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Panama Canal allows more LNG traffic, night voyages too

(Bloomberg; July 28) - The Panama Canal Authority will ramp up the movement of liquefied natural gas carriers through the waterway starting in October, as U.S. exports of the fuel are set to expand. Under the new rules, the ships can traverse the canal at night and two at a time can be on Gatun Lake, the man-made waterway at the canal's north end. It expects to be able to offer three bookings a day for LNG carriers in 2022.

The changes will let two carriers move through the canal in different directions at the same time, officials said. The authority will also better identify "ghost bookings" by companies that reserve slots in advance but fail to show. The ability to handle more LNG carriers is closely watched in the United States, where two operating export terminals are set to be joined by four more through 2020. In fiscal year 2019, the canal expects to move 60 million tonnes of LNG — with two-thirds of that from the U.S.

"Our plan is to be ahead of the demand," said Manuel Benitez, the canal's deputy administrator. The canal June 26 celebrated the two-year anniversary of an expansion that opened the waterway to larger ships. Since then, 372 LNG tankers have gone through the locks. LNG tankers pay \$500,000 to \$525,000 to use the canal. The restrictions on LNG traffic were self-imposed as a safety precaution as the authority was learning to understand the risks of handling LNG carriers in the new locks, Benitez said.

Yamal LNG carriers making their way through sea ice

(Barents Observer; June 29) - The liquefied natural gas carrier Vladimir Rusanov was breaking through thick ice in Russia's Laptev Sea on June 29. The vessel, which is the newest of the five carriers serving the Yamal LNG project in Russia's Arctic, is on this year's first sailing through the eastern part of the Northern Sea Route. Its destination is the Chinese port of Jiangdu. The Yamal liquefaction plant opened in December, but had to wait until summer for a carrier to attempt the more direct northern route to Asia.

Ice conditions are complicated. Maps from the Russian Arctic and Antarctic Institute show that the entire western part of the Laptev Sea is covered by very close drift ice up to 6.5 feet thick. Parts of the eastern Laptev Sea are opening up, while the East Siberian Sea remains covered by fast ice and close drift ice. The Vladimir Rusanov is owned jointly by Japanese company Mitsui and the China COSCO Shipping. It came into service in March.

Not far behind is the Eduard Toll, another LNG carrier loaded with gas from Yamal. The tanker approached the Vilkitsky Strait on June 29, the waters separating the Kara Sea and Laptev Sea. Satellite data show that the strait is covered by fast ice, a solid layer of ice. Like the rest of the new Yamal tankers, the Eduard Toll was built by Daewoo Shipbuilding and Marine Engineering in South Korea. The carrier also is on a course for China, according to information from ship tracking system MarineTraffic.

Shell's LNG Canada project works hard to engage local stakeholders

(Reuters; June 28) - A strong stakeholder engagement program for a proposed liquefied natural gas export plant on Canada's West Coast has helped pare the risk of delays and cost overruns, said a project executive. The Shell-led C\$40 billion (US\$30 billion) LNG Canada venture is nearing a final investment decision and is focusing hard on ensuring government, indigenous people, and local communities are on board with the project, Susannah Pierce, LNG Canada's director of external relations, told Reuters on June 27.

"I think what industry is figuring out is: It's not that we can't design projects from a technical perspective. What's slowing them down, or what's not allowing them to be delivered on time or on budget, is the stakeholder issue," Pierce said. LNG Canada has been endorsed by its local First Nation community and enjoys strong support within the host town of Kitimat, B.C. The province has also backed the project, offering tax cuts. A final investment decision is expected during the second half of this year.

The associated gas pipeline, meanwhile, announced this week C\$620 million in construction contracts awarded to First Nation groups along the route. "All of these things are lining up to show that there is the stakeholder support that our joint-venture participants should feel confident in in making a decision to move the project forward," Pierce said. LNG Canada is a joint venture between Shell, Malaysia's Petronas, PetroChina, Mitsubishi, and Korea Gas. TransCanada is building the pipeline.

Tellurian expects decision on Louisiana LNG project in 2019

(Reuters; June 28) - The co-founder and chairman of U.S. LNG hopeful Tellurian said June 28 the company expects to make a final investment decision on its proposed Driftwood liquefied natural gas export facility in Louisiana in the first quarter of 2019. Charif Souki, who spoke to Reuters at the World Gas Conference in Washington, D.C., said Tellurian expects to start producing LNG at the \$30 billion project in early 2023.

"We expect to receive our federal permits ... and make a final investment decision in the first quarter of next year," Souki said. The Federal Energy Regulatory Commission is scheduled to issue the project's final environmental impact statement in October. The

liquefaction plant and marine terminal would be built on the west bank of the Calcasieu River, south of Lake Charles, Louisiana.

Unlike other U.S. projects offering to liquefy gas for a set fee, Tellurian is offering customers the opportunity to meet their gas needs by investing in a full range of services from production to pipelines and liquefaction. Tellurian is offering equity interests in Driftwood Holdings, which includes upstream gas assets and the LNG plant. Equity holders would be able to get LNG for about \$3 per million Btu, a company official told S&P Global Platts in March. "By investing, they then buy the right to lift LNG at the operating cost," the executive told Platts.

Osaka Gas buys into Texas shale gas production

(Natural Gas Intelligence Shale Daily; June 29) - Japan's Osaka Gas, which already has agreements to buy liquefied natural gas from the Freeport LNG project on the Texas coast once it starts up next year, agreed June 29 to put more skin in the game through a \$144.5 million deal with Houston-based Sabine Oil and Gas to buy into a gas-prone Haynesville Shale project.

The deal would give the Asian operator a 35 percent stake in a Haynesville/Cotton Valley gas project underway in Harrison and Panola counties northeast of Houston. The project now is producing an estimated 45 million cubic feet of gas a day from 450 wells across 100,000 net acres; the transaction would deal 35,000 net acres to Osaka. The partners plan to continue developing the leasehold to increase production.

"Participation in this project will further enhance the upstream operating capability of Osaka Gas, adding to its upstream business portfolio to build the natural gas value chain in the U.S.A., which includes Freeport LNG liquefaction business and electric power business," Osaka Gas said in a statement.

<u>India's largest utility wants shorter LNG supply deals</u>

(Bloomberg; June 28) -The good news for global natural gas exporters is that India's largest utility is hunting for new supplies to import. The bad: It's seeking shorter deals than have been traditional in the past. India now consumes almost 22 million tonnes a year of liquefied natural gas, but that demand could double within four to five years, said B.C. Tripathi, chairman of GAIL India.

As a result, his company wants to import more LNG, especially around 2023-2024. But he wants deals to last for just 10 years, rather than the more traditional 20 years. "It's becoming difficult for one to think long term," Tripathi said in an interview June 28 at the World Gas Conference in Washington. "The amount of uncertainties has increased."

While shorter deals allow buyers more flexibility, U.S. LNG developers have talked about needing long-term contracts to justify spending billions of dollars on new projects.

Those concerns may push India to look elsewhere. "We would like to remain engaged with our old suppliers," Tripathi said. "But we are also looking at new opportunities," from Qatar's expansion project to Mozambique. Meanwhile, India has succeeded in renegotiating lower prices for some of its existing longer-term contracts. "I appreciate the contract sanctity is paramount and I expect the same," Tripathi said. "But sometimes, when the market goes beyond the fairly manageable limits of either side, the spirit of the contract is that we sit down and readjust."

Heat wave pushes China to boost LNG imports

(Reuters; June 28) - China has ramped up purchases of liquefied natural gas, pulling in rare cargoes from Cameroon, Egypt, and Europe, trade data shows, as the world's most populous nation shores up supplies to avoid power shortages during a prolonged heat wave. Buying has picked up more than it usually would in the warmer summer months, with households cranking up their air conditioners in the face of scorching temperatures since early spring in many areas. Some cities have rationed electricity.

Beijing's push to switch households and factories to cleaner fuel as part of a drive to clear the country's toxic air and curb coal use has also stoked demand. And some buyers are already in the market for winter supplies, replenishing inventories earlier than usual. "High prices have prompted China to buy spot LNG cargoes from unusual places," said Diao Zhouwei, gas analyst with consultancy IHS Markit. China's has pulled in cargoes from suppliers as diverse as Norway and Belgium this month.

Cameroon's first export to China landed this month. That follows the commercial launch of Golar LNG's pioneering floating liquefied natural gas platform in the African nation. A shipment from Egypt is scheduled to arrive July 5, one of only a few from that country in recent years. However, it is unclear whether the buying will continue. Opening up of the Northern Sea Route, with a landmark Russian Arctic LNG shipment heading for Asia this month, may make Russian cargoes more attractive for Chinese buyers.

Chinese oil and gas company plans \$2 billion LNG import terminal

(Reuters; June 29) - China National Offshore Oil Corp. (CNOOC) plans to build a liquefied natural gas receiving terminal in the eastern province of Jiangsu at an expected cost of 14.4 billion yuan (\$2.17 billion), local media reported June 29. The project in the city of Yancheng will include berthing, storage and a pipeline distribution grid and is expected to be completed in December 2020, the official local newspaper Xinhua Daily reported. Each storage tank will have capacity to hold 90,000 tonnes of

LNG (about 4.3 billion cubic feet of natural gas). The reports did not disclose the number of tanks or the facility's total storage capacity.

Multiple LNG projects moving forward in Mozambique

(Bloomberg; June 28) - Mozambique is moving closer to becoming a player in the fast-growing global market for liquefied natural gas, eight years after the first major deepwater discovery there. The development of hydrocarbon resources is crucial for the southern African country, which has struggled this year to service its debt. While the LNG projects will require tens of billions of dollars in funding and take years to develop, they offer a way to stimulate economic growth in one of the world's poorest countries.

ExxonMobil and Eni said June 28 they have started marketing gas that would be produced from their planned Rovuma LNG project. The companies expect to decide next year whether to proceed with the onshore plant. Exxon will lead the construction and operation of Rovuma LNG, should the partners decide to go ahead. Italy's Eni has already approved Coral South, a smaller floating LNG production facility, which it will operate. The Eni liquefaction project targets a 2022 start-up.

Anadarko, which said in April it has secured enough customers for its own project, also plans to make its investment decision in the first half of 2019, Mitch Ingram, an executive vice president at Anadarko, said at the World Gas Conference in Washington on June 27. The Anadarko-led venture, with partners from Japan and India, would produce 12.88 million tonnes of LNG in its initial phase.

Producers endorse gas as fuel of the future, not just transition fuel

(Bloomberg; June 29) - To reduce emissions and provide affordable electricity, the world needs to burn more fossil fuels, not less. That was the message delivered by the world's biggest energy companies at the World Gas Conference in Washington, D.C., this week, where they championed natural gas as the fuel of the future, rather than one that simply bridges the gap toward renewables.

The world is facing the twin challenge of growing power supply — which Shell says needs to increase five times over the next 50 years — while reducing emissions to meet climate-change targets. Energy companies see gas doing double duty: It has half the carbon emissions of coal when used in power plants, is abundant and relatively cheap. The "big challenge for us in the industry is helping people recognize gas as a destination fuel, not just a transition fuel," BP Chief Executive Officer Bob Dudley said.

"There's another camp, a surprising camp, that is intent on discrediting gas as an option," Dudley said. Gas as a long-term fuel is an argument that's difficult to win with

policy makers and the public, many of whom say that fossil fuels, including gas, are causing climate change and should be phased out, especially with wind, solar and battery technology making great strides. "We face, because natural gas is part of fossil fuels, a sort of pushback from some groups," said Patrick Pouyanne, CEO of Total.

Big Oil increasingly looks to natural gas

(Bloomberg; June 25) - Big Oil's fortunes are becoming tied more closely to natural gas than ever before. Majors including Shell and BP have boosted their proportion of gas output in recent years. Meanwhile, Chevron has added two giant Australian liquefied natural gas projects and Exxon is punching back with two major projects of its own, in Papua New Guinea and Mozambique.

Natural gas offers the best long-term demand growth among fossil fuels, particularly in its transportable liquefied form. But gas exploration comes with high upfront costs and long payback periods. How the majors handle those issues will become key drivers for success moving forward. "In the fossil fuel area, it's the one clear growth part of the business," said Brian Youngberg, an analyst at Edward Jones & Co., based in St. Louis, Missouri. BP is a good example. By 2020 the British major expects to produce about 60 percent gas and 40 percent oil, a reversal from 2014 when it was the opposite.

Last year, six of BP's seven major projects brought on stream were gas, Chief Financial Officer Brian Gilvary said. LNG — despite its high development costs and huge technical difficulties — presents solid growth rates and has become something of a safe place for the industry. "The returns tend to be lower but once they're on stream, the cash margins are generally very high," said Wood Mackenzie senior researcher Tom Ellacott. "It's increasingly becoming the domain of the majors."

Hong Kong could start using LNG by 2020

(Platts; June 26) - Japanese shipowner Mitsui OSK Lines signed a preliminary agreement June 25 to deploy a floating storage and regasification unit in Hong Kong under a long-term contract, paving the way for Hong Kong to start liquefied natural gas imports as early as 2020. The Hong Kong Offshore LNG Terminal Project will be Hong Kong's first LNG import facility, designed to supplement depleting pipeline gas supply from China and replace coal-fired power generation as it attempts to fight air pollution.

MOL, which owns one of the world's largest LNG carrier fleets, has signed a preliminary agreement to deploy the vessel Challenger for the project. The ship, built in 2017 by South Korea's Daewoo Shipbuilding & Marine Engineering, is the largest floating LNG storage and regasification unit in the world.

Challenger, at 1,130 feet long and with a regasification capacity of 800 million cubic feet of gas per day, is currently employed on a mid-term charter in Turkey. In 2015 Hong Kong generated 48 percent of its electricity from coal, 27 percent from gas, and the remaining from non-fossil fuels, mainly nuclear. By 2020 it expects 25 percent of its electricity to come from coal and 50 percent from gas, and it expects the share of gas to continue rising, while that of coal to continue dropping by 2030.

Europe has to deal with politics for its gas imports

(Bloomberg; June 27) - Europe's shrinking production of natural gas has made it an enticing target for exporters. It's also left the region facing hard choices ahead at a time of growing political uncertainty. Imports to the continent are poised to rise almost 20 percent by 2040 from 2016 levels, according to the International Energy Agency. While Russia has long been the region's top supplier, it's now facing significant challenges from both the United States and Qatar, rivals with vast natural gas reserves.

For Europe there's both opportunity and risk. While competition can drop prices, geopolitics are increasingly tricky. European countries have fought with Russia over pricing and been hit with key supply stoppages. A trade war with the U.S. spurred by President Donald Trump's tariff decisions is complicating U.S.-European relations. And the European Union has started an antitrust probe of Qatar's LNG contracts.

Meanwhile, already two LNG export terminals are operating in the U.S. and four more are under construction. But concerns about a potential trade war are not making things easy. Political friction could make it more difficult on U.S. sales, said Societe Generale. As to Russia, it relies on gas exports for its budget revenue and Europe is its biggest customer, so it will "protect its turf at all costs" with new pipelines and selling as much gas as it can, said Accenture Strategy managing director for energy Manas Satapathy.

Gazprom expects record gas sales to Europe this year

(Reuters; June 29) - Russia's Gazprom expects record high gas sales this year in Europe, CEO Alexei Miller said June 29, downplaying the threat posed by imports of U.S. liquefied natural gas. Gazprom has managed to gradually increase its market share in Europe, its main market, to about 34 percent, despite the general aversion to Russian energy supplies which became increasingly politicized following Moscow's annexation of Crimea in 2014.

Miller said Russian gas exports to Turkey and Europe outside of the former Soviet Union may exceed 7.23 trillion cubic feet this year, up from 6.86 tcf last year, also a record high. "The key growth drivers were rising economic activity in the European

countries and the trend for a decrease in European production in the past years," Miller said. "The resource base for the European gas industry is narrowing."

Analysts say seaborne liquefied natural gas supplies from the United States may undermine Gazprom's position on the European gas market. Miller, however, said that due to production and transportation costs, U.S. LNG will not be competitive in Europe.

Russian gas pipeline could reduce South Korea's reliance on LNG

(Reuters; June 28) - The long-planned and much derided Trans-Korea gas pipeline project is back on the agenda, buoyed by hopes North and South Korea can make peace and allow a pipeline to bring Russian gas to the peninsula. If realized, it would be a pipeline dream-come-true for South Korea. Lacking its own energy resources or pipelines from regions with gas, South Korea has been importing costly liquefied natural gas. State-run Korea Gas and Russia's Gazprom will conduct a joint pipeline study.

Based on 2017 trade data and prices, LNG imports cost South Korea about \$12 billion in 2017. With LNG prices rising, this year's tab will likely be even bigger. With relations between North and South warming, albeit from sub-zero levels, the idea of constructing a 740-mile-long pipeline to bring Russian gas through North Korea to the South's industrial hubs has been revived. The project is now part of South Korea's New Northern Policy.

Despite the renewed enthusiasm, the project remains riddled with risks and challenges. Estimating pipeline costs is notoriously difficult, with most projects ending up far above estimates. Pipelines in Europe and North America of similar length have cost between \$5 billion to \$10 billion. Still, piped gas tends to be cheaper than LNG due to the cost of liquefaction by the producer and regasification by the importer. What's more, relying entirely on LNG imports exposes South Korea to a volatile market prone to price spikes.

U.S. gas production hits record; Texas leads at 18.8 bcf a day

(Platts; June 28) – U.S. natural gas production edged up to a fresh record high this week, largely due to gains in Texas, the Southeast, and the Appalachia region. Daily U.S. production surpassed 79.8 billion cubic feet June 24, setting a new record high, S&P Global Platts Analytics data shows. Over the past week, U.S. production has been exceptionally strong, averaging 79.4 bcf a day. Texas has led the growth, averaging nearly 18.8 bcf a day in June, up 340 million cubic feet a day from May.

Low natural gas stockpiles could lead to higher U.S. prices

(Wall Street Journal; June 26) - Low natural gas supplies could lead to higher prices this summer, as Americans begin to flip on their air conditioners, boosting demand for the fuel. Stockpiles of gas — made plentiful by the U.S. shale boom — have become depleted after an extended winter increased demand for heating homes. Booming U.S. gas exports also have absorbed excess supplies, and analysts say low prices have made it more popular for power plants, compared with more expensive fuels like coal.

Gas consumption generally rises in the summer months as cooling needs drive energy demand. But this year, the amount of gas in storage started June at the lowest level since 2014 for that time of year, and the second lowest in a decade. Now, with forecasts into July showing hotter-than-average temperatures across the U.S., consumers could see a pop in prices. Already a significantly hot month of June has pushed gas futures near the closely watched level of \$3 per million Btu, hitting the highest price of the year.

Extreme cold in January led to record gas consumption, and withdrawals from storage extended into April due to unseasonably cool weather. Now the amount of energy required to cool buildings in June is on track for its second highest level since 1981, according to Bespoke Weather Services. It's a far cry from two years ago when the relentless growth of U.S. shale and mild weather produced a glut that sent gas prices tumbling to a 17-year low. One game-changer has been increasing demand overseas: U.S. companies are consistently boosting their exports of liquefied natural gas.

Dutch gas field closure will leave 16 tcf in the ground

(Reuters; June 25) - Energy companies Shell and ExxonMobil will not submit a claim for missed revenue due to the Dutch government's decision to halt gas production at the Groningen field by 2030, the Dutch Ministry of Economic Affairs said June 25. "A lot of gas will be left in the ground," Economy Minister Eric Wiebes said at a presentation of the government's deal with the oil majors responsible for producing Groningen gas.

"That gas is the property of the oil companies, but they will not submit a claim and the government is not required to compensate them," Wiebes said. The Dutch government in March said it would end gas output at the Groningen field by the end of the next decade in an effort to stop a string of relatively small but damaging earthquakes caused by gas production. That will leave almost 16 trillion cubic feet of gas in the ground, Wiebes said, with an estimated value of \$81.5 billion.

The decision to halt production forced the government to broker a new deal with Shell and ExxonMobil, whose 50-50 joint venture NAM is responsible for the field. NAM will be required to pump as much gas as the government says is needed in the coming years. In return, NAM will see its share of revenue from Groningen rise from 10 to 27

percent, Wiebes said, starting this year. As part of the deal, NAM will contribute 500 million euros (US \$585 million) to strengthen the economy in the Groningen region.

Canada losing Bakken shale investment to U.S. side of the border

(Bloomberg News; June 26) - In the prairie along the U.S.-Canadian border, the towns of Portal, N.D., and North Portal, Saskatchewan, couldn't be closer. They share a fire department, and the first eight holes of the golf course are in Canada, while the ninth and the club house are in the U.S. But here in the Bakken shale patch, the U.S.-Canada border represents a drillers' divide. Spurred by a surge in crude prices, North Dakota's output is rising more than three times faster than the Bakken region of Saskatchewan.

A shortage of pipeline capacity and a regulatory environment that's often slower and less certain than in the U.S. has helped spark the flight of capital southward, said Tom Whalen, CEO of the Petroleum Services Association of Canada, a trade association. While U.S. drillers deploy more rigs than any time since 2015 amid a fracking surge in the Permian Basin, companies including ConocoPhillips and Shell have sold operations or pulled out of Canada's oil sands, the world's third largest source of crude reserves.

"We are kind of dying by our own sword," Whalen said. "We are making it very difficult to do business." Canada's heavy crude discount to West Texas Intermediate has nearly doubled since October as pipelines out of Canada filled to capacity and plans to expand pipeline capacity face opposition and potential delays. Routine licensing for a well in Alberta takes 79 to 119 days versus 30 to 60 days in Texas, according to a report last year by the Canadian Association of Petroleum Producers. And a new U.S. tax law has reduced the corporate rate and allowed companies to write off some assets faster.