Oil and Gas News Briefs Compiled by Larry Persily March 31, 2022

Sanctions jeopardize construction of LNG carriers for Russia

(Financial Times; London; March 27) – Russia's Arctic gas ambitions are under threat as international sanctions over the invasion of Ukraine jeopardize construction of the specialized ships needed to deliver the fuel from liquefaction plants. Construction of its fleet of next-generation icebreakers depends on foreign companies, from South Korean shipbuilders to U.S. and Finnish marine engineers, along with a little-known French business with a monopoly over technology vital to transporting liquefied natural gas.

With international shipyards' Russian partners and customers on sanctions lists, and the European Union banning exports of vessels, marine systems or equipment to Russia, the shipbuilding orders are now in doubt. "We don't see how under these circumstances the (shipbuilding) projects can progress," said Panayiotis Mitrou, global gas segment manager at ship classification society Lloyd's Register. "All angles seem to be doomed."

At stake are Russia's hopes to ramp up exports from some of the planet's richest gas fields. Moscow aims to start year-round cargo shipments along the Northern Sea Route within the next couple of years. Its Arctic developments include the Yamal LNG project in northwestern Siberia, which accounted for 5% of global LNG exports in 2020, and the nearby \$23 billion Arctic LNG-2 development that is set to export its first cargo in 2023.

The three biggest shipbuilders in South Korea, which has committed to mirroring U.S. sanctions on Russia, are building 35 LNG carriers for Russian customers, according to shipbroker Simpson Spence Young. "The situation is quite clear," said an executive at a European supplier to the yards. "The technology used for the ships intended for Russian use is a sanctioned product, so it's practically impossible to work on these projects."

Majority of Japanese now support restart of nuclear power plants

(Bloomberg; March 28) - For the first time in more than a decade, a narrow majority of Japanese now support restarting idled nuclear reactors, according to a poll in the country's top business newspaper. The survey result marks the first time since the Fukushima disaster in 2011 that an increasing role for nuclear has been favored. It comes amid surging power prices and warnings of electricity shortages in Tokyo.

Some 53% said nuclear reactors should restart, if safety can be ensured, while 38% said they should remain shut, according to the poll conducted by the Nikkei. That's up from 44% support for restarts in a September poll. The newspaper has been conducting

semi-regular polls on the issue for more than a decade. Public opinion moved decisively against nuclear power after the 2011 earthquake and tsunami resulted in the meltdown of three reactors at Fukushima. Most of the country's nuclear reactors remain shut.

Russia's invasion of Ukraine has pushed up energy prices globally, however, and a recent tremor in Japan took several gas- and coal-fired plants offline, leading to the first-ever electricity supply alert for Tokyo. "There is a strong tailwind for nuclear power at this moment," Nobuo Tanaka, a former executive director of the International Energy Agency, said in a Bloomberg TV interview on March 28. If Japan restarts nuclear, the country's utilities could resell spare liquefied natural gas to Europe, he said.

Long-term impact on LNG market 10 times that from Fukushima

(Sydney Morning Herald; March 29) - The war in Ukraine threatens to leave a bigger long-term impact on the market for Australia's liquefied natural gas exports than Japan's 2011 Fukushima nuclear disaster, as investors abandon new Russian projects and buyers diversify away from Russian supply. Investment bank Credit Suisse last week compiled new research suggesting the 400 million-tonne-a-year market for liquefied natural gas — Australia's third-largest export — could end up 50 million tonnes a year tighter in the mid-term and 80 million to 100 million tonnes short by 2030.

By contrast, the shuttering of most of Japan's nuclear power fleet in 2011 following the meltdowns at the Fukushima plant added 10 million tonnes a year of global demand for the fuel. "Ukraine could have more than 10 times the impact of Fukushima and last much longer," Credit Suisse analyst Saul Kavonic said, describing the Russia-Ukraine conflict as the "most structural bullish event" in LNG's history. "I get the sense the market has not fully digested the extent of the long-term structural implications for LNG."

Aside from a near-term cash boost, Australian LNG producers may also stand to benefit in the longer-term from the impact of the Russia-Ukraine conflict, Kavonic said. He has estimated that 33 million tonnes a year of Russian LNG capacity under construction between the Arctic LNG-2 and Baltic LNG projects "may not proceed to start-up" because of a lack of funding by banks and international partners.

Biden reportedly will announce large release from U.S. oil reserves

(The Wall Street Journal; March 31) - President Joe Biden is preparing to announce the release of up to 1 million barrels of oil a day from the U.S. Strategic Petroleum Reserve, perhaps lasting several months, according to people familiar with the plans. Biden is expected to deliver remarks March 31 on the administration's efforts to curb the rise in energy prices. Brent crude, the global benchmark, fell almost 5% in Asia to \$106.12 a

barrel after the plan to release more reserves was reported. Still, oil prices remain sharply higher than they were 12 months ago, when they settled at \$62.74.

The administration has twice tapped the Strategic Petroleum Reserve in the past five months as part of a coordinated effort with other countries. The U.S. released 50 million barrels of oil from the reserve in November, and then a further 30 million barrels in March. Though the releases provided some relief, they didn't dramatically lower prices.

The Biden administration has been discussing tapping the reserve again for weeks, and it has briefed International Energy Agency members on its plans, one of the people said. The daily releases from U.S. stockpiles could continue for months if prices remain high, the person said. Energy analysts have said Biden has few options to quickly lower prices, given the complexities of the industry's supply and demand.

Saudi Arabia, UAE oppose kicking Russia out of OPEC+

(The Wall Street Journal; March 29) - Two influential OPEC members, Saudi Arabia and the United Arab Emirates, rebuffed calls to expel Russia from a larger oil-production alliance, saying the group had a long history of working together through armed conflicts. The OPEC+ partnership between the Saudi-led Organization of the Petroleum Exporting Countries and Russia has refused to pump more oil, though prices have rocketed above \$100 a barrel. Producing more could bring prices down, analysts say.

"The U.S. and its partners are asking to politicize (OPEC's relationship with Russia.) We will not do it," Emirati Energy Minister Suhail bin Mohammed al-Mazrouei said March 29 in Dubai. Saudi Energy Minister Prince Abdulaziz bin Salman framed OPEC's decision to stick with Russia as the group's way of looking past disagreements among members. Over its 62-year history, OPEC generally hasn't kicked out members, even when they were engaged in fierce conflicts with each other.

"When it comes to OPEC+, everyone leaves politics outside the door," said Prince Abdulaziz at a conference in Dubai on March 29. "We managed to compartmentalize our political differences from what is for the common good of all of us." OPEC, Russia and other producers will meet on March 31, when they are expected to approve another production increase of 400,000 barrels a day, part of a plan agreed to in July 2021 to raise output slowly in monthly increments. The group's announced production increases, which have fallen short of targets, haven't been enough to tame rising prices.

Towns and states have to think about energy transition

(Bloomberg; March 26) – The world has spent a decade gorging on fuel from U.S. shale basins and now oil prices are topping \$100 a barrel. So it might seem an odd time to be

contemplating the energy transition. But that's precisely the task facing small towns across Texas, Wyoming and New Mexico: Deciding when to move on from their bedrock industry, even when it's in an upswing. Recent volatile swings in the oil market are a stark reminder that even as prices rally, the next bust could be around the corner.

The current geopolitical situation makes the contradiction even more acute. If Russia's invasion of Ukraine means prolonged disruptions for energy supplies in the coming months, the world will become even more dependent on U.S. oil. But in the bigger picture, governments across the globe have pledged to wean themselves off of fossil fuels, and some analysts say peak oil demand could become a reality within a decade.

For communities, getting the timing right can mean the difference between losing out on the last great boom and turning into a ghost town. At stake is hundreds of thousands of jobs, but also more than \$138 billion generated annually through tax revenues for localities, states, tribes and the federal government. In the midst of a boom, it's hard to see why any city should start turning its back on oil. But that short-sightedness could leave communities destined to encounter the fate that befell coal towns years earlier.

It's Texas that stands out as having the most to lose. The state generates almost \$15 billion annually from fossil fuels, the most in the nation. "If we want to continue to grow our economy and prosper, we're going to have to find other ways to do it," said Bobby Tudor, chairman of the Houston Energy Transition Initiative.

Turning off Russian oil and gas could help Europe shift to renewables

(The Associated Press; March 28) - Before Russia's war in Ukraine, Europe's most pressing energy policy goal was reducing carbon emissions that cause climate change. Now, officials are fixated on rapidly reducing the continent's reliance on Russian oil and gas — and that means friction between security and climate goals, at least in the short term. To wean itself from Russian energy supplies as quickly as possible, Europe will need to burn more coal and build more pipelines and terminals to import fossil fuels.

This comes amid soaring fuel costs for motorists, homeowners and businesses, and as political leaders reassess geopolitical risks from being so energy-dependent on Russia. In 2021, the European Union imported 40% of its gas and 25% of its oil from Russia. In the near-term, ending energy ties with Russia puts the focus on securing alternative sources of fuel. But longer term, the geopolitical and price pressures stoked by Russia's war in Ukraine could accelerate Europe's transition away from oil, gas and coal.

Experts say the war is as a reminder that renewable energy isn't just good for the climate, but also for national security. That could help speed up the development of wind and solar power, as well as provide a boost to conservation and energy-efficiency initiatives. The rapid pursuit of energy independence from Russia will likely require "a slight increase" in carbon emissions, said George Zachmann, an energy expert at the

Bruegel think tank in Brussels. But "in the long term, the effect will be that we will see more investment in renewables and energy efficiency in Europe," Zachmann said.

Industry likes pledge of U.S. LNG to Europe, environmentalists don't

(Energy Wire; March 28) - Natural gas producers are applauding President Joe Biden's pledge to export more U.S. gas to Europe as environmental groups fume that the deal undercuts Biden's commitment to address climate change. It's a familiar divide in U.S. politics, with the administration prioritizing European energy security in the short term.

In the short term, the U.S. plans to send 500 billion cubic feet of additional LNG to Europe in 2022. The U.S. government and European Commission set a goal of expanding the European Union's annual imports of U.S. LNG to triple that amount by 2030. "European buyers should now feel more confident and encouraged by this renewed level of political support to enter into long-term contracts to purchase U.S. LNG," said Alex Munton, principal analyst for Americas LNG research at Wood Mackenzie. "And that alone will lead to more investment in new capacity," Munton said.

Dustin Meyer, vice president of natural gas markets at the American Petroleum Institute, said the White House announcement reflected a "deepening understanding" that a shift away from Russian pipeline gas in Europe will require a "fairly significant investment across the board in gas infrastructure." But environmental justice and advocacy groups blasted the Biden administration for guaranteeing a long-term market for LNG, which is primarily methane, a significant source of greenhouse gas emissions.

Louisiana LNG developer gives contractor go-ahead to start work

(S&P Global Platts; March 28) - Tellurian has given its contractor the go-ahead to begin construction of the first phase of its Driftwood LNG export terminal in Louisiana, the company said March 28. The notice to proceed to Bechtel is limited; Tellurian must still finalize financing for the facility. Initial work will include site prep, laying of foundations and manufacturing of two of the facility's gas turbines, Tellurian said in a statement. First LNG is expected in 2026, assuming a final investment decision later this year.

Following 10-year agreements with Gunvor, Vitol and Shell, total off-take commitments for Driftwood LNG stand at 9 million tonnes per year. That's enough, Tellurian has said, for the first phase of the project at 11 million tonnes. Full build-out calls for design capacity of 27.6 million tonnes per year. The deals that Tellurian has signed to support the first phase of Driftwood are indexed to a combination of the Platts Japan-Korea Marker, the benchmark for spot-traded LNG delivered to Northeast Asia, and the Dutch TTF European gas hub contract, netted back for transportation charges.

Tellurian plans to produce its own feed gas for the first phase — currently it is well short of the upstream production necessary to do that. In addition, the shorter length of its commercial deals than the traditional 20-year agreements that were used to finance the first wave of U.S. terminals and the pricing mechanisms underlying its agreements have raised questions in the market about the company's ability to obtain financing. Tellurian, which was founded in 2016 to develop an LNG project, laid off more than 40% of its 176 workers two years ago as analysts and investors worried about an oversupply of LNG.

Developer announces deal with Chinese buyer for Louisiana project

(S&P Global Platts; March 29) - Energy Transfer's proposed Lake Charles LNG export terminal in Louisiana will supply 2.7 million tonnes per year to China's ENN and affiliates under two 20-year agreements disclosed March 29. The agreements are the first firm off-take deals announced for the facility. Energy Transfer, which lost Shell as a joint-venture partner in 2020, has proceeded with development on its own and may reduce the size of the project to two trains at 11 million tonnes per year of LNG capacity, down from three trains at 16.45 million, the company said in a regulatory filing in February.

The purchase price of the gas to ENN will be indexed to the U.S. Henry Hub natural gas benchmark, plus a fixed liquefaction charge, Energy Transfer reported. Financial terms were not disclosed. First deliveries are expected as early as 2026, subject to conditions, including Energy Transfer reaching a positive final investment decision. During a Feb. 16 investor call, an Energy Transfer executive cited a general interest among Chinese customers in securing more LNG on a fixed-price basis for use as a power plant and home heating fuel amid persistently high spot prices in end-user markets.

LNG project in Texas strikes tentative deal with Chinese buyer

(Pipeline & Gas Journal; March 27) - NextDecade has executed a binding heads of agreement with China's Guangdong Energy Group Natural Gas for a 20-year supply of LNG from NextDecade's proposed \$7 billion Rio Grande LNG export project in Brownsville, Texas. The agreement provides that Guangdong Energy will purchase up to 1.5 million tonnes per year of LNG indexed to U.S. Henry Hub benchmark prices.

The supply will initially come from the first liquefaction train at Rio Grande LNG, which is expected to start commercial output in 2026. The agreement provides that Guangdong and NextDecade will complete the sale-and-purchase agreement in the second quarter of 2022. Guangdong would the second customer for the project. With further sales contracts and financing, NextDecade said it anticipates a final investment decision on the project in the second half of 2022, with a first phase of 11 million tonnes per year.

U.S. natural gas prices more than double of a year ago

(The Wall Street Journal; March 29) - The U.S. is shipping more natural gas than ever overseas, which is keeping domestic inventories lean and power prices high. Gas prices usually decline into spring as heating demand drops but before air-conditioning season begins. Gas producers and traders use the off-season to build up inventory for summer. But this year prices climbed into spring, due to record export volumes and recent White House promises to send more liquefied natural gas to Europe to replace Russian fuel.

U.S. gas futures for April delivery ended March 29 at \$5.336 per million Btu, more than double the price of a year ago. So far in 2022, prices have risen 43%. War in Europe is driving the recent rise, along with weather events last year that drained gas stockpiles around the world. Also, U.S. producers have been wary of torpedoing prices and sinking their profitability by drilling too much. The amount of gas in storage in the Lower 48 states is 17% below the five-year average for this time of year despite production that has eclipsed pre-pandemic highs, according to the Energy Information Administration.

"We are in a new phase for U.S. gas markets," said Ryan Fitzmaurice, commodity strategist at Rabobank. He expects U.S. prices to range between \$4.50 and \$6, up from the \$2 to \$3.50 the past several years. Goldman Sachs analyst Samantha Dart expects similar prices, but noted that more U.S. LNG export capacity will come online in 2025, really tightening domestic gas inventories and tethering U.S. prices to more expensive international markets. Higher prices have boosted costs for plastics, fertilizer, concrete and steel, and have meant some of the highest electricity and heating costs in years.

Trader defaults on contract LNG deliveries to Pakistan

(S&P Global Platts; March 28) - Pakistan has received refusal notices from commodity trader Guvnor to supply four liquefied natural gas cargoes expected in the next three months, forcing the South Asian country to purchase LNG on the spot market at record-high prices and grapple with energy security concerns, energy ministry officials said.

Pakistan's Ministry of Energy received refusal notices March 26 from Guvnor stating that the trader would not be able to ship four cargoes scheduled for delivery on April 15, May 14, June 4 and June 9 as per contracts, officials in Islamabad said. Gunvor declined to comment. Pakistan LNG, the country's second-largest state-owned petroleum company that imports LNG on behalf of the government, has a five-year contract with Guvnor that ends in July this year, the officials said.

Guvnor has already defaulted on three occasions. To help cover the deficit, Pakistan LNG issued two tenders for spot supply where the lowest bidders were Vitol Bahrain at a price of \$34.6777 per million Btu for April, and PetroChina at a price of \$33.53 for May delivery. These are some of the highest prices paid by Pakistan and create downstream prices that make gas unaffordable in many sectors. The government might not accept

even the lowest bids because after adding port charges and other costs, the total cost of LNG on the day of arrival might be as much as \$41, according to industry sources.

Argentina fails to boost gas output, needs to import more LNG

(Bloomberg; March 28) - Argentina, home to some of the world's largest gas reserves, is bracing for the unthinkable — rationing one of its chief natural resources. Despite shale gas deposits rivaling those in Appalachia, which made the U.S. a major exporter, Argentina's domestic gas production has suffered from years of underinvestment that has left it unable to meet domestic demand, never mind the needs of the export market.

Argentina will be competing for shipments of liquefied natural gas along with industrial powerhouses like the U.K. and Japan. Its timing could scarcely be worse, as prices have skyrocketed. The fallout from Russia's invasion of Ukraine has plunged energy markets into chaos, worsening the shortages as supply-chain bottlenecks and wild price swings have roiled the world economy since the pandemic emerged.

Furthermore, Argentina is only just starting to seek cargoes for May and June, when the Southern Hemisphere winter sets in. With the price spike over the past few weeks, the country may not be able to afford all the LNG it needs. Much of the nation's predicament was long in the making. A chronically poor business climate failed to lure investment to its Vaca Muerta shale patch and delayed construction of pipelines needed to bring gas from the Patagonia region to industrial hubs and urban centers. Instead of becoming the shale powerhouse it had hoped, Argentina has become a major importer of LNG.

Newfoundland LNG project sees potential customers in Europe

(Bloomberg; March 28) - The company behind a proposed liquefied natural gas project off Newfoundland's coast could push forward its schedule after the Ukraine crises left Europe scrambling to find alternatives to Russian supplies. LNG Newfoundland and Labrador's C\$5.5 billion project to take gas associated with offshore oil production and liquefy it at floating facilities at Grassy Point could be pushed forward to start in 2028 instead of 2030 to accommodate European buyers, CEO Leo Power said in an interview. The terminal would produce as much as 2.6 million tonnes a year of the fuel.

"We would seek to expedite the schedule," he said. "Since the invasion of Ukraine, we have had a lot of interest from prospective buyers in Europe," including Germany. The project has an advantage in that Newfoundland is almost half the distance to Europe than LNG terminals in the Gulf of Mexico and the plant would be powered by hydropower, keeping emissions minimal, Power said.

The Canadian government is in discussions with European countries about supplying them with LNG, Jonathan Wilkinson, natural resources minister, said last week. The discussions are taking place even though Canada doesn't have any LNG plants. While numerous projects have been proposed, just one is under construction, in British Columbia. Projects on the Atlantic have faced their own challenges, including local opposition, permitting failures, lack of investors and access to natural gas.

Nova Scotia LNG project developer wants government support

(Natural Gas Intelligence; March 28) - Pieridae Energy, sponsor of a stalled project to export liquefied natural gas from Nova Scotia to Europe, recently outlined the conditions needed to resuscitate the Goldboro LNG plan. In Pieridae's recent fourth-quarter and full-year 2021 earnings report, CEO Alfred Sorenson said the company still believes "an LNG project at our Goldboro site could be an economically compelling and nation-building opportunity." He qualified that statement, however.

"What Pieridae needs in order to continue development of the project is a commitment of support from the government of Canada that this initiative is a national priority," he said. Pieridae suspended Goldboro LNG last July. A nine-year effort to carry out the \$10 billion plan to ship 1.3 billion cubic feet of gas per day as LNG across the Atlantic included an unsuccessful appeal for \$1 billion from the Canadian government.

Sorenson pointed out that other conditions would need to be met as well to revive Goldboro LNG. "Pipeline capacity to transport the gas to the East Coast would need to be worked out," he said. "We must find an investment partner." Moreover, he said Pieridae would like the Mi'kmaq, an Indigenous nation in Atlantic Canada, to "remain involved as partners." But it looks like a subsidy remains out of step with national policy. At an International Energy Agency meeting on the Ukraine war's threat to supply security, Canadian Natural Resources Minister Jonathan Wilkinson offered no support.

Tanzania president says talks continue on LNG export project

(Bloomberg; March 29) - Tanzania expects investments in its liquefied natural gas project to rise by \$10 billion as the world rushes for new sources of the fuel to reduce reliance on Russian gas. The second phase of negotiations with a group of companies led by Equinor and Shell for building the long-delayed project are expected to conclude by June, President Samia Suluhu Hassan said March 28. Hassan last year revived talks for the project initially pegged at \$30 billion after they stalled under the former president.

"The world needs it," Hassan, 62, said, referring to Tanzania's plan to raise production targets of the fuel. Hassan needs to accelerate the LNG export project — the country has an estimated 57 trillion cubic feet of gas reserves — for her nation to benefit from

Europe's rush to diversify its energy sources. Tanzania, home to tourist attractions Mount Kilimanjaro and the Serengeti nature reserve, is seeking to lure investors in new industries by amending laws, working on getting a credit rating and easing rules for doing business as it seeks to accelerate economic growth to 7% in the long term.

Just two years ago investors were fleeing Tanzania as privately backed infrastructure projects stalled and the government clamped down on opposition leaders and the media. Russia's attack on Ukraine has given the project fresh impetus as Europe seeks to find new energy sources. Tanzania may allow a deal for the project to produce 15 million tonnes a year, 50% more than the government's initial preference, sources said, though that could reduce the project's lifetime from the original estimate of 30 years.

LNG carriers waiting to load up at Qatar most in nearly a year

(Bloomberg; March 30) - The number of empty liquefied natural gas tankers outside one of the world's top LNG exporters has reached the highest in almost a year, worsening a global shortage of the fuel. Some 21 vessels are idled off the coast of Qatar as they wait to load, according to ship-tracking data compiled by Bloomberg. That's the most in nearly a year, according to traders — some say that it may be due to reduced output. Qatargas, which operates the export facilities, wasn't able to provide a comment.

Lower exports from Qatar, which vies with Australia and the U.S. for the crown of biggest global supplier, has exacerbated a global LNG shortage. "The recent pile-up of ships is concerning because we usually don't see more than 20 ships waiting to load outside Ras Laffan," said Fauziah Marzuki, an analyst at BloombergNEF. Qatar's exports in February were particularly low, well under the five-year average for that time of year, according to Marzuki. BNEF estimates that Qatar could reach a total output of 6.5 million tonnes for March, short of its production in the prior two years.

Qatargas LNG Train 6 was shut for more than a month until March 20, according to energy data provider Kayrros, which gathers operational data via satellites. Marzuki said there could be several reasons for the increase in empty ships off Qatar: There could be a technical issue at the plant or upstream facilities that has been causing a reduction in output, or the accumulation of ships could be a domino impact of the lower output in February spilling over into March loadings.

U.S. oil exports hit 3.8 million barrels a day, highest since last July

(Reuters; March 28) - U.S. oil exports have climbed following Russia's invasion of Ukraine, and barrels of domestic oil that would typically go to the Cushing, Oklahoma, storage hub are instead being exported via the Gulf Coast, traders said. The invasion threw the oil market into disarray, as companies stopped buying Russian oil and prices

skyrocketed. Buyers are looking to source crude wherever they can, and exports have risen in recent weeks from the United States, the world's largest crude producer.

Cushing, Oklahoma, known colloquially as the crossroads of the oil industry, is where holders of U.S. West Texas Intermediate futures contracts take delivery. Its vast storage capacity means it is still considered a guidepost for U.S. inventories even as more barrels have shifted to the Gulf after Washington lifted the U.S. ban on exports in 2015.

U.S. exports rose to 3.8 million barrels per day for the March 18 week, the highest since July 2021. Cushing stockpiles are currently at 25.2 million barrels, just off a four-year low reached in early March. Usually when stockpiles fall that low, the crude trades at a slight premium to attract barrels into storage. However, that hasn't happened, as the stronger market pull is to deliver the oil to the coast for export.