost of \$2.5 billion, the South Texas-Tuxpan pipeline is a crucial outlet for US natural gas as can deliver up to .6 billion cubic feet per day to the southeast of Mexico. The interconnector is jointly owned by IEnova and Canadian pipeline company TC Energy.

Progress is also being made on other Mexican pipeline projects. The Marine Pipeline started operations in September, and a month earlier IEnova resolved matters related with to the Marine and Sonara pipeline with the Mexican energy regulator CFE. However, there are still open issues regarding the Guaymas-El Oro pipeline

which the developer is working on with government entities.

Investment in 2019 amounted to \$665 million, primarily related to the solar and liquid terminal projects and funding of \$49.1 million in the South Texas-Tuxpan pipeline which is linked to Enbridge's Valley Crossing Pipeline in Texas.

IEnova parent company Sempra has a strategy to achieve around 45 million tonnes per annum of LNG production by the mid-2020s through three plants, the Cameron facility at Hackberry in Louisiana that came on stream in 2019, the Port Arthur plant in Texas and the



Costa Azul facility.

FID on the Costa Azul liquefaction project is targeted to be reached later this quarter, IEnova

announced. For this venture, the company already signed three Heads of Agreements with Total, Mitsui and Tokyo Gas.

US LNG January - February

LNG Journal

- January - February exports at 9.06mmt on 27 February
- Total shipments more than doubled over same period last year
- US capacity utilisation at 97% overall

US LNG exports for the period covering January and February stood at 9.06mmt with a delivery horizon of 30th March at the time of writing. Meanwhile, average capacity utilisation remained high at 97% since January. US LNG's exporting performance thus saw monthly export growth of 1.35mmt (9.8%) compared to the period of November-December.

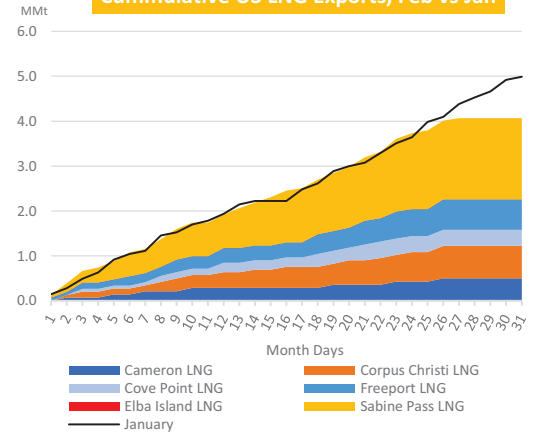
Nevertheless, much of this two-month performance is due to a bumper month in January, which saw total US exports soar to 4.99mmt via 79 cargo liftings. When looking at January and February in isolation, it is evident that there has been a significant decrease by 0.92mmt to 4.07mm m/m. Whilst capacity utilisation remained high for Corpus Christi LNG, Freeport LNG and Sabine Pass LNG, for Cameron LNG and Cove Point LNG capacity utilisation had retreated by up to 16pp. Elba Island also did not export a cargo.

When considering performance at an individual plant level, all US LNG capacity had experienced a m/m reduction in exports. Whilst the shorter month of February certainly was a factor - and we still anticipate Cameron and Cove Point to close their relatively minor m/m gaps by Saturday - the massive capacity installed at Sabine Pass

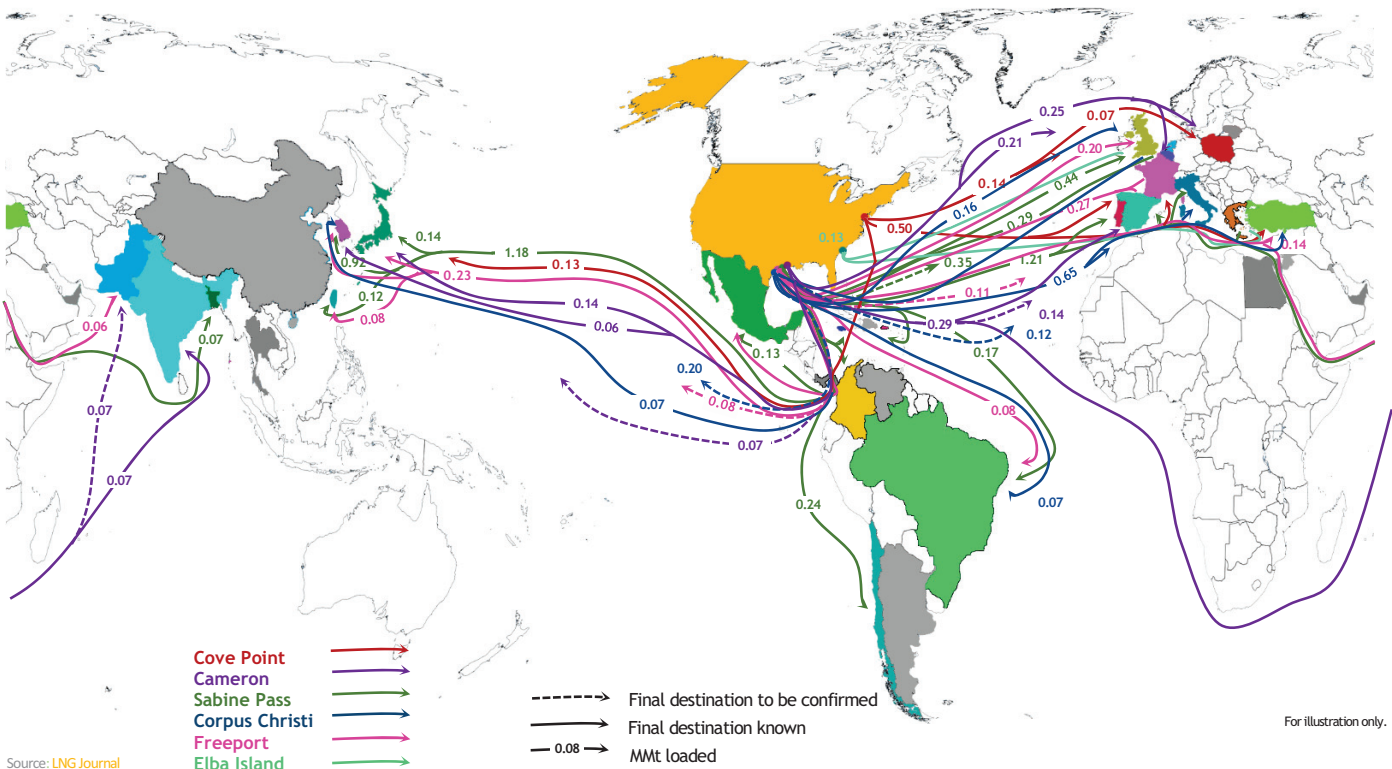
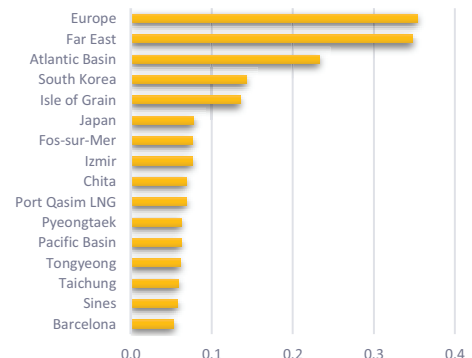
accounted for 62% (0.58mmt) of the shortfall in February. In other words, the relative shortness of February was not a deciding factor. Instead, we point towards a considerable supply overhang, partially created by the strong exporting performance of US LNG in January. A demand slowdown in the Pacific Basin, some of which was due to public health measures in response to the coronavirus outbreak in China, export growth in Australia, an increase in reinstated nuclear capacity in South Korean and Japan as well as a relatively mild winter were also important contributing factors.

The supply overhang inevitably resulted in falling prices, which in the Pacific had crashed to around \$3/mmBtu at the time of writing, thus rendering exports of US LNG to the Pacific a potential loss-making proposition, though low spot charter rates and US Henry Hub at less than \$2/mmBtu somewhat cushioned the fall. As such US LNG exporters once more turned to the Atlantic Basin and Europe in particular as a sink for otherwise unwanted LNG. Smaller, price conscious buyers in the Caribbean and Southeast Asia, meanwhile, enjoyed the upside by increasing their offtakes.

Cumulative US LNG Exports, Feb vs Jan



In-transit LNG w/ Closest Known Destination (mmt)



For illustration only.

US LNG Still in Transit

At the time of writing, 41 cargoes (1.93mmt) shipped since the beginning of January remain in transit, with 21 (1.43mmt) still lacking confirmed destinations within the Pacific and Atlantic Basins. We expect roughly 57% (1.57mmt) of in-transit US LNG exported since the beginning of January to arrive at destinations throughout the Atlantic Basin and

Europe. At the same time, with no shipments currently earmarked for the Middle East, the Pacific Basin is expecting the remaining 43% (1.17mmt) of in-transit LNG, with only 0.91mmt currently headed for the Far East. Notably, we do not currently see any US LNG shipments arriving in China. We also highlight that two cargoes aboard the *Adriano Knutsen*

and the *Madrid Spirit* are currently stuck in a protracted queue to gain access to the South Hook and Dragon LNG terminals, respectively as the terminals are operating at capacity. We anticipate several more vessels, for example the *Galea*, to be making their way to the UK, which given the limited capacity there may further weigh on prices.

Previous Export Port	Vessel Name	IMO	Destination	Arrival	Mmt*
Elba Island LNG	–	–	–	–	–
Cove Point LNG	BW Lilac	9758076	Montoir-de-Bretagne	29/02/2020	0.07
	Energy Universe	9758844	Isle of Grain	01/03/2020	0.07
	British Mentor	9766578	Izmir	06/03/2020	0.08
Cameron LNG	BW Tulip	9758064	Port Qasim LNG	04/03/2020	0.07
	Golar Ice	9637325	Europe	07/03/2020	0.07
	Golar Penguin	9624938	Europe	10/03/2020	0.07
	Golar Seal	9624914	Far East	20/03/2020	0.07
	Marvel Crane	9770438	Chita	01/03/2020	0.07
	Galea	9236614	Atlantic Basin	01/03/2020	0.04
Freeport LNG	Golar Frost	9655042	Europe	03/03/2020	0.07
	Sohshu Maru	9791212	Japan	30/03/2020	0.08
	British Partner	9766530	Fos-sur-Mer	07/03/2020	0.08
	LNG Juno	9774628	Far East	20/03/2020	0.08
Corpus Christi LNG	Adriano Knutsen	9831220	South Hook LNG	29/02/2020	0.08
	Flex Ranger	9709025	Barcelona	09/03/2020	0.05
	Creole Spirit	9681687	Far East	15/03/2020	0.06
	GasLog Sydney	9626273	Atlantic Basin	29/02/2020	0.06
	Maran Gas Posidonia	9633434	Europe	03/03/2020	0.07
	Maran Gas Troy	9658240	Far East	21/03/2020	0.07
	Marib Spirit	9336749	Far East	20/03/2020	0.07
	Catalunya Spirit	9236420	Sines	28/02/2020	0.05
	Clean Ocean	9637492	Atlantic Basin	10/03/2020	0.07
	GasLog Santiago	9600530	Zeebrugge	28/02/2020	0.07
Sabine Pass LNG	GasLog Shanghai	9600528	Atlantic Basin	07/03/2020	0.07
	Hyundai Peacepia	9761853	South Korea	18/03/2020	0.07
	Maran Gas Hector	9682605	Europe	29/02/2020	0.07
	Neo Energy	9324277	Manzanillo	29/02/2020	0.07
	British Sapphire	9333618	Izmir	28/02/2020	0.05
	GasLog Skagen	9626285	Port Pecem FSRU	29/02/2020	0.07
	Hyundai Princepia	9761841	Tongyeong	07/03/2020	0.06
	Iberica Knutsen	9326603	Taichung	02/03/2020	0.06
	K. Mugungwha	9373010	Isle of Grain	11/03/2020	0.06
	Magdala	9770921	Maheshkhali FSRU	28/02/2020	0.07
	Maran Gas Mystras	9658238	Atlantic Basin	04/03/2020	0.05
	Marvel Falcon	9760768	Far East	28/02/2020	0.07
	Methane Becki Anne	9516129	Pacific Basin	25/03/2020	0.06
	Ribera del Duero Knutsen	9477593	Sines	15/03/2020	0.06
	SM Eagle	9761827	South Korea	22/03/2020	0.08
	SM Seahawk	9761839	Pyeongtaek	01/03/2020	0.06
	Madrid Spirit	9259276	Dragon LNG	29/02/2020	0.05
	Rias Baixas Knutsen	9825568	Europe	05/03/2020	0.08
Grand Total	41				2.47

*Values are based on journey time to date in accordance with draught at departure and in-transit BOR. Eventual journey times will thus affect the amounts delivered.

Monthly US LNG Exports (MMt) as of 27th February

Elba Island LNG

Elba LNG shipped has shipped two cargoes totalling 0.12mmt since the beginning of January, pegging capacity utilisation at 64%. However, these shipments concentrated on January, with February seeing no shipment. Our LNG Market Tracker does not indicate an imminent cargo lifting and the plant has no cargoes remaining in transit either.

Cameron LNG

Cameron exports were significantly higher in January than in February, amounting to 0.61mmt compared to 0.5mmt. The majority (62%) were destined for Europe. Plant utilisation in January stood at 91% whilst by end-February it is likely to have fallen by up to 16pp m/m. Notably, the *Prism Agility* is currently waiting off the Louisiana coast and could potentially lift another Cameron cargo before the end of the month though we highlight that this would represent a tight schedule.

Cove Point LNG

Cove Point LNG had shipped 0.78mmt since the beginning of January at the time of writing. Accordingly, monthly plant utilisation stood 15pp below the 97% in January at 82% in February. However, we highlight that our LNG Market Tracker indicates the *Energy Innovator* is currently loading a cargo with departure later today, meaning but for an unforeseen delay February exports would push overall shipments to 0.85mmt and February plant utilisation climb to 97%, representing stable utilisation m/m

Freeport LNG

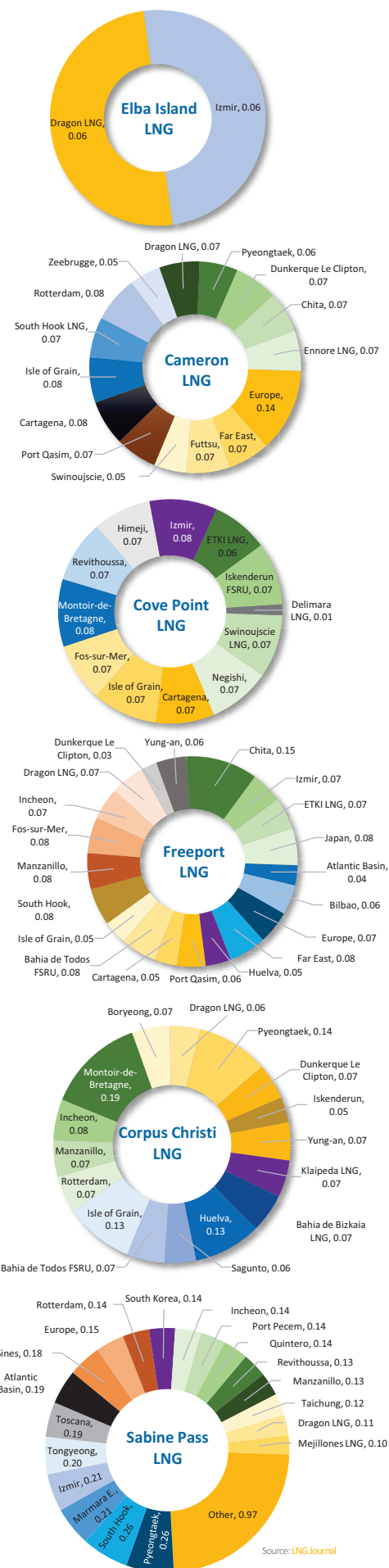
Freeport LNG has continued to grow its monthly exports to reach nearly capacity in January and February. January shipments amounted to 0.70mmt, pegging utilisation at 96%, whilst February exports totalled 0.68mmt, representing 93% utilisation. We highlight that the *British Diamond* has arrived at the plant and might therefore push February's exports to 0.75mmt and full capacity. Like its neighbouring plants, Freeport saw the majority (58%) of its LNG being shipped to the destinations in Europe and South America. Only 31% of its production since the beginning of January has had destinations in the Far East.

Corpus Christi LNG

The terminal has kept utilisation above 90% since December last year, achieving 98% with 0.74mmt shipped in January. February exports have come in slightly less at 0.72mmt (96% utilisation) though the number of shipments has remained steady. Notably, most of Corpus Christi supply has usually been shipped to destinations in Europe and the Atlantic Basin, though since the new year that proportion has grown from 65% in November/December 2019 to 81% in January/February 2020. We also highlight that the *Energy Atlantic* has arrived at the plant, though we only expect departure in early March.

Sabine Pass LNG

Sabine Pass LNG's exports stood at 1.18mmt on 27th February, thus representing significantly lower monthly output by 0.58mmt compared to the 2.39mmt seen in January. Nevertheless, capacity utilisation over the past two months has remained robust, averaging above nameplate capacity (112%). In contrast to other US LNG plants, Sabine Pass actually grew exports to the Pacific in January/February compared to the two preceding months, though this was due to the bumper month of January. In February, such shipments were slashed by 68% from 1.7mmt to 0.54mmt. We are currently not expecting another shipment from Sabine Pass in February.



US LNG Exports Past and Present (MMt)

To Country	2019											2020		Grand Total
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	
South Korea	0.34	0.35	0.18	0.30	0.38	0.64	0.40	0.14	0.91	0.50	0.76	0.84	0.27	6.00
Japan	0.19	0.15	0.34	0.14	0.29	0.41	0.35	0.52	0.50	0.36	0.50	0.50	0.15	4.40
Spain	0.14	0.20	0.22	0.32	0.28	0.08	0.34	0.71	0.25	0.40	0.26	0.51	0.29	4.00
United Kingdom	0.08	0.08	-	-	-	-	0.01	0.07	0.46	0.85	0.56	0.69	0.46	3.25
Mexico	0.14	0.15	0.22	0.43	0.34	0.49	0.25	0.20	0.14	0.06	0.20	0.14	0.07	2.82
France	0.07	0.43	0.32	0.15	-	-	0.07	0.12	0.28	0.47	0.32	0.03	0.29	2.55
Chile	0.05	0.20	0.23	0.14	0.37	0.18	0.12	0.19	0.14	0.08	0.14	0.09	0.15	2.08
Netherlands	0.06	0.21	0.28	0.21	0.06	0.07	-	0.07	0.13	0.21	0.34	0.12	0.22	2.00
India	0.14	0.16	0.14	0.29	0.07	0.07	0.15	0.28	0.17	0.13	0.14	0.07	-	1.80
Turkey	0.12	-	0.07	-	-	-	-	0.07	0.15	0.05	0.70	0.42	1.58	
Brazil	0.12	0.06	0.08	0.10	0.23	0.12	0.22	0.15	0.06	0.07	-	0.18	0.15	1.55
Italy	0.07	0.14	-	0.14	0.07	0.19	0.11	0.07	-	0.13	0.26	0.13	0.13	1.43
Portugal	0.07	-	0.07	-	0.14	0.13	0.14	0.05	0.08	-	0.08	0.07	0.11	0.93
Argentina	-	-	0.09	0.23	0.22	0.32	-	-	-	-	-	-	-	0.86
Atlantic - TBC	-	-	-	-	-	-	-	-	-	-	-	0.08	0.73	0.80
Taiwan	-	-	0.13	0.07	-	-	0.15	-	0.07	0.07	0.07	0.19	-	0.75
Pakistan	0.08	0.08	-	-	-	0.08	-	0.12	0.08	0.07	0.06	0.06	0.07	0.69
Poland	-	0.07	0.07	-	-	0.07	0.07	-	0.07	0.07	0.13	0.05	0.07	0.69
Jordan	0.07	-	0.08	0.13	0.14	0.08	0.07	0.07	-	-	-	-	-	0.64
Singapore	0.15	0.13	0.03	0.06	0.06	0.07	-	-	0.05	-	0.05	-	-	0.60
Belgium	-	0.07	-	-	-	-	-	0.07	-	0.06	0.12	0.11	0.07	0.51
Pacific - TBC	-	-	-	-	-	-	-	-	-	-	-	0.07	0.41	0.48
Greece	0.07	-	-	0.07	-	-	-	-	-	-	0.12	0.21	-	0.47
UAE	-	-	0.15	-	0.07	0.07	0.06	0.07	-	-	-	-	-	0.42
Dominican	0.06	-	-	-	0.06	-	-	0.09	0.06	0.07	0.02	-	-	0.36
Jamaica	-	0.04	-	0.04	-	0.01	0.12	-	-	-	0.02	0.01	-	0.24
Kuwait	-	-	-	0.06	-	0.07	0.07	-	-	-	-	-	-	0.20
Panama	0.07	0.06	-	-	0.07	-	-	-	-	0.01	-	-	-	0.20
Colombia	-	0.06	-	-	-	-	0.06	-	-	-	-	0.03	0.01	0.16
Bangladesh	-	-	-	-	-	-	-	-	-	-	0.07	0.07	-	0.14
China	0.07	-	-	-	-	-	-	-	-	0.06	-	-	-	0.13
Thailand	-	-	-	0.06	-	-	-	0.05	-	-	-	-	-	0.12
Malaysia	-	-	-	-	-	-	-	-	-	0.07	-	-	-	0.07
Lithuania	-	-	-	-	-	-	-	-	-	-	0.07	-	-	0.07
Malta	-	-	-	-	-	-	-	-	-	-	-	0.03	-	0.03
Puerto Rico	-	-	-	-	-	-	-	0.01	-	-	-	0.01	-	0.02
Grand Total	2.15	2.64	2.72	2.92	2.88	3.12	2.75	3.05	3.52	3.89	4.35	4.99	4.07	43.04

Source: LNG Journal

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