Oil and Gas News Briefs Compiled by Larry Persily January 3, 2022

Global markets, LNG exports help drive U.S. natural gas prices

(Bloomberg; Jan. 1) - U.S. natural gas is in for another wild year as the insularity that once shielded North American energy consumers from overseas turmoil disintegrates. Benchmark U.S. gas futures climbed almost 45% in 2021 for the strongest annual performance in half a decade after a deadly freeze that crippled output was followed by summer heatwaves that lifted demand and hindered efforts to build supplies for winter.

Traders, explorers and utilities are facing the prospect of continued volatility amid rising competition from buyers as far away as Poland and the Netherlands that are dealing with a supply crisis so acute that factories have shut down. Overseas buyers purchased 13% of U.S. gas production in December, a seven-fold increase from five years ago when most of the infrastructure required to liquefy and export the fuel did not exist.

As recently as Dec. 30, almost 50 tankers carrying U.S. LNG were steering for Europe, with destinations as varied as Gibraltar, Turkey, Croatia and Poland, according to data compiled by Bloomberg. That was a stunning 77% increase from just a week earlier. One foil to another rollercoaster year of volatility would be a significant jump in domestic gas output. Bank of America predicts an increase of 3.5 billion cubic feet in daily gas production this year, driven by new wells in shale fields from Texas to Pennsylvania. Daily output may touch a record 100 bcf per day this year, threatening to swamp the market with more gas than it can burn, said John Kilduff, co-founder of Again Capital.

U.S. natural gas futures see biggest price rise in 5 years

(Reuters; Dec. 31) - U.S. natural gas futures on Dec. 31 closed out their biggest yearly gain in five years, powered mostly by strong demand for U.S. liquefied natural gas exports helped by an initial surge in global prices. The contract had climbed to its highest in more than a decade before slipping later in the year. "We're seeing a change in the complexion in the U.S. market because we're on the path of being a major LNG exporter and that's rewriting the way that prices move," said Phil Flynn, senior analyst at Price Futures Group in Chicago. "We're getting more tied to the global market."

Front-month gas futures rose about 5% on Dec. 31 to settle at \$3.73. For the year, the contract jumped over 47%, its biggest yearly percentage rise since 2016. The amount of gas flowing to U.S. LNG export plants averaged 12.2 billion cubic feet per day in December, now that the sixth train at Cheniere Energy's Sabine Pass plant in Louisiana is producing LNG. That compares with 11.4 bcf per day in November and likely beat the

monthly record of 11.5 bcf per day set in April. Record high prices this fall and early this winter in Asia and Europe drew increasing volumes of U.S. gas to both markets.

OPEC+ expected to follow plan for production boost in February

(Reuters; Dec. 30) - OPEC and its allies will probably stick to their policy of modest monthly increases in oil output at a meeting on Jan. 4, four sources said, as demand concerns over the Omicron coronavirus variant ease and oil prices recover, according to Reuters. The Organization of the Petroleum Exporting Countries and allies, known as OPEC+, is set to decide on Jan. 4 whether to proceed with a 400,000 barrels-per-day output hike for February, the latest in a steady unwinding of record cuts made last year.

"At the moment, I have not heard of any moves to change course," said an OPEC+ source. A Russian oil source and two other OPEC+ sources also said no changes to the deal were expected next week. At its last meeting on Dec. 2, OPEC+ stuck to the plan for a 400,000 barrel-per-day production increase in January, despite fears that a U.S. release from crude reserves and Omicron would lead to an oil-price rout.

Russian Deputy Prime Minister Alexander Novak said on Dec. 29 that OPEC+ has resisted calls from Washington to boost output further because it wants to provide the market with clear guidance and not deviate from policy. OPEC ministers are also set to discuss who will become the group's new secretary general to replace Mohammad Barkindo, who is scheduled to leave at the end of July. Kuwait's candidate for the job has widespread support, sources have said.

Russia may have run out of spare oil production capacity

(Bloomberg; Jan. 2) - Russia failed to boost oil output last month despite a generous ramp-up quota in its OPEC+ agreement, indicating the country has deployed all of its current available production capacity. With OPEC+ meeting in two days to consider output policy in the face of the fast-spreading Omicron variant, Russia's lack of growth highlights the limits of the group's attempt to boost supply if demand continues to recover. Saudi Arabia, Iraq and the UAE can raise output, but others such as Angola, Nigeria and Kuwait are struggling to meet their quotas.

Russian companies pumped an average of 10.903 million barrels per day of crude oil and condensate last month, according to preliminary data from the Energy Ministry's CDU-TEK unit. That is flat to November. Until recently, Russia ramped up production by restoring operations at wells that were shut-in or idled in spring 2020 as the pandemic shattered global demand. Now any further growth in output will mostly come from newly drilled wells, officials at Lukoil and Gazprom Neft said late last year.

Russian oil output up 2% in 2021, but still short of 2019 record year

(Reuters; Jan. 1) - Russia's annual oil production rose by more than 2% last year with the easing of output cuts by the OPEC+ group of leading oil producers after a pandemic-induced decline in 2020, data showed on Jan. 2. Russian oil and gas condensate output rose to 10.52 million barrels per day last year, according to energy ministry data cited by the Interfax news agency and Reuters calculations, up from 10.27 million in 2020. It is still below a post-Soviet record-high of 11.25 million in 2019.

In April 2020, Russia agreed to reduce its oil production by more than 2 million barrels per day, an unprecedented voluntary cut, along with other leading oil producers and the Organization of the Petroleum Exporting Countries. Deputy Prime Minister Alexander Novak has said that country's oil output is expected to rise further to 10.8 million to 11.2 million barrels per day in 2022. He has said that Russia will restore its oil production to pre-pandemic levels by May 2022, though the timeline is questioned by some analysts.

Yergin predicts U.S. oil production could gain 900,000 barrels a day

(CNBC; Dec. 30) - U.S. oil production is back and set to increase in 2022 after more than a year of OPEC and its allies "running the show," according to Daniel Yergin, vice chairman of IHS Markit. Output could rise by as much as 900,000 barrels per day, he said on Dec. 29, which would be a quarter-million barrels more than the federal energy data agency predicts. U.S. oil firms slashed production in 2020 as the coronavirus pandemic destroyed demand and supply has not yet recovered to pre-COVID levels.

In 2019, the U.S. produced 12.29 million barrels of crude oil per day, according to the U.S. Energy Information Administration. That figure was 11.28 million in 2020 and is estimated to reach 11.18 million in 2021 and 11.85 million in 2022. "The U.S. is back," Yergin said. "For the last year, year and a half, it's been OPEC+ running the show, but U.S. production is coming back already, and it's going to come back more in 2022." Yergin also predicted oil prices will stay in the \$65 to \$85 per barrel range and that \$100 oil is unlikely "unless some big geopolitical turmoil happens."

China dependent on Middle East for almost half its oil imports

(Asia Times; Dec. 30) - Since China became a net importer of oil in 1993, the Middle East has emerged as an increasingly important source of this critical commodity. By the time China surpassed the U.S. as the largest importer of crude in 2017, almost half its supply originated from this troubled region. Despite China's years-long efforts to ramp up local oil production and diversify its supplies, its dependency on the Middle East for

crude oil remains intact. In 2020, China imported crude oil worth roughly US\$176 billion. Almost half (47%) of these official imports came from Middle Eastern countries.

Notably, Saudi Arabia emerged as China's largest crude supplier. The \$28.1 billion worth of oil exported from the Kingdom to China in 2020 accounted for 15.9% of China's total oil imports. Iraq found itself in third place, shipping \$19.2 billion (10.9%) in 2020. Oman, the United Arab Emirates and Kuwait were also among China's top 10 suppliers, exporting \$12,8 billion (7.3%), \$9.7 billion (5.5%), and \$9 billion (5.1%), respectively.

China's thirst for Mideast oil is perhaps best exemplified by the case of Iran. During 2020 and into early 2021, Iran reportedly exported almost 306,000 barrels per day to China in the face of U.S. sanctions on the Islamic Republic. China's dependence on the Mideast for oil and gas has elevated the region's strategic significance to Beijing. China has accordingly sought to expand cooperation beyond the energy sector to include maritime and railway infrastructure projects and investments in advanced technologies.

Quebec bans oil furnaces in new construction

(CBC News; Canada; Dec. 31) - As of Dec. 31, oil-powered heating is banned in all new construction projects across Quebec, part of the province's push to reduce greenhouse gas emissions. In two years, Quebec will go a step further by making it illegal to replace existing oil furnaces with any sort of heating system powered by fossil fuels after Dec. 31, 2023, The new rules were laid out in a ministerial decree on oil and gas heating passed in late November.

Cendrix Bouchard, a spokesperson for Hydro-Québec, said it's a step in the right direction, adding that the utility has the resources to meet increased demand. The new decree also bans the repair of heating systems running on fuel that are more than 20 years old and oil-powered water heaters that are more than 10 years old. For people looking to retrofit their home heating system, Bouchard said Hydro-Québec offers financial assistance for heat pumps. The government offers a similar program.

The province said more than 200,000 homes across Quebec are still heated by fossil fuel, and heating accounts for more than 60% of household emissions. The government believes the new measures will help it hit its target of reducing emissions related to heating buildings 50% by 2030. On top of carbon dioxide emissions, oil-fueled heating systems also generate nitrogen oxide, sulfur dioxide and other particles that can be harmful to the environment.

Energy transition hurts fossil fuel industry in Nova Scotia

(CBC News; Canada; Jan. 2) - Several of Nova Scotia's energy megaprojects have fizzled in recent months and years, and some say the shift toward renewables is the reason. AltaGas had planned to store up to 10 billion cubic feet of natural gas in underground caverns but announced in October it was canceling the project due to the "repositioning of the business and the challenging nature of the project economics."

In July, Pieridae Energy announced it would not proceed with its proposal to build a liquefied natural gas export plant in Goldboro, citing costs and time constraints. The future of the Bear Head LNG project, a proposal to bring in gas to Port Hawkesbury from Western Canada or the U.S., and then export it to Europe, is uncertain after the company behind the project tried to sell it last year. The province's offshore oil and gas future looks less than rosy after a call for exploration bids this year yielded no interest.

Last year, the Donkin coal mine — which produced thermal coal for power plants and metallurgical coal for steelmaking — closed permanently. The owner blamed geological conditions in the mine. Jennifer Tuck, CEO of the Maritimes Energy Association, said the transition from fossil fuels is affecting the energy industry in Nova Scotia. "Focus on climate change, achieving global emissions reductions targets ... make it challenging in the fossil fuel sector," she said. Investment funds have been pulling out of oil and gas ... and federal policy changes are focusing more on clean energies and technologies.

Alberta power generator completes conversion from coal to gas

(Calgary Herald; Dec. 29) - TransAlta is out of the coal power generating business in Alberta. The energy company announced Dec. 29 that it had completed the last of three planned coal-to-gas conversions at its Alberta thermal power generation facilities near Wabamun, about 45 minutes west of Edmonton. The move will allow TransAlta to achieve its goal of reducing emissions by 60% of its 2015 levels by 2030, and has the company on track for hitting net-zero by 2050.

The conversion maintains the company's generation capacity and reduces carbon dioxide emissions by almost 50%, TransAlta President John Kousinioris said. TransAlta is scheduled to close the Highvale coal mine on Dec. 31, with the transition of the company's thermal facilities in Alberta to gas. TransAlta has retired 3,794 megawatts of coal-fired generation capacity since 2018 and converted 1,659 MW to natural gas, while diversifying its operations to include hydro, wind, solar and battery assets.

The company has spent \$295 million on its coal-to-gas program at its three Wabamunarea thermal power generation facilities. Duane Reid-Carlson, president at EDC Associates — an energy consulting firm based in Calgary — called the announcement an important milestone. He noted another power generator, Capital Power, is on track with its switch from coal to gas as well.

United makes history running 737 engine exclusively on biofuel

(Los Angeles Times; Dec. 31) - Earlier in December, a United Airlines flight from Chicago to Washington made a bit of aviation history, completing a 600-mile trip that the airline hopes will prove the first leg of a journey to a greener future. In a first, one of the two engines on the 737 Max 8 was powered exclusively by fuel made from used cooking oil and rendered waste fat from beef, pork and chicken. Refined at a Southern California plant, the fuel produces about 80% less emissions than conventional jet fuel.

Biofuel had been mixed with conventional fuel in the past, but United Airlines said it had never been used by itself in the engine of a commercial flight. The carrier made the flight to showcase progress it has made toward its goal of eliminating greenhouse gas emissions by 2050. But reaching the goal of completely eliminating aviation emissions — responsible for 3% to 4% of the world's carbon emissions — won't be easy. It will take huge government investments in tax breaks or grants and ground-breaking technological advances, such as the development of hybrid or all-electric jet planes.

In the meantime, airlines that want to use more low-emission sustainable fuel will have to pay up to four times as much for it as for conventional fuel, which could mean higher airfares for flyers. "It's not clear how we are going to get there," said Jan Brueckner, chair of the economics department at UC Irvine's Institute of Transportation Studies. "Maybe by 2050, it's possible if a bunch of things come together."

Infrastructure bill gives FERC more authority over power lines

(The Wall Street Journal; Dec. 30) - The Biden administration is trying to speed up the permitting process for high-voltage power lines as part of its drive to promote renewable energy. The changes — which include giving the federal government more authority to intervene in state-level permitting decisions — are meant to expedite the approval of new power lines, which often encounter regional opposition and face years of delays.

Reaching the president's green-energy target will likely require \$300 billion in new power lines within the next decade to carry wind, solar and other energy over long distances to the cities where most people live, analysts say. The \$1 trillion infrastructure package enacted last month includes about \$5 billion for power line support and gives the federal government more power to intervene in state-level disputes.

Developers expect the new measures to streamline approvals but say they might not be enough. Companies proposing transmission lines say they often face local opposition, protracted state-level study processes or pushback from rival companies that don't want new sources of electricity coming into regional markets. The infrastructure bill empowers the Federal Energy Regulatory Commission to issue permits for certain transmission projects even if a state has denied approval, amending a provision of a 2005 law that attempted to expand the agency's siting power.

Proposed LNG import terminal in Germany facing delays

(Bloomberg; Dec. 30) - A proposed liquefied natural gas terminal in Germany is at the risk of never being built, with several headwinds having already prompted one of three backers to write down its investment. The facility near Hamburg is facing hurdles including delays in obtaining environmental permits and an unusual requirement for some of its imports to be sold in the spot market, said a person familiar with the matter.

Vopak LNG Holding last month said it was stepping back from the project, a move that led to an exceptional loss of about 11 million euros (\$12 million). The Brunsbuettel import terminal was initially expected to be operational at the end of 2022, and the difficulties in getting the project off the ground are a setback for Germany, which has been trying to reduce its reliance on Russian gas. The obstacles for one of three LNG terminals planned for Germany also add to increased scrutiny of new projects as Europe seeks to reduce its fossil fuels usage to become carbon neutral by 2050.

One major stumbling block in the terminal's progress is a requirement for 10% of its capacity to be reserved for short-term access, according to person who asked not to be identified because the information is private. The obligation was imposed by the German regulator in order to provide tariff exemptions, the person said. LNG terminal developers typically aim to book all the space in the terminal under long-term contracts to ensure stable proceeds for investors. Environmental permits are also taking longer than expected, making start-up of the terminal unlikely before 2025, the person said.

BLM working on distributing money for abandoned well cleanup

(Carlsbad Current Argus, NM; Dec. 30) - Federal regulators are looking for ways to spend \$250 million earmarked for cleaning up abandoned oil wells throughout the U.S., funded by the recent infrastructure bill passed by Congress and signed into law by President Joe Biden. The program to distribute the federal dollars to states for cleaning up the wells will be managed by the U.S. Bureau of Land Management, which has scheduled an online webinar for Jan. 6 to present its proposal and receive public input.

In its announcement of the program, the BLM said plugging abandoned wells, also known as "orphaned" wells, is needed to protect public health and the environment as the facilities when left unmonitored can leak air- and water-polluting chemicals.

In New Mexico, state regulators estimate there are up to 700 abandoned oil and gas wells left unused by oil companies when operations lost their financial viability. A study from the National Parks Conservation Association found 511 abandoned wells within a 30-mile radius of national parks in New Mexico, mostly in oil-producing regions in southeast Permian Basin and northwest San Juan Basin.

China continues signing LNG supply contracts

(Natural Gas Intelligence; Dec. 30) – Singapore-based Pavilion Energy Trading & Supply has inked a term deal to supply liquefied natural gas to China's Zhejiang Hangjiaxin Clean Energy Co. beginning in 2023. The small-scale LNG deal is the latest in a series of agreements signed this year as China's thirst for gas continues increasing. Pavilion said it would supply 0.5 million tonnes per year of LNG from its portfolio for an unspecified period to Hangjiaxin's Jiaxing LNG import terminal in Zhejiang province.

Hangjiaxin is a joint venture between city gas distributors Jiaxing Gas and Hangzhous Gas. Pavilion's interim CEO said the deal reinforces the firm's "commitment to enhance Singapore's position as a regional LNG hub and support growing demand for small-scale LNG in Asia." Hangjiaxin CEO Sun Lianqing said the agreement would help secure stable supplies for the Jiaxing terminal. Zhejiang province is a densely populated region that is also among the country's largest agricultural production centers.

China passed Japan in 2021 as the world's leading LNG importer, according to data from various government agencies. Chinese buyers have secured additional long-term supplies from LNG producers throughout the year, including U.S. suppliers. China was the second-leading destination for U.S. LNG between January and October, receiving more than 100 cargoes. South Korea received the most, importing 110 U.S. cargoes.

Europe burning gas reserves to avoid high spot-market prices

(Reuters; Dec. 30) – Natural gas traders are relying on stockpiles to supply European buyers and avoid paying Russia near record-high prices on the spot market, industry sources and market analysts said, explaining the unusual reverse in direction of flows through a major Russian pipeline. The Yamal-Europe Pipeline, which accounts for about one sixth of Russia's gas exports to Europe and Turkey, has been in reverse mode since Dec. 21, meaning gas is being shipped east from Germany to Poland, which failed to conclude a new gas supply deal with Russia last year.

Rather than pay high spot prices if they buy extra gas from Russia, European traders are instead drawing from storage. Their hope is that by the time stocks run low, prices will be cheaper. "Gas is being lifted from Europe's underground storage facilities in Germany," Gazprom spokesman Sergey Kupriyanov told Russia's NTV channel. He said it was "not rational" to drain stockpiles in the peak demand winter season.

Gazprom's clients from Germany and France had used up their annual contractual gas purchasing volumes, Kupriyanov said. Anything above their contracted volume would be charged at higher rates. Alexei Grivach, of the Moscow-based National Energy Security Fund, said current spot prices were unaffordable for most industrial consumers. "For some, it's more profitable to lift more gas from underground storage facilities, (and) some seek to redirect LNG (liquefied natural gas) volumes to Europe," he said.