Oil and Gas News Briefs Compiled by Larry Persily September 5, 2019

Russia's Arctic LNG-2 gets go-ahead; first gas expected in 2023

(Reuters; Sept. 5) - The \$21 billion Arctic LNG-2 project led by Russian gas producer Novatek won a green light Sept. 5, the latest in a raft of new projects aimed at meeting a potential doubling of global demand for liquefied natural gas over the next 15 years. Arctic LNG-2 is expected to start up in 2023 and will aim to send 80 percent of its output to Asia, Novatek CEO Leonid Mikhelson, Russia's richest businessman according to Forbes magazine, said after the project partners signed a final investment decision.

At nearly 20 million tonnes per year of LNG, it would be largest single project to reach an investment decision this year, according to global energy consultancy Wood Mackenzie, and take total LNG volumes sanctioned this year to about 63 million tonnes, beating the previous record of 45 million tonnes in 2005. Arctic LNG-2 will be the third LNG project for Novatek, which hopes to match Qatar in production capacity.

Equity partners include French energy producer Total, China's National Petroleum Corp., China National Offshore Oil Corp., and the Japan Arctic LNG consortium, comprised of Mitsui & Co. and state-owned JOGMEC, formally known as Japan Oil, Gas and Metals National Corp. Japanese Industry Minister Hiroshige Seko said the project is one of the largest in the history of Japanese-Russian relations. "It will unite Japan and Russia even more as well as Europe and Asia. The Japanese government will provide all necessary assistance for the realization of this project," he said.

The project will benefit from extremely low-cost gas, helping it compete against LNG from the U.S. and Canada, said Wood Mackenzie analyst Nicholas Browne. LNG from the project will be delivered by a fleet of ice-class LNG carriers that can use the shorter Northern Sea Route and trans-shipment terminal in Kamchatka for cargoes destined for Asia and the trans-shipment terminal close to Murmansk for cargoes headed to Europe.

U.S. has provided 10% of global LNG supply this year

(Reuters; Sept. 3) - U.S. exports of liquefied natural gas, negligible just three years ago, now amount to 10 percent of the global market and total 22 million tonnes so far this year, Refinitiv data showed on Sept. 3. U.S. LNG export plants with a capacity of 46 million tonnes per year are now in operation or ramping up, with an additional 27 million tonnes approved, financed and being built.

The data, comprised of tracked individual journeys by LNG carriers from supply source to destination, showed that global LNG production hit an all-time high last month of 31 million tonnes. As volumes grow, Qatar, for years the world's largest LNG supplier, lost market share to Australia, which exported more LNG than any other country the past two months. The worldwide supply surge has long been in the making as liquefaction and export facilities on the U.S. Gulf Coast come online after years of development, boosted also by a new mega-terminal in Russia's Arctic and facilities in Australia.

The batting order for the world's largest LNG exporters has been Australia, Qatar, the U.S., Russia, and Malaysia for the past two months, whereas in previous years Nigeria and Indonesia vied for places in the top five. Soaring supplies from U.S. LNG terminals have upended the global market not just by boosting volumes — and depressing prices — but also through flexible destination contracts with long-term buyers. Such deals allow buyers' cargoes and destinations to ebb and flow as prices and demand dictate.

Freeport LNG in Texas sends out first cargo

(Bloomberg; Sept. 3) - The first cargo of liquefied natural gas has set sail from a \$15 billion Texas export terminal, amplifying America's growing influence on the global market for the fuel. The LNG Jurojin departed the Freeport LNG dock on Sept. 3, according to a statement from the company, making the terminal the fifth to ship superchilled gas from the U.S. Shell will take the first two deliveries from Freeport, according to a person familiar with the matter, though the Jurojin's destination isn't clear.

Since the first U.S. LNG export terminal began operating in Louisiana in 2016, the nation has become the world's third-largest supplier of the fuel. Start-up of Freeport has provided a key outlet for Texas production, helping to boost gas prices from 1990s-era seasonal lows. But a global glut is threatening the derail the next wave of U.S. LNG projects, while trade tensions have thwarted developers' efforts to sign long-term contracts with Chinese buyers.

Freeport is planning to build four LNG production units, or trains, with a total capacity of more than 20 million tonnes per year, most of which is contracted under 20-year supply agreements. Train 1 was previously slated to begin production in the fourth quarter of 2018 but was delayed amid contractor snags.

Mitsubishi christens second LNG carrier for Louisiana project

(Port News; Sept. 2) - Mitsubishi Shipbuilding, a part of Mitsubishi Heavy Industries, based in Yokohama, held the christening ceremony Aug. 30 for a next-generation liquefied natural gas carrier under construction for Mitsui & Co. The ship, named Marvel Heron, is Mitsubishi Shipbuilding's newest LNG carrier and achieves significant

improvements in LNG carrying capacity and fuel performance through more efficient hull design and a hybrid propulsion system, the shipbuilder said.

After completion in September, the Marvel Heron will go into service primarily serving the Cameron LNG project in Louisiana. Mitsui is a partner in Cameron, which is led by San Diego-based Sempra Energy. The 976-foot-long Marvel Heron is the second LNG carrier of its type that Mitsubishi has built for Mitsui. Both ships are named after migratory birds. The Marvel Crane was turned over to Mitsui in March and is now in service. The ships were built to fit through the expanded Panama Canal.

Private LNG import terminal in China has problem reaching markets

(S&P Global Platts; Sept. 3) - China's privately owned gas distributor and LNG import terminal operator ENN Energy has started construction of a subsea pipeline, looking for another way out for its gas from the Zhoushan receiving terminal in eastern Zhejiang province, a company official said last week. "We target to complete construction of the pipeline by the end of this year," the official said, adding that the terminal's distribution capacity could reach up to 3 million tonnes per year after the pipeline is in operation.

ENN started up the terminal at Zhoushan island in October 2018 — China's largest privately owned LNG import facility — with an initial capacity of 3 million tonnes a year. However, volumes have been constrained by distribution permits and infrastructure connecting the island with mainland markets. The company has obtained a permit to transport LNG by trucks over the cross-sea bridge connected to Zhenhai city, which has enabled ENN to send around 80 LNG tanker trucks each day to the mainland.

Even with the new pipeline, ENN faces uncertainties in its ability to ramp up operations at the facility, as the company needs Zhejiang Energy's approval to access the rest of the pipeline network, sources said. Zhejiang Energy is a provincial government-owned enterprise that dominates gas distribution in the province. Zhejiang Energy plans to build its own LNG terminal on a nearby island. "That's expected to increase the difficulty of negotiation for ENN to gain access to Zhejiang's pipeline network," a source said.

Natural gas prices in Europe lowest in decade; storage near capacity

(Bloomberg; Sept. 2) - Natural gas prices in Europe are set to fall further below their lowest in a decade as suppliers show few signs of scaling back deliveries. Storage is near capacity weeks earlier than usual and is being flooded with more fuel coming both from liquefied natural gas carriers and pipelines. While producers have reduced flows with repairs and maintenance at gas fields and processing plants, the benchmark price for gas in the Netherlands is struggling to recover at just under \$4 per million Btu.

"In September, gas storage sites in northern Europe will be full, increasing the risk of a further downside in prices," said Niek van Kouteren, a senior trader at PZEM, a Dutch energy company. "Under a certain price, producers would be forced to extract less gas. But at the same time, big suppliers such as Russia" are trying to increase market share. Supplies continue to exceed demand. Gas storage inventories across northwest Europe, Italy, and Austria hit 94 percent of capacity on Aug. 28.

The only way for European prices to recover would be to scale back flows from Russia or Norway or cut back LNG imports, said Norbert Ruecker, head of economics at Julius Baer Group, who said Dutch month-ahead prices may drop another 20 percent this fall.

Uncertainty could still delay Papua New Guinea LNG expansion

(Australian Financial Review; Sept. 4) – Though the Papua New Guinea government has agreed to accept the deal negotiated by a previous government for the Total-led liquefied natural gas project in their country, analysts warned Sept. 4 that negotiations on a similar deal for a separate but related gas project are likely to be tougher and more time consuming than initially anticipated. Both deals are required for the combined US\$14 billion LNG expansion effort to move into the engineering and design phase.

Credit Suisse analyst Saul Kavonic said the main rationale provided by the new prime minister for allowing Total's deal to stand was legal advice warning against retrospective changes to a signed contract. He said that didn't apply to the second deal for development of the P'nyang gas field to feed the separate ExxonMobil-led expansion, meaning that deal still remains at higher risk of being able to proceed with engineering. The two projects combined would more than double the country's LNG export capacity.

More time is needed to finalize the local-content requirements (jobs and contractors) agreed in principle between the government and Total, Kavonic said. Further political uncertainty is also an issue considering that Prime Minister James Marape could face a vote of no confidence before the final go-ahead for the project. Those risks "could see a six-month-plus delay that triggers a further multi-year delay due to project sequencing priorities by Exxon and Total," and limitations of construction contractors, Kavonic said.

Delay takes Shell's Louisiana project out of LNG race for 2023-2024

(Reuters; Sept. 4) - Shell, one of the world's largest liquefied natural gas suppliers, has asked U.S. regulators to extend the deadline to complete an LNG export project in Louisiana by five years to 2025. The project, a 50-50 venture with U.S. midstream company Energy Transfer, would convert an existing LNG import and regasification facility in Lake Charles into an export plant at 16.45 million tonnes annual production capacity. The project's federal authorization requires the start-up of operations by 2020.

The delay takes a major U.S. export project out of the race to achieve a final investment decision (FID) in time to start operations during anticipated global supply tightness in 2023-2024. About a dozen projects in North America, mostly on the Gulf Coast, are vying for FID this year or early next year to start production in time. But the more projects that get approved for construction, the less likely other projects are to go ahead in that time frame as the expected dearth turns into oversupply.

The delay at Lake Charles is due to Shell's takeover of the project after its \$53 billion acquisition of BG Group in 2016 prompted it to re-evaluate and reach new agreements, the company reported to the Federal Energy Regulatory Commission on Aug. 30. The partners said they plan to make an investment decision in 2020, with first gas in 2025.

Senators want review of natural gas liquids exports to China

(Wall Street Journal; Sept. 4) - A pair of U.S. senators is probing an energy company that wants to export ethane from a Texas riverfront facility to China. West Virginia's Joe Manchin, the ranking Democrat on the Senate Energy and Natural Resources Committee, and Debbie Stabenow, a Michigan Democrat who also sits on the committee, have asked American Ethane Co. to submit for review by federal regulators its contracts with Chinese buyers, which the company says are worth \$72 billion.

The probe is part of a broader push by the lawmakers to apply a similar level of regulatory scrutiny to the export of natural gas liquids, such as ethane and propane, as there are on overseas sales of crude oil and liquefied natural gas. Ethane, which is a byproduct of gas drilling, is a key ingredient of plastics. Production has soared during the past decade's shale boom and sparked a petrochemical renaissance in the U.S.

Manchin is exploring legislation that would require exporters of natural gas liquids to obtain licenses from the U.S. Commerce Department and to submit supply contracts for review by the Committee on Foreign Investment in the U.S., according to sources. The senators said they are concerned that exports could deny feedstock supply for U.S. petrochemical manufacturers and consumers, risking price spikes if domestic supplies are limited. In a lobbying disclosure form filed in January, American Ethane reported that a pair of Russian businessmen held a roughly 86 percent stake in the company.

Exxon keeps 'watchful eye' for acquisition targets of value

(Bloomberg; Sept. 4) - ExxonMobil CEO Darren Woods is eyeing oil and natural gas deals despite calls to reduce emissions, saying any shift in the world's energy supply will take decades. "Energy transitions take a long time," Woods said Sept. 4 at the Barclays CEO Energy-Power Conference in New York. "In the meantime, the world's rising demand for energy must be met."

Exxon sees oil demand growing at 0.6 percent per year over the long term and demand for natural gas increasing 1.3 percent per year even as policy makers look for ways to wean countries off of fossil fuels. That means significant new investments, including acquisitions, will be needed, Woods said, even though shareholders are calling for Big Oil to reduce spending and return more cash to shareholders.

More consolidation is in the offing for independent shale drillers, and Exxon will be watching for potential acquisition targets, he said. "If there is the opportunity to acquire something that brings unique value to ExxonMobil, we'll be in a position to transact on that," Woods said. In the Permian Basin of West Texas and New Mexico, where share prices of frackers have plunged in the past year, Exxon is keeping a "watchful eye" for deals, Woods said. "I expect consolidation to happen over some period of time."

India looking 'at the entire globe' to buy into LNG projects

(S&P Global Platts; Sept. 3) - India's Petronet LNG is eyeing stakes in gas projects in the U.S. and other countries in an effort to strengthen its grip on supply sources as it expects India's import demand to grow sharply, CEO Prabhat Singh told S&P Global Platts in an interview. Owning pieces in the entire value chain would help the company bring in gas at more competitive prices to India, he said.

"We are looking right up to the field. The moment I get my hand on well-head gas, it will help us to get gas at the cost price. We are also keen to take part in pipelines and liquefaction terminals — so that we can become owners of the complete chain," Singh said. "The U.S. is a very positive country because of the business environment and the free-market forces. But at the same time we are also looking at the entire globe."

Formed as a joint venture by the Indian government and state-run oil companies to import liquefied natural gas and set up LNG terminals in the country, Petronet has been leading efforts to boost gas import infrastructure to help increase consumption in the country of the cleaner-burning fuel. "What is stopping us now from getting gas to the burner tip of our consumers is the infrastructure in between. We are speeding up plans to boost our infrastructure," Singh said.

India, a major importer, asks Russia to help hold down oil prices

(Bloomberg; Sept. 1) - India has nudged Russia to use its influence on the Organization of the Petroleum Exporting Countries to balance the global oil market, ensuring an adequate supply with responsible and reasonable crude oil prices. Indian Oil Minister Dharmendra Pradhan, on a three-day visit to Moscow, met his Russian counterpart Alexander Valentinovich Novak to review "the entire spectrum of oil and gas cooperation," Pradhan said in a tweet after the meeting.

India, the world's third-largest oil consumer, has been pressing OPEC for responsible pricing of oil and gas, saying price volatility is far detached from market fundamentals and hurts importing nations. Russia is collaborating with OPEC in fixing oil production quotas with a view to control prices. India imports over 83 percent of its crude oil needs. Of the total crude oil imported, about 85 percent of comes from OPEC nations, and 80 percent of its natural gas imports come from countries in the energy group.

Pradhan also discussed with Novak the interest of Indian firms in investing more in Russian oil and gas fields. He also sought Russian investment in Indian oil and gas exploration and production, oil refining, petrochemicals, and LNG import facilities. On Aug. 29, Pradhan met officials of Russian oil firm Rosneft to discuss more collaboration. A Rosneft-led consortium in 2017 paid \$12.9 billion to buy an Indian company that owed an oil refinery and over 5,500 gas pumps in the country.

India looks to buy more oil and gas from Russia

(Reuters; Sept. 4) - India and Russia are targeting \$30 billion of annual trade by 2025, India's foreign secretary said Sept. 4, as a string of energy deals has deepened economic ties between the nations. Seeking to boost bilateral trade from its current \$11 billion, the two countries announced deals in sectors including energy, defense, and shipping after a meeting between Russian President Vladimir Putin and Indian Prime Minister Narendra Modi at an economic forum in Vladivostok.

India, the world's third-biggest oil consumer and importer, aims to raise the proportion of natural gas in its energy mix to 15 percent from 6 percent in the next few years and diversify its energy supply to hedge against geopolitical risk. "We have had a major breakthrough in the energy sector. This is a sector where we are looking to diversify our sources of supplies and we are increasingly finding it attractive to buy oil and gas from the Russian federation," India's Foreign Secretary Vijay Gokhale told reporters.

Modi, who wants to cut India's oil imports by 10 percent by 2022, is steering efforts to buy foreign energy assets, taking advantage of low global oil prices and a slowdown in China's overseas acquisitions. "We are looking at investing in additional oil fields in Russia ... we are also looking at sourcing LNG," Gokhale said. Indian companies have stakes in Russian hydrocarbon assets but rarely imports oil from those developments because of logistical constraints and higher freight costs.

East Timor needs partners for \$12 billion oil and gas development

(Bloomberg; Aug. 28) - When Timor-Leste became a country in 2002, it did so with a built-in advantage: the Bayu-Undan oil and gas field. It has generated billions of dollars that helped develop the Southeast Asian country's infrastructure, but it hasn't brought

much in the way of jobs for Timor-Leste's 1.2 million people. The government is looking to change that as it turns to developing a new field with grand plans that include an oil refinery, petrochemical, and LNG complex to maximize employment and boost exports.

But a 2-mile-deep trench in the ocean floor has scared off some partners. The country is trying to recruit new partners, including some from China. The Greater Sunrise fields lie between Timor-Leste and Australia and are estimated to hold more than 5 trillion cubic feet of gas and 200 million barrels of light crude oil. Discovered in 1974, development was delayed until a maritime boundary dispute with Australia was resolved last year.

The Timor-Leste government wants to use gas from those fields to underpin a new \$12 billion liquefied natural gas plant on its southern coast. The leaseholders of the Greater Sunrise project — ConocoPhillips, Shell, Woodside Energy, and Osaka Gas — offered two proposals: Pipe the gas to an existing, Conoco-operated LNG plant in Darwin, Australia, or build a floating liquefaction plant offshore. They wanted to avoid the cost of building a new LNG plant as well as laying pipeline across the deep Timor Trough.

Timor-Leste's insistence on building an onshore plant prompted Conoco to sell its 30 percent stake to the government for \$350 million. Shell was next, selling its 26.56 percent to the state for \$300 million. State-owned energy company Timor Gap is pressing ahead, aiming to make a final investment decision as soon as late 2020. It's engaging with potential partners from countries including China, Australia, and the U.S.

LNG contributes to increase in CO₂ emissions in Australia

(Reuters; Aug. 30) - Australia's greenhouse gas emissions rose in the year through March largely due to increased liquefied natural gas output, the government said Aug. 30, adding that without LNG the country's emissions would have fallen. Greenhouse gas emissions rose 0.6 percent to 538.9 million tonnes of carbon dioxide equivalent from the previous year, mainly due to a 19 percent rise in LNG exports and growth in steel and aluminum production, the government said in a quarterly update.

LNG output added 4.7 million tonnes of CO2 emissions, more than offsetting a 2.1 percent drop in emissions from the electricity sector, the biggest source of carbon emissions, as the growth of wind and solar power has reduced the use of dirty coal. Australia's emergence as the world's top LNG exporter has created a quandary for the government, as methane and carbon emissions from gas and LNG production make it harder for the country to meet its greenhouse gas emission targets.

At the same time, the government has praised the benefits of the LNG export industry and its role in helping cut emissions in countries that buy the LNG as the gas replaces dirtier coal-fired energy in those countries. "Australia's LNG exports for the year to March 2019 are estimated to be worth A\$47.8 billion (US\$32 billion) and have the

potential to reduce global emissions by up to 152 million tonnes carbon dioxide equivalent," Energy and Emissions Reduction Minister Angus Taylor said.

B.C. inquiry finds no explanation for higher gasoline prices

(Calgary Herald; Aug. 30) - A British Columbia government-commissioned gasoline pricing inquiry has found an unexplained difference in wholesale gas prices of about US\$0.37 per gallon above the U.S. Pacific Northwest market price. The B.C. Utilities Commission delivered its findings Aug. 30. The commission estimated the higher price costs B.C. motorists about \$500 million a year. Gasoline averaged about US\$4.25 a gallon in Vancouver in August.

The commission suggested that the B.C. government consider a one-month comment period for participants in the inquiry to react to the findings and submit further evidence to provide a fuller picture before the province takes action. The panel did not find there was collusion among major fuel players. The commission suggested the province could encourage more refining capacity, acknowledging that would be a challenge as gasoline use is projected to decline and there are high environmental costs to building a refinery.

Another option is to use regulation, which industry is certain to oppose. The premier ordered the inquiry in May. Industry players and observers have noted that B.C. only has two local fuel sources — refineries in Burnaby and Prince George. It relies heavily on Alberta for refined fuel products that can be constrained by refinery outages and pipeline capacity. Both mean higher costs for transportation via truck or rail from Alberta, or farther afield from the U.S. The commission found those reasons account for some, but not all, of the price difference, leaving US\$0.37 per gallon unexplained.