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Industry responds by adding liquefaction capacity to meet demand

(Interfax Global Energy; July 24) - The LNG industry needs to focus on brownfield projects to prevent a global supply crunch in 2023 as large greenfield projects can be difficult to deliver on time and on budget. Companies are starting to adapt by developing new projects in stages. This is particularly the case on the U.S. Gulf Coast, where more than 50 million tonnes of annual LNG capacity is expected to come online by 2021.

Cheniere is continuing to expand its Sabine Pass, La., plant, building a fifth train and marketing capacity for a proposed sixth. Cheniere is developing its Corpus Christi plant in Texas in a similar way with two trains under construction while a third reached final investment decision in May after China National Petroleum Corp. signed on as a buyer.

Cameron LNG in Louisiana is being developed in a similar style with three trains under construction and a fourth with all its permits. Developers need only to secure buyers for the train's output before an investment decision. Three trains are under construction at Freeport LNG in Texas and plans for a fourth have been submitted to regulators. And three more Gulf Coast projects have federal approval but lack investment decisions.

Outside the U.S., 35 million tonnes of annual capacity is under construction, all of which is expected to come online before 2023. In addition, ExxonMobil and its partners are aiming to expand their Papua New Guinea LNG plant, and Nigeria LNG plans to add a seventh train. Qatar plans to expand its LNG capacity by 23 million tonnes by 2023.

Big Oil boosts natural gas production while adding to reserves

(Reuters; July 22) - The world's largest oil companies are pumping more gas than ever before helping to spur a rise in profits while meeting rising global demand for fuels that can reduce global greenhouse-gas emissions. This marks a shift over the past decade for an industry that once focused predominantly on oil with gas in most cases an after-thought. The rise of gas-fired power generation, surging production from U.S shale fields, and the burgeoning LNG industry have now combined to create a boom.

BP, ExxonMobil, Shell, Total, and Chevron have collectively increased gas output 15 percent in the past decade thanks to technology and lower costs, according to Wood Mackenzie consultants. "LNG is the growth commodity for these companies," said Brian Youngberg, an energy analyst with Edward Jones, who expects the global LNG

industry to grow at least 4 percent annually for the next five years. At Total, gas is 61 percent of output, up from 47 percent as recently as 10 years ago, according to Wood Mackenzie.

As gas production has risen, so too have reserves of natural gas. International energy companies saw their gas reserves jump 16 percent last year, according to a study by the Ernst and Young consultancy. "There are investments and capital expenditures being made to increase the level of gas reserves, and that should only continue," said Herb Listen, an energy analyst at EY.

U.S. Energy Department will fast-track small-scale LNG exports

(EnergyWire; July 25) - The Department of Energy on July 25 published its final rule expediting approval of small-scale liquefied natural gas exports. The rule applies to LNG destined for countries that lack free-trade agreements with the U.S., which generally have been subject to a higher degree of scrutiny. The department expects the rule will streamline applications for LNG headed to countries in the Caribbean, Central America, and South America. Exports to free-trade partners already receive expedited approval.

The streamlining effort fits with the Trump administration's broader "energy dominance" policy. Under the rule, which was first proposed a year ago, export applications will receive expedited approval so long as they represent no more than 51.75 billion cubic feet of gas per year (a little more than 1 million tonnes of LNG) and do not trigger a fresh review under the National Environmental Policy Act. The regulation, which takes effect next month, deems those applications "consistent with the public interest."

Small-scale export applications represent a very small slice of the LNG market. According to the department, bigger projects account for 99 percent of the gas volumes authorized for non-free trade countries and 99 percent of the volumes requested in pending applications. Those high-volume proposals are still subject to a more deliberative review process. The department noted in the final rule that small-scale exports are typically sent from existing facilities and travel shorter distances.

China may turn more to Russian gas if U.S. trade fight escalates

(Global Times; China; July 22) - Given that China has turned to Russia for liquefied natural gas imports amid escalating Sino-U.S. trade tensions, experts warn that the trade disputes might extend to the energy sector if the U.S. imposes tariffs on more Chinese imports. According to a report from a domestic news site, China and Russia are negotiating more cooperation on pipeline gas deliveries.

If they reach an agreement, Sino-Russia gas trade volume is expected to exceed 2.4 trillion cubic feet a year in 10 years — almost one-quarter of China's total gas consumption last year — the report said, citing Nur Bekri, director of the International Cooperation Department of the National Energy Administration in China. Sun Yang, a gas analyst at commodity services provider chem365.net, said it seems that China is preparing for a "final shot" against the U.S. amid the escalating trade battle.

"Previously, China excluded LNG from a list of proposed retaliatory tariffs that it seeks to impose on U.S. goods, indicating that we are still leaving space for negotiations," Sun said. Several proposed gas export projects in the U.S. are waiting for customer commitments to reach a final investment decision, and many of them are looking to China for deals. "These enterprises might be influenced," he said.

"The energy sector, especially the LNG sector, is where the two could have reached an agreement, since the U.S. needs to export its resources while China has the demand to import them," said Wang Jun, deputy director of the Department of Information at the China Center for International Economic Exchanges. "Given the situation, China has resorted to Russia for imports, but for the U.S., it will lose a big LNG export market."

Russian portion of new gas pipeline to China 90% complete

(UPI; July 25) - Russian natural gas company Gazprom said July 25 that just over 90 percent of its Power of Siberia gas pipeline to China is complete. "By now, a total of 1,214 miles, or 90.5 percent of the linear section running from Chayandinskoye to the Chinese border in the Amur Region, is finished," the company said. "The bulk of construction and installation for this section will be completed this year."

Gazprom said construction of the facilities for gas production from fields feeding the pipeline is about halfway completed. Pipeline testing and installation of a power supply is scheduled for 2019. Gazprom has a 30-year sales agreement with China National Petroleum Corp. that calls for 1.3 trillion cubic feet of gas per year through the pipeline. The Kremlin described the 2,500-mile Power of Siberia — the total mileage in Russia and China — as a way to bolster Russia's energy sector.

"By exploring gas reserves and creating gas transmission and processing capacities, the company works toward providing domestic consumers with reliable gas supplies in the long term, as well as strengthening Gazprom's foothold in the Asia-Pacific region," the company said. The total cost of the pipeline and its infrastructure, plus development expenses of the gas fields in Siberia, has been estimated at \$50 billion. Gazprom has not disclosed its pricing structure for gas sales through the pipeline.

CNOOC will allow third-party access to its LNG import terminals

(Interfax Global Energy; July 23) - A pledge by China National Offshore Oil Corp. last week to open up its LNG terminals to other companies marked a change in attitude for the world's third-biggest LNG importer, which has resisted granting third-party access to its regasification infrastructure for years. CNOOC will promote third-party access "in an orderly manner" at its terminals in the provinces of Guangdong and Zhejiang, said Jin Shuping, deputy general manager of CNOOC's downstream gas and power subsidiary.

Independent gas players looking to import LNG through CNOOC's terminals will be able to bid for delivery slots on the Shanghai Petroleum and Gas Exchange, Jin said. The Chinese government has been urging the country's national oil and gas companies to open gas infrastructure to independent companies for years, but CNOOC — which brought in more than half of China's LNG imports last year — has resisted change over fears of losing market share to the new importers.

China's three national oil companies currently meet 97 percent of the country's gas demand — a monopoly that Jin argued needs to be broken up by introducing more players. Third-party access is a key element of government reforms that aim to liberalize China's state-dominated sector. The Chinese government has picked up the pace of reforms over the past 12 months, with steps that have included slashing pipeline transport tariffs and harmonizing prices paid by different users.

Mozambique needs to deal with local unrest in LNG project area

(Bloomberg; July 23) - As plans by Mozambique and its industry partners to export liquefied natural gas gather pace, Jonas Alide Saide's northeastern settlement of Quitupo will make way for a proposed LNG project led by Anadarko that would generate billions of dollars for the government. But for Saide, the elder in the village of 1,500 people who will be resettled nearby, the \$20 billion project has brought only anxiety.

"We no longer have the strength and power to say anything," he said. "We depend on fishing. We will no longer have access to the sea." How the government and companies handle such issues may be key to thwarting an emerging Islamist insurgency in the province that has seen more than 50 people killed this year. Beneath the Indian Ocean waters there's enough gas to make Mozambique the world's fourth-largest LNG exporter. But residents include some of the world's poorest people — most of them young, and at least some potential militant recruits.

People living in poverty while billions of dollars are poured into energy projects may lead to feelings of neglect, creating a breeding ground for militancy, said Calton Cadeado of the Higher Institute for International Relations in Mozambique. Martin Ewi of the Institute for Security Studies in South Africa said Mozambique could learn from Nigeria's energy-rich Niger Delta, where tensions between communities, oil companies and the

government has sparked deadly unrest. "If these concerns are not integrated into this process we could have a similar situation to southern Nigeria in northern Mozambique."

Violence increases in area of proposed gas projects in Mozambique

(Reuters; July 24) - Anastacio Talene Nakupenda woke to the sound of gunshots as a dozen men burst from dense forest to attack his remote Mozambican village, torching homes, stealing food and decapitating one of his neighbors. "I was left with nothing, completely naked," Nakupenda, a Catholic, said outside his partially rebuilt home in Chitolo, northern Mozambique, from where he had run for his life while five men armed with machetes set the mud and wood walls alight. Initially dismissed as isolated acts of banditry, attacks like the one on Chitolo in March are increasing.

An emerging pattern suggests the potential beginnings of an Islamist threat in Cabo Delgado — an impoverished province on the border with Tanzania where international companies are developing one of the biggest natural gas finds in a decade. Northern Mozambique's remoteness and the militants' lack of funding are brakes on the violence, security experts said, but it has been enough for the U.S. and Britain to advise against traveling to the region. The militants tout a radical form of Islam as an antidote to what they regard as corrupt, elitist rule that has broadened gaping economic inequality.

Several killings have been reported outside the town of Palma, from where companies want to develop massive gas discoveries. Some are taking precautions as they develop projects that could total about \$50 billion, more than four times Mozambique's gross domestic product. Anadarko, which plans to build a liquefied natural gas plant near Palma, placed staff under lockdown due to security fears, a source said. ExxonMobil and Eni, also looking to export LNG, both said they are closely monitoring the situation.

Shipowner worries trade war could add to LNG prices

(Bloomberg; July 22) - The risks are growing whether the booming liquefied natural gas market can weather the rising U.S.-China trade war. So far LNG has been left off the list of tit-for-tat tariffs. If it changes, prices will rise and deter buyers just as new markets are opening up, said Paul Wogan, CEO of shipowner Gaslog. "My concern would be for higher pricing starting to destroy some of that demand. ... That's not happening at the moment but things like tariffs adding to the cost of LNG wouldn't be a good thing."

The effect of duties on LNG, the world's fastest-growing fossil fuel, would be particularly felt as the U.S. strives to become the world's top exporter of the fuel and China drives global demand in its push for cleaner energy. The call for LNG tankers has been booming with China's imports soaring 57 percent last year on a ton-per-mile basis. But the trade dispute between the world's two biggest economies is only worsening.

Trade flows could be redrawn, with China swapping U.S. cargoes for Australian LNG normally bound for Taiwan, South Korea, and Japan. "If even a 10 percent tariff is introduced, that would probably drive cargo swaps with the other northeast Asian buyers, although such swaps will add cost to delivered Chinese prices," said Trevor Sikorski, the head of gas, coal, and carbon at Energy Aspects in London. The trade conflict may also make it harder for proposed U.S. LNG export terminals to sign up Chinese long-term buyers, impeding final investment decisions for new supply projects.

European LNG terminals offer transshipment service for Russian gas

(Bloomberg; July 23) - On a hot day in July Europe's largest port is busy loading superchilled liquefied natural gas onto a tanker, creating snow flurries. The cargo was loaded at the Gate terminal in Rotterdam, which was built to import the fuel. Around the same time, an LNG carrier from the Russian Arctic arrived with a load. LNG terminals in Europe are finding work by transferring cargoes from one vessel onto another or shifting them into storage for future loadings. The gas is so cold that sections of pipes carrying it aboard are covered in frost, and flakes of snow drift into the air from the loading arms.

It's a good sign for Novatek and its Yamal LNG partners, which are using specially built tankers to export gas from Siberia. The ships can navigate through the region's thick ice, but they're too expensive to use on long journeys and the direct Northern Sea Route to Asia is open only a few months a year. The solution is to transfer the gas from ice-class tankers in northern European ports and onto conventional LNG carriers for the long journey to Asia.

Traders have for years been reloading cargoes from Europe's terminals, sending them to Asia when the market made that more attractive than keeping the fuel for domestic use. Transshipments of Yamal cargoes started in December. The transfers can be done either directly from the Yamal ice-class ship onto a conventional tanker, or by using the terminal's storage tanks as an intermediary. In the latter case, the gas is mixed with the fuel already sitting in the tanks, blurring the Russian origin of the gas.

Opponents of LNG project near Vancouver not giving up

(The Province; Vancouver; July 21) - In some parts of the world, British Columbia's Howe Sound might have been locked up as a national park for its natural beauty. But protection didn't come for the area near Vancouver. Industry made its mark in 1904 with the Britannia mine, toasted as the "largest copper mine in the British Commonwealth." The mine closed in 1974 but lives on as a historic site and tourist attraction — and as a continuing source of so much pollution that a treatment facility had to be built in 2006.

Over the decades, industry continued to come and go in the sound including the Western Forest Products Woodfibre pulp mill, closed in 2006, on the same site where B.C. Sulphite Fibre Co. began operations in 1912. Now the C\$1.6 billion Woodfibre liquefied natural gas production facility and marine terminal is planned for the old pulp mill site. Residents fiercely protective of 27-mile-long Howe Sound are tired of fighting one industrial project after another, but they aren't giving up.

"We go from defeat to defeat with undiminished enthusiasm," said Eoin Finn, co-founder of the citizens' group My Sea to Sky, which has fought the LNG plant. The closure of pulp mill and opening of the mine waste treatment facility, along with herring habitat improvements by the community, are considered largely responsible for an ecological re-awakening of the sound. Salmon have even found their way back to Britannia Creek to spawn. Finn would like to see Howe Sound declared a no-go zone for industry. Woodfibre LNG hopes to break ground next year on its four-year construction project.

Canadian government to take over oil line by September

(The Canadian Press; July 23) – Canada is set to become owner of the Trans Mountain oil pipeline and expansion project after failing to flip the property to a private-sector buyer. Pipeline owner Kinder Morgan had been working with the federal government to find another buyer before July 22. But that date passed without a deal and it's expected Kinder Morgan will take Ottawa's C\$4.5 billion offer to its shareholders. The company has agreed to continue its work on the project until the government takes ownership.

The sale includes the existing pipeline, pump stations and rights of way, and the marine terminal in Burnaby, B.C. Approval is expected in August or September. The purchase price does not cover the cost of expanding the pipeline, estimated at near C\$7.4 billion. Finding another buyer for the project was widely considered a long shot because of the project's risks and strong opposition to the expansion by environmentalists and the provincial government of British Columbia; that's why Kinder Morgan decided to sell out.

The government insists it does not plan to own and operate the line over the long term and is expected to continue talking to interested parties. Finance Ministry spokesman, Daniel Lauzon said Ottawa intends to sell the pipeline if and when a suitable partner is identified and it's in the best interests of Canadians. He defended July 22 the decision to purchase the pipeline. He said the purpose of moving Canadian oil to Asian markets is in the national interest. The expansion will nearly triple the line's capacity to 890,000 barrels a day. It's the only pipeline carrying Alberta crude to the West Coast.

Anti-pipeline protestors in British Columbia reject city's eviction order

(The Canadian Press; July 21) - Protesters at an anti-pipeline camp in Burnaby, B.C., said they will meet with officials to discuss safety measures but will not comply with a city-issued eviction order. The city of Burnaby, just east of Vancouver, said there are safety concerns surrounding "Camp Cloud," including a two-story watch house and a fire that protesters describe as sacred and ceremonial. The protestants want to block expansion of the Trans Mountain oil line from Alberta to the British Columbia coast.

The city issued an eviction notice July 18 that expired at 6 a.m. July 21. The protesters said the city's notice was issued without adequate consideration of a recent court decision or consultation with camp residents. Protestor Kwitsel Tatel said the protesters will not leave, nor will they extinguish their fire. She said she will request federal intervention if need be, citing the protesters' charter right to peaceful demonstration.

The B.C. Supreme Court ruled in March that the camp and nearby watch house could remain in place in response to a court injunction filed by Kinder Morgan Canada, the company behind the Trans Mountain expansion project. Demonstrators are angry over expansion of the pipeline that would triple its capacity to carry oil sands bitumen destined for export. In May the federal government announced it would buy the pipeline to ensure the expansion is completed.

Canadian oil goes to West Coast to cover declining Alaska output

(Bloomberg; July 19) - The promise of shipping more oil sands output to the Asian market drew the Canadian government into shelling out C\$4.5 billion to buy a pipeline project that was facing abandonment. Whether that gamble will pay off is anything but certain. Lost in the debate over the government's purchase from Kinder Morgan is the fact that very few of the 300,000 barrels a day of oil and refined fuels the existing Trans Mountain line ships from Alberta to Canada's Pacific coast are making their way to Asia.

In the past year only two of the 48 tankers that entered the British Columbia terminals have departed directly for Asia. Essentially all of Canada's oil exports for the first four months of the year have gone to the U.S. Some doubt the pipe expansion to 890,000 barrels a day will change that trend. The idea that it will help Canadian producers get better prices in Asia is "fiction," said economist Jeff Rubin. "The highest prices for heavy oil are in the U.S. Gulf," which has the greatest amount of heavy-oil refinery capacity.

Refiners in Asia have typically paid lower prices for crude comparable to Canadian heavy oil — about US\$8 a barrel less than on the Gulf Coast. For now, Trans Mountain crude is going mostly to U.S. West Coast refiners that have grown increasingly reliant on imports amid declining Alaska and California output. West Coast refineries, with 2.8 million barrels a day of capacity, received 454 million barrels from outside the U.S. last

year, the most in data going back to 1981. California crude accounted for 31 percent of supply, down from 61 percent 35 years earlier, while Alaska oil is now at 12 percent.

Britain approves first fracking of onshore horizontal well

(Reuters; July 24) - Shale gas developer Cuadrilla on July 24 became the first operator in Britain to receive final consent from the government to frack an onshore horizontal exploration well, paving the way for commercial production at the site in northwest England. Hydraulic-fracturing consent was introduced in 2015 as an additional step to the government's regulatory and permitting regime and ensures all necessary environmental, health, and safety permits have been obtained.

"We now look forward to submitting a fracture consent application for our second exploration well and moving on to fracture the shale rock and flow the gas," Cuadrilla CEO Francis Egan said. Following fracking of the first two horizontal wells, Cuadrilla will run an initial flow test of the gas produced for about six months. Weaning Britain off energy imports is one of the driving forces behind government support for fracking.

In May the government announced plans to speed up planning applications to support development of the country's shale gas industry. Some of the proposed measures include approving planning applications at a national rather than local level. The British Geological Survey estimates shale gas resources in northern England alone could contain 1,329 trillion cubic feet of gas, just 10 percent of which could meet the country's demand for almost 40 years. Environmental groups are strongly opposed to fracking and concerned about the potential seismic activity, water contamination, and other risks.

Hess reports offshore Guyana discovery at more than 4 billion barrels

(UPI; July 23) - The size of discoveries off the coast of Guyana is "massive," the CEO of Hess Corp. said July 23 after a multimillion-barrel revision to reserve estimates. Hess and ExxonMobil revised the estimate of recoverable reserves at the Stabroek block off the coast of Guyana from 3.2 billion barrels of oil equivalent to more than 4 billion.

The revision followed the inclusion of data from new discoveries offshore Guyana and the completion of the fifth appraisal well at the Liza oil field. Dubbed Longtail, the latest discovery made near the giant Liza field could be producing about 500,000 barrels per day by late 2023, Hess said. The initial phase of development at Liza was sanctioned in June 2016 and called for the use of a floating production, storage and offloading vessel that will lead to an initial production rate of 120,000 barrels of oil per day.

The second phase calls for a second floating production unit with a gross capacity of 220,000 barrels per day and planning already is under way for a third phase of offshore

development. Hess estimates it would cost at least \$3.2 billion to fully develop the offshore Liza field. Consultant group Wood Mackenzie said offshore Guyana is a competitive prospect with a break-even price at about \$35 per barrel. Brent, the global benchmark for oil, was trading near \$74 per barrel on July 23.

Citigroup analyst sees oil at \$45 to \$65 by end of 2019

(The Financial Post; Canada; July 24) - The oil price rebound that has buoyed many embattled crude producers may not last. Ed Morse, managing director and global head of commodities research at Wall Street bank Citigroup and one of the world's top oil forecasters, believes Brent oil prices — which are currently trading near US\$72.50 per barrel and have tried to breach the US\$80 per barrel barrier in each of the past three months — will fall back into a band between \$45 to \$65 per barrel in just over a year.

"We think oil is headed back to that range by the end of 2019," Morse said, though he is still bullish on Brent prices for the rest of 2018 and the first quarter of next year. The commodities expert was among the first forecasters to correctly predict the oil price crash of 2014 and now has long-term bearish view of Brent that is contrary to forecasts ranging from \$70 to \$100 oil by Goldman Sachs, Morgan Stanley, and Bernstein & Co.

Morse isn't swayed by arguments of tight supply. "The bull argument is based on faulty analysis," he said. Demand has continued to rise, but supply can keep pace, he said. Money spent on production is significantly more efficient than before. "There should be no debate that the efficiency of capital has improved by at least 50 percent since at least 2014. ... So far, those that have predicted cost reflation have been proven wrong, including in the shale plays," Morse said. Like improvements in capital efficiency, technical improvements are boosting oil production, further improving the supply picture.