Oil and Gas News Briefs Compiled by Larry Persily July 25, 2019

China could overtake Japan as No. 1 LNG importer by 2022

(LNG Global; July 23) - According to a new report by Wood Mackenzie, Japan could lose its position as the world's top liquefied natural gas importer to China as early as 2022. By then LNG imports in Japan are expected to have declined 12 percent from 2018, down to 72.8 million tonnes, while China's imports will have climbed 37.5 percent to 74.1 million tonnes, according to the global energy research and consulting firm.

Japanese buyers, however, will continue to take a lead in contract innovation with developments such as hybrid-pricing deals, coal-indexation pricing, joint procurement, and carbon-neutral cargoes, Wood Mackenzie said. As several long-term contracts held by Japanese buyers wind down starting in the early 2020s, and with the country's gas and power market liberalization underway, contract innovations will provide LNG buyers more leverage and opportunities in future negotiations.

"The decline in Japanese imports will be driven by competition from coal, nuclear, and renewables in the power sector and slow macroeconomic growth," said senior analyst Lucy Cullen. Despite sustained low LNG spot-market prices, however, Japan's power market does not favor wide-scale coal-to-gas switching, the report said. Japan remains well-contracted in LNG into the early 2020s, with much of that linked to oil prices. As a result, the average cost of gas for Japanese utilities is well above spot-market prices and coal is still the cheapest form of electricity generation after nuclear and renewables.

West Virginia asks what happened to its gas liquids deal with China

(The Herald-Dispatch editorial; Huntington, WV: July 21) - If something sounds too good to be true. ... How many of us thought those words a couple of years ago when West Virginia officials announced a big gas development deal with China? Gov. Jim Justice and other officials announced in late 2017 that they had entered into an agreement with the China Energy Investment Corp. on several shale gas development and chemical manufacturing projects in West Virginia over the next 20 years, totaling \$83.7 billion.

Since the announcement, few details have been released. Despite efforts by news outlets to obtain a copy of the memorandum of understanding signed between the state and the corporation, it has been sealed by a judge. In short, we've been told there is a deal, but no one knows what the timetables are or what the state's obligations are. Earlier this month, Sen. Joe Manchin, D-W.Va., expressed concerns about the China deal at a U.S. Senate Energy Committee meeting.

At the time the deal was announced, West Virginia was desperate for good news of its shale gas liquids such as ethane that can be used as feedstock to make more valuable materials, such as plastics. The question has been whether West Virginia's gas liquids would be used here or shipped elsewhere. Multibillion-dollar projects are in the works in Pennsylvania and Ohio, and the China deal was supposed to set up West Virginia in the gas liquids industry. So far, it's been nothing but a mystery at best and a joke at worst.

Work underway on floating LNG project for Mozambique

(LNG Industry; July 23) - Eni has started installation work on the hull of its floating LNG (FLNG) liquefaction unit that will be moored offshore Mozambique. The unit is part of the Coral South project, which will produce gas from a 15-trillion-cubic-foot reservoir. The hull is expected to be launched in 2020 in line with the planned production start-up of Coral South in 2022, the Italian oil and gas major reported. Total development cost has been estimated at \$8 billion. Eni's partners include ExxonMobil, Korea Gas, China National Petroleum Corp., Portugal's Galp, and the Mozambique oil and gas company.

The FLNG facility will have a liquefaction capacity of 3.4 million tonnes per year and will the first such vessel deployed in the deep waters of the African continent. It will be 1,418 feet long, 216 feet wide, weigh about 220,000 tons and will be capable of housing up to 350 people in its accommodations module. It will be anchored at a water depth of about 6,500 feet, with 20 mooring lines that weigh a combined 9,000 tons. Construction started in 2018 and is ongoing in seven operational centers across the world, Eni said.

Construction of the mooring turret began in March; work on the hull's 24 modules that contain LNG storage tanks and sections of the treatment facilities began in September. Construction of the topside, consisting of gas treatment and LNG modules, started last November along with the living quarters. Drilling for the six subsea wells that will feed the liquefaction unit will begin in September. In addition to Coral South, a much larger onshore Mozambique LNG plant will be built, currently managed by an Anadarko-led venture, with a second, an ExxonMobil-led project, close to a final investment decision.

Novatek completes sale of 40% ownership in Arctic LNG-2 project

(Reuters; July 22) - Russian natural gas producer Novatek said July 22 it had completed the sale of stakes in its Arctic LNG-2 project to China's National Petroleum Corp., China National Offshore Oil Corp. and the Japan Arctic LNG consortium, which is comprised of Mitsui & Co. and the Japan Oil, Gas and Metals National Corp. Each of the three partners took a 10 percent stake in the project, joining France's Total that already had lined up its 10 percent share.

Novatek has now reached its target for 40 percent outside participation in the project, meaning it can make a final investment decision later this year on Arctic LNG-2, planned for 19.8 million tonnes annual capacity at a development cost of more than \$20 billion. The terminal would be built across the bay from Novatek's first Arctic gas project, Yamal LNG, which started shipments in December 2017. The company is targeting start-up for 2023. Novatek is Russia's largest privately owned gas producer and its largest LNG exporter.

Arctic LNG-2 partners award contract for liquefaction trains

(Reuters; July 23) - Oil services firm TechnipFMC said July 23 it had been awarded an engineering, procurement, and construction contract by Russia's Novatek and its partners for the Arctic LNG-2 project in Siberia. The contract to build the three liquefaction trains, at a combined 19.8 million tonnes annual capacity, is worth \$7.6 billion, TechnipFMC said. The company, created by a 2016 merger of France's Technip and U.S. rival FMC Technologies, had previously carried out design, engineering, and construction work on Novatek's Yamal LNG project that started up in 2017.

Novatek holds a 60 percent stake in the project, while French major Total, China National Petroleum Corp., China National Offshore Oil Corp., and the Japan Arctic LNG consortium each hold 10 percent. The partners plan to reach a final investment decision later this year. Total cost of the project, including liquefaction trains, LNG storage tanks, marine terminal, and other infrastructure, is expected to exceed \$20 billion.

Last of 15 LNG carriers for Yamal undergoing sea trials

(Reuters; July 22) - The last of 15 Arc7-class liquefied natural gas carriers ordered for the Yamal LNG project in Russia's Arctic are undergoing sea trials around a South Korean shipyard, Refinitiv Eikon shipping data showed July 22. The Georgiy Ushakov and Yakov Gakkel carriers are both in the water at the Daewoo Shipbuilding and Marine Engineering Okpo shipyard in South Korea, performing sea trials, the data showed.

Meanwhile, the Vladimir Voronin has finished its sea trials and left the Sea of Japan, setting out for Yamal. It appears to be taking the Northern Sea Route through the Bering Strait, turning west at the northeastern tip of Russia. The ships are part of a 15-strong fleet ordered for Yamal, which began operations in December 2017 and has contributed to a boom in LNG supplies the past 18 months.

Yamal is dependent on the ice-breaker carriers to move LNG out of the Arctic waters. The tankers have largely conducted ship-to-ship transfers in Europe to conventional carriers for onwards delivery, but during the summer they can traverse the Northern Sea Route to Asia. Two such trips have been made this month. All but one of the tankers are named after Russian Arctic explorers and scientists.

FERC creates new LNG division and adds Houston office

(LNG Global; July 23) - Federal Energy Regulatory Commission Chairman Neil Chatterjee announced July 23 that the agency is creating a new division in its Office of Energy Projects to accommodate the growing number and complexity of applications to site, build and operate liquefied natural gas export terminals. The new Division of LNG Facility Review & Inspection will consist of 20 existing staff members in Washington, D.C., and eight additional full-time staffers based in a new Houston office.

"As the demand for U.S. LNG and the number and complexity of project applications has grown, the commission has experienced a similar growth in the need for FERC to expand its oversight in this program area," Chatterjee said. "Much of the work related to these LNG projects, and the expertise it requires, is based in and around Houston, the so-called 'Energy Capital of the World.' For that reason ... the commission has determined we should direct our newest efforts to recruiting staff in the area."

As recently as April 2018, FERC had 13 staff dedicated to working on LNG engineering and review issues. That number has since grown to 20 staffers who work to complete engineering reviews, coordinate safety reviews with the Pipeline and Hazardous Materials Safety Administration at the Department of Transportation and prepare engineering analyses for inclusion in environmental documents.

Jamaica opens floating LNG import terminal

(Jamaica Gleaner; July 21) – Jamaican Prime Minister Andrew Holness said the country's floating liquefied natural gas receiving, storage, and regasification terminal has put Jamaica firmly on track for reaching its target of generating 50 percent of the island's electricity from renewable energy sources or cleaner fuels. Holness spoke at a ceremony July 19 to officially open the terminal just off the coast of Old Harbour Bay.

He said the new LNG terminal, built at a cost of nearly US\$1 billion by U.S.-based New Fortress Energy, will result in cheaper energy costs for the country, as well as establishing Jamaica as a premier hub for the environmentally friendly fuel. "It is more environmentally friendly, as it burns significantly cleaner than oil-based fuels. Over the past decade, LNG has been approximately 30 percent cheaper than dissel and projections are that it will continue to be cheaper than distillate fuels," Holness said.

Operated by New Fortress Energy, the terminal will provide gas to several facilities, including Jamaica Public Service's soon-to-be-completed 190-megawatt power plant in

Old Harbour. New Fortress Energy also is supplying LNG to the University of the West Indies and other places. Jamaica received its first LNG imports in October 2016, using a different floating storage and regasification unit.

Public comment period opens on \$310 million Tacoma LNG plant

(The News Tribune; Tacoma, WA; July 23) – Puget Sound Energy's liquefied natural gas project on Tacoma's Tideflats is one step closer to completion. On July 22 the Puget Sound Clean Air Agency said it had reviewed the project's application and "made a preliminary determination that the proposal meets all the requirements of Agency Regulations I, II, and III and should be approved." The announcement starts the clock on a public comment period, which will close Sept. 9.

Construction on the \$310 million project has been underway at the site for months while the agency reviewed the application. "Construction is underway on non-emitting portions of the facility only. Work to install the conversion (liquefaction) equipment won't begin until the final permit is issued," the company said. Puget Sound Energy wants to build the gas liquefaction and LNG storage terminal so that it can meet peak demand for gas during the winter and provide the cleaner-burning fuel for the maritime industry.

Opponents were critical of the agency's announcement. Leaders of the Puyallup Tribe expressed displeasure with the preliminary approval. "Puget Sound Energy's fracked gas project is an insult to the Puyallup Tribe and a threat to the global environment," said Chairman David Z. Bean, speaking for the Tribal Council. "We continue to oppose the project, which is sited on our ancestral homeland. We call on Gov. Jay Inslee to initiate a new review of the project that properly addresses its impacts."

Israeli gas exports to Egypt to start within four months

(Reuters; July 24) - Israel will begin natural gas exports to Egypt within four months, Energy Minister Yuval Steinitz told Reuters on July 24. The pipeline flow will secure the start of a \$15 billion export agreement between producers Delek Drilling, of Israel, and Noble Energy, of Texas, with Egypt's Dolphinus Holdings in what Israeli officials called the most significant deal to emerge since the neighbors made peace in 1979.

Egypt hopes to leverage its strategic location and two underused gas liquefaction and LNG export terminals to become a key trading and distribution center for gas, a potentially big turnaround for a country that spent \$3 billion a year on liquefied natural gas imports as recently as 2016. The deal signed last year will bring gas from Israeli offshore fields Tamar and Leviathan into the Egyptian gas grid. New domestic production in Egypt has allowed it to stop LNG imports and resume some exports.

Delek Drilling previously said it hoped commercial sales of gas to Egypt would start at the end of June, but earlier this month the company said exports had yet to begin although pipeline checks were done. Asked what caused the delay, Steinitz said: "In Israel we sometimes have a very complex regulatory regime and there were some minor delays, but I think it's going to be over. It's already over, most of it."

Market economics are driving Europe away from coal

(Bloomberg; July 21) - Commodity markets are stripping away the case for coal in Europe, moving quicker than governments to close the most polluting power plants. A plunge in natural gas prices along with a boost in the cost of carbon dioxide emissions has shifted the profitability of generating electricity away from coal, according to data compiled by Bloomberg New Energy Finance. The trend is evident in Italy, Spain, the U.K., and Germany — each have cut the proportion of coal in their power mix this year.

Shifting economics in the power business are complementing the European Union's efforts to slash greenhouse gases and make good on commitments in the Paris Agreement on climate change. It's made utilities change their calculations about the pace at which Europe will be able to reduce carbon pollution. The shift is part of a global trend. Abundant supplies of cheap gas are cutting in on coal's market share in the U.S., where plants burning the dirtiest fossil fuel closed at near record rates last year.

In addition, new terminals are exporting cheap U.S. gas worldwide, prompting countries across Asia, especially China and Pakistan, to buy LNG as an alternative to coal-fired generation. "The exit from coal is finally driven by the market," said Claudia Kemfert, a professor of energy economics at the DIW research institute in Berlin. Coal output in Italy, France, Germany, Spain, Portugal, and Britain fell 40 percent from a year ago in the second quarter, said S&P Global Platts Analytics. The proportion of coal in the U.K. power mix has plummeted from over 35 percent a decade ago to about 4 percent now.

BP joins biofuels joint venture in Brazil

(Wall Street Journal; July 22) - BP is doubling down on biofuels with a joint venture with agricultural trader Bunge in Brazil, betting that the global movement to reduce carbon emissions will boost demand for low-carbon fuels. The two companies have combined their sugar and ethanol businesses to create the second-largest sugar cane crushing operation in Brazil, called BP Bunge Bioenergia, to produce ethanol from sugar cane.

Ethanol's greenhouse-gas emissions are about 70 percent lower than hydrocarbon transport fuels, and around 70 percent of vehicles in Brazil can run on ethanol. The joint venture will also produce electricity from the waste biomass of the sugar cane. BP

will pay Bunge \$75 million and the equally owned joint venture will assume \$700 million of debt associated with Bunge's assets. The stand-alone joint venture includes BP's three crushing mills and Bunge's eight with total capacity to crush 32 million tonnes a year.

Some countries, including Brazil and the U.S., mandate a minimum amount of ethanol is blended with gasoline. Brazil is already the world's leading biofuels market as a share of the country's transport fuel mix. "Biofuels will be an essential part of delivering the energy transition and Brazil is leading the way in showing how they can be used at scale, reducing emissions from transport," said Bob Dudley, BP chief executive.

Total's CEO succeeds in business, but not everyone likes his style

(Bloomberg; July 23) - If you're offered the job of running one of the world's largest companies, you don't usually have just an hour to decide if you want it. But that was the challenge Patrick Pouyanne faced when the CEO of oil giant Total died suddenly in a plane crash almost five years ago. The jarring transition has been marked by bold deal-making in the face of external turmoil, but also criticisms about a hard-charging style that is different from his predecessor and that has ruffled some feathers.

The 56-year-old engineer couldn't have taken over in more challenging circumstances. His predecessor had been enjoying three years of crude above \$100 a barrel. Within months, Pouyanne was confronted with a global oil slump that took prices below \$30. In the worst industry downturn in a generation, 100,000 employees were his responsibility. He rose to the challenge. Since the start of 2015, his first full year as CEO, Total's oil and gas output has jumped 30 percent following a string of acquisitions. The company's total return to shareholders over the period was 45 percent, outshining European rivals.

But his style has left a less favorable impression on some people. In the past year, he mocked a French junior environment minister who called Total's gas discovery in South African waters bad news for the environment. He labeled a proposal for France to fully switch to renewables by 2050 as "not very serious." Unlike most Western executives, he refused to boycott a business conference this year in Saudi Arabia in the wake of the murder of journalist Jamal Khashoggi, saying he would rather continue to work openly with long-standing partner Saudi Aramco than do business behind the scenes.