

# Oil and Gas News Briefs

## Compiled by Larry Persily

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#### **BP spending to reduce its emissions in the Permian Basin**

(Houston Chronicle; Dec. 26) - When BP began drilling in the Permian Basin four years ago, the company had an emissions problem. The oil and gas facilities it bought in the Texas oil field were sending more greenhouse gases into the atmosphere than those of its Permian peers. Now, BP is upgrading those traditional well sites with more emissions controls. And perhaps the biggest change, it has built a central oil and gas gathering and processing facility in West Texas, named Grand Slam, that allows BP to capture much of the gas that would have been burned off or vented into the atmosphere.

Built near BP's well sites north of Pecos, Grand Slam is essentially a network of tanks, pipes and other equipment for gathering, transporting and processing oil, gas and their byproducts. Instead of tanker trucks picking up oil from storage next to a well to process and sell, the oil — along with natural gas and any byproducts — is directly piped to the centralized Grand Slam facility so it can be processed and sent on to customers. BP built the facility from the ground up, and incorporated emissions controls into the design, aimed at controlling or eliminating the release of natural gas at connection points.

The facility is a cornerstone of BP's plans to produce oil with the fewest emissions possible, and the company is spending \$1.3 billion to build three more of the facilities in the Permian. So far, nearly every oil giant has a plan to reduce emissions and invest in new energy technologies, but most still plan to grow their oil and gas output. Most companies, that is, except BP, which aims to cut oil output by 40% worldwide by the end of the decade. It plans to sell off \$25 billion in oil and gas assets around the globe by 2025 and use the proceeds to help fund its growing renewables business.

#### **German utility, Mideast renewable energy firm strike hydrogen deal**

(Bloomberg; Dec. 22) - Germany's Uniper is teaming up with Masdar, one of the Middle East's biggest renewable-energy firms, to make green hydrogen in the United Arab Emirates. The two companies will build a plant that will run on almost 1.3 gigawatts of solar power and is expected to produce hydrogen from 2026, Masdar's executive director for green hydrogen, Mohammad Abdelqader El Ramahi, said in an interview.

Green hydrogen is seen as crucial to the global transition to clean energy. While still too expensive to compete with fossil fuels, it's widely predicted to grow into a mass market in the next decade. Green hydrogen emits no planet-warming gases when burned and is created when renewable energy — typically wind or solar power — is used to split water into hydrogen and oxygen. Nations in the oil- and gas-rich Middle East including

the UAE, Saudi Arabia, Oman and Egypt are investing billions of dollars in green and blue hydrogen. Blue hydrogen, less preferable than green hydrogen, is made by converting natural gas and capturing the resulting carbon emissions.

Uniper's shareholders agreed a €33 billion (\$35 billion) rescue this week that will lead to the utility's nationalization and avoid its collapse following a surge in natural gas prices in the wake of Russia's invasion of Ukraine. The German government expects Uniper to strengthen its climate targets in the coming years. Germany wants to eventually import large amounts of hydrogen to wean itself off coal and meet its 2045 net-zero target.

### **Maritime industry undergoing transformation in ship fuel**

(Japan Times; Dec. 25) - For a century, the world's oceangoing fleet has been powered by crude. The 50,000 ships plowing the seas consume more than 5 million barrels every day, not much less than all the aircraft in the sky. One in five of all the barrels produced in the world ends up burned in ship engines. Those days may soon be ending. After decades of resistance, the International Maritime Organization (the U.N. body that regulates shipping) is implementing measures to reduce shipping's carbon footprint.

The IMO wants to cut emissions intensity to 40% below 2008 levels by the end of this decade, with total carbon pollution by 2050 falling to half of 2008 levels. The fueling of ships is going through a revolution. Three years ago, almost all were powered by heavy fuel oil, or HFO, a sludgy refinery byproduct that often costs as much as a third less than crude. HFO is cheap, but it's nasty, too, with heavy sulfur content. In 2020, the IMO tightened its rules on sulfur emissions — ships that couldn't install pollution-control devices switched to cleaner diesel. Diesel now costs more than twice as much as HFO.

Faced with soaring fuel costs, shipowners are rapidly switching to alternatives. So far, the winner has been cleaner-burning liquefied natural gas. Some 98% of car carriers on order are now LNG-powered, along with 49% of cruise ships, 32% of bulk carriers, 28% of tankers and 26% of container ships, according to a study in 2021 by TotalEnergies. But the rising cost of diesel is making other fuels more attractive, too. Methanol made from natural gas and a 30-70 mix of biofuel and diesel are already competitive with the price of low-sulfur fuel oil, according to an October presentation given to the IMO.

But the holy grail for decarbonization is hydrogen. A ship fueled by hydrogen or its more easily stored compound, ammonia, could be more or less zero-carbon if the fuel was produced with renewable electricity. The costs for that would be several times higher than even the diesel being used at present, but there's already 136 ships on order that are designed to switch to ammonia or hydrogen when those fuels become available.

### **Norwegian ferry line will convert LNG-fueled ships to use cheaper oil**

(LNG Prime; Dec. 28) - Norwegian shipping firm Fjord Line said it will convert its LNG-powered vessels to be able to use low-sulfur marine gas oil, or MGO, due to high prices of liquefied natural gas. The company's ferries have single LNG-fueled engines and include the Stavangerfjord, which began operating in 2013, and its sistership, the Bergensfjord, which started operations in 2014. The 558-foot-long ships can carry vehicles and 580 passengers each.

"The conversion means that the ships will be able to switch between LNG and MGO as fuel, so that we ensure economically sustainable operations ... until LNG prices normalize," Fjord Line said in a statement. According to Fjord Line, Norway's Fosen Yard would be responsible for the dual-fuel conversion work which includes new engines from Wartsila. Work on Stavangerfjord will start in January with targeted completion by the end of May, with work on Bergensfjord to be completed by mid-June.

LNG priced in fuel oil terms at Rotterdam has cost an average \$1,802 per tonne in 2022, according to Ship & Bunker data, up by 137.3% from the average in 2021. The 2022 average MGO price at the hub was \$1,048 per tonne, up 83.1% on the year.

## **Japan reverses policy and returns to nuclear power**

(CBC; Canada; Dec. 24) - You'd never know Japan was in the throes of an energy crisis from a visit to the electric glow of Tokyo's Shibuya Crossing, with its beaming video billboards and speakers pumping music for the throng of pedestrians. But the Japanese government has been urging businesses and households to conserve power amid a critical supply shortage, the surging cost of imported energy, and the country's pledge to end its reliance on fossil fuels like coal.

Earlier this year, the government issued its first-ever power supply warning to stave off widespread blackouts, and there's concern about it again this winter. On top of asking people to turn things off when possible, government leaders have politely prodded them to don turtleneck sweaters and wear layers of warm clothes indoors to cut down on the need for electric heat. The campaign may not be dimming things in power-ravenous Shibuya, but it's made some people more aware of the gaping energy hole Japan is in.

"I'm aware of the problem, but I don't think there are many things we can do individually to help," said On Akatsuka, as she stood outside brightly lit Shibuya station. To ensure a stable power supply, Japan's government is proposing a significant reversal of energy policy and pushing a revival of its much-maligned nuclear industry. The dramatic shift includes plans to restart nine mothballed reactors by the end of this winter and seven more by next summer. That marks a reversal of the policy after the 2011 disaster when an earthquake and tsunami triggered a meltdown at the Fukushima Daiichi power plant.

## **Climate activists protest as Germany turns to coal and LNG**

(National Public Radio; Dec. 26) - It's rush hour on a cold, snowy morning in Berlin. Commuter traffic has come to a standstill at a highway exit on the western edge of the city as a dozen climate activists sit down on a pedestrian crossing in front of four lanes of cars and trucks. The activists belong to a group called Letzte Generation, or Last Generation. Like many scientists, they argue that it'll be too late for future generations to stop the climate crisis if governments don't act now.

"We're here today because we can't just look and see what the government is doing right now," says Lina Johnsen, a 24-year-old university student studying environmental science. "They're not taking overdue measures to protect future generation's lives." Germany is racing to replace Russian gas after Moscow cut off a key pipeline over the summer. At odds with the government's climate protection promises, Chancellor Olaf Scholz's governing coalition is investing more in fossil fuels, not less. It's firing up old coal plants and investing in liquefied natural gas import infrastructure to fill the void.

As a result, climate activists like Johnsen are carrying out increasingly disruptive protests on an almost daily basis. Some days it's on a major city thoroughfare; on others, the runway at Munich or Berlin airports. Sitting with others who've glued themselves to the road at a recent protest, Johnsen is blinded by the headlights of the vehicles the activists are holding up. Some of the drivers rev their engines out of frustration. Others get out of their cars and shout in anger.

## **U.S. natural gas production drops due to cold weather problems**

(Bloomberg; Dec. 27) - A record production decline in the largest U.S. natural gas basin came just as extreme cold sent demand booming for the commodity used to heat homes and fuel power plants, exacerbating the winter storm crisis that left millions in the dark. Supplies from the Appalachian Basin shrank by as much as 9 billion cubic feet, or 27%, from usual levels, according to BloombergNEF estimates based on pipeline flows. That's a record decline in data going back to 2013. Well freeze-offs sent production plunging by more than 20% in Pennsylvania, while output more than halved in Ohio.

The Arctic blast brought the biggest U.S. power grids to the brink of catastrophe, exposing the flaws of a system that's facing limited gas supplies and the unpredictability of solar and wind power. Consumers are bound to see higher utility bills after the event, which sent wholesale power prices surging. High winds downed power lines and transformers malfunctioned in the extreme cold, adding pressure to electricity supplies.

Gas drillers including EQT, the country's top natural gas producer, own massive producing assets in Appalachia, which accounted for more than half of U.S. production losses during the peak of the winter storm. That means suppliers were relying heavily

on storage inventories of gas held in salt caverns and depleted aquifers to keep up with demand. Issues were exacerbated by mechanical problems at pipeline infrastructure.

### **West Texas drillers dealing with more wastewater and earthquakes**

(Marketplace.org; Dec. 28) - In the past few weeks, the West Texas oil patch has been rocked by two 5.4 magnitude earthquakes that were among the largest in the state's recorded history. The region is one of the most active drilling areas of the Permian Basin. Research by a U.S. Geological Survey seismicity expert, Robert Skoumal, has shown that the vast majority of quakes have been triggered by oil companies pumping produced wastewater from the drilling process into the ground.

"The activities are not shaking the ground," he said. "It's more changing the stresses that are acting on these faults, and those stresses, in turn, cause these faults to slip, which then cause the shaking." This year alone — in the county where last month's big quake happened — companies have pumped more than 49 billion gallons of wastewater into the ground, according to data compiled by the analyst firm Rystad Energy. "It's an insane amount of water," said Rystad's Ryan Hassler.

These days in West Texas, Hassler said, there's a lot more wastewater coming up with drilling. "You're talking about anywhere between a 3:1 to a 6:1 barrel of water to barrel of oil recovery in these wells," he said. "The wells have gotten bigger, so with that we're seeing more (oil) production, but we're also seeing a lot more water." Regulators are still investigating the recent near-record quakes. In some parts of West Texas, they've taken direct action to shut down wastewater disposal sites. But around Orla, near November's big quake, they're mostly relying on promises and plans developed by oil companies.

### **Russia bans oil exports to countries that adhere to price cap**

(Wall Street Journal; Dec. 27) - Russia on Dec. 27 banned the sale of its oil and petroleum products to countries that put a cap on their sales price, in a move that threatened more uncertainty ahead for global energy markets. The Kremlin's action is an attempt to undermine a plan by the U.S. and its allies to bar the shipping, financing or insuring of seaborne Russian crude unless it is sold for \$60 a barrel or less — a sanction leveled in response to Russia's invasion of neighboring Ukraine.

A decree signed by President Vladimir Putin said exports would be banned from Feb. 1 to July 1 for any contracts that "directly or indirectly" adhere to the price cap. The order says Putin can create exemptions for countries following the price cap if he wants. How the Kremlin views oil contracts — and how broadly it provides exemptions — will shape whether it creates a major disruption to global markets. Many of Russia's crude exports

are now selling at market prices well below the \$60 cap, primarily to India, China and Turkey which haven't agreed to join the Western sanctions.

If the Kremlin decides to curb oil exports to non-Western buyers, it could reduce global supply and push up prices. If only the Western countries that crafted the price cap are targeted, the impact would be much more muted since they have already banned most Russian imports. "The decree is vague and provides Putin with options to keep exports going to selected countries complying with the cap," said Simone Tagliapietra, a senior fellow at the Bruegel think tank in Brussels. "This is a sign that Russia is in a vulnerable situation, needs oil revenues and therefore cannot take drastic retaliation measures."

### **Japanese buyers sign LNG contracts with Oman and U.S. developer**

(Reuters; Dec. 27) - Japanese companies have signed new several deals for liquefied natural gas supplies, with an up to 10-year agreement reached with Oman LNG and a 20-year deal signed with U.S.-based Venture Global on Dec. 27. Global LNG supply has been tight since Russia invaded Ukraine and cut gas flows to Europe, leading European nations to import record amounts of LNG, straining global supplies.

Top Japanese electricity generator JERA, and trading houses Mitsui and Itochu all signed supply deals with Oman LNG for a total of 2.35 million tonnes per year, Oman's state news agency ONA reported. JERA, Japan's biggest importer of LNG, said it had signed a key term sheet with Oman LNG to buy up to 12 cargoes, or about 0.8 million tonnes of LNG per year for 10 years, beginning from 2025. Mitsui and Itochu confirmed signing basic agreements with Oman LNG, but declined to give details.

Itochu, which already has a 20-year contract with Oman LNG to buy 0.7 million tonnes of LNG per year that will expire in 2025, will continue discussions with the seller to set details, a company spokesperson said. Other Japanese companies were also in talks with Oman LNG about term contracts, a government official told Reuters without naming the firms. Separately, Japan's top oil and gas explorer Inpex announced on Dec. 27 a 20-year deal with U.S.-based Venture Global LNG to import 1 million tonnes per year from the firm's Louisiana project due to begin construction in 2023.

### **Japan's LNG buyers assessing potential loss of maritime insurance**

(Bloomberg; Dec. 26) - Japan's buyers of Russian liquefied natural gas are assessing how imminent changes to shipping insurance — triggered by the ongoing war in Ukraine — will affect supplies from the key Sakhalin-2 project in Russia's Far East. Three Japanese insurance companies — Tokio Marine, Sompo and MS&AD Insurance Group — will stop providing cover for marine hull war risks in Russian, Ukrainian and Belarusian waters from Jan. 1, spokespeople for the companies told Bloomberg.

Any further disruption in shipments of the fuel will add to difficulties for resource-scarce Japan, which relies heavily on LNG imports, particularly from Sakhalin. Tokyo has repeatedly stressed the importance of Sakhalin-2 for maintaining the nation's energy security, especially as demand for heating fuel rises during the winter months.

Japan's top power producer, JERA, is assessing the impact to its LNG procurement, spokesperson Hirotaka Iwase said. Regional utility provider Kyushu Electric is receiving information from shipowners and will continue to watch the situation, a spokesperson said. Tokyo Gas and Tohoku Electric Power are also looking into potential impacts, spokespeople said. The challenges come as international reinsurers withdraw from underwriting Russia-related risks.

### **Japan asks insurers to take on risk of Russian LNG cargoes**

(Reuters; Dec. 27) - The Japanese government has asked insurers to take on additional risks to continue providing marine war insurance for liquefied natural gas shippers in Russian waters, a senior official at the industry ministry said. The Financial Services Agency and Agency for Natural Resources and Energy made the rare request in a joint letter to the country's general insurance association. Tokyo wants to ensure Japan will continue to import LNG from the Sakhalin-2 project in Russia, the official told Reuters.

LNG supply from Sakhalin-2 "is key for Japanese energy security," the official said. The move comes after Tokio Marine & Nichido Fire Insurance, Sompo Japan Insurance and Mitsui Sumitomo Insurance on Dec. 23 told shipowners that they would stop offering marine war insurance, which covers damage to ships from war in Russian waters, as of Jan. 1. The decisions came as reinsurance companies warned they would no longer take on vessels' risks related to war.

The Sakhalin Island complex in Russia's Far East, partly owned by Gazprom and Japanese trading houses, accounts for 9% of Japan's LNG imports. "Securing LNG is the top priority for the government, and we asked insurance companies to cooperate," an official at the Financial Services Agency said.

### **Developer of Texas project signs deal to send more LNG to China**

(Reuters; Dec. 27) - U.S. liquefied natural gas developer NextDecade announced it will increase the volume of LNG supplies under a sales and purchase agreement signed with China's ENN Natural Gas. Under the agreement, ENN, via a wholly owned subsidiary, will now purchase 2 million tonnes per year of LNG, up 0.5 million tonnes under the original agreement, according to a statement by NextDecade dated Dec. 27.

The LNG will come from the first three trains at NextDecade's proposed Rio Grande export project in Brownsville, Texas, and will be indexed to U.S. Henry Hub benchmark natural gas prices. Earlier in April, NextDecade announced it would supply 1.5 million tonnes per year of LNG to another unit of ENN for a 20-year term.

The U.S. company added that it is targeting a final investment decision on the first three trains of the export project in the first quarter of 2023, followed by FID on its remaining trains. China was the world's top importer of LNG in 2021, shipping in 78.8 million tonnes of the fuel that year. Of its total imports, nearly 9 million tonnes, or 11%, were from the United States, according to China's customs data.

### **Finland will start up first LNG import terminal next month**

(Associated Press; Dec. 28) - Finland's first floating liquefied natural gas import terminal was moored Dec. 28 at the southern port of Inkoo, where it will supply gas to the Nordic country that was cut off from Russian gas imports earlier this year amid the war in Ukraine. The 954-foot-long vessel Exemplar, which sailed to the Baltic Sea earlier in December, has a holding capacity of 68,000 tonnes of LNG (more than 3 billion cubic feet of natural gas) and is scheduled to start operations in January.

The Exemplar, owned by the U.S. company Excelebrate Energy, will ensure future availability of gas in Finland, replacing supplies earlier imported from Russia, the state-owned Gasgrid Finland said, calling the move historic. "Finland will permanently phase out its dependency on Russian gas and will greatly improve society's security of supply," said Gasgrid Finland CEO Olli Sipilä.

The vessel will regasify LNG to feed into the Finnish network for distribution. The arrival of the Exemplar will also enable gas deliveries to the Baltic states — Estonia, Latvia and Lithuania — and possibly also to Poland through the undersea Balticconnector pipeline between Finland and Estonia that runs near Inkoo. Finland had been importing Russian gas via a pipeline connection since 1974. Natural gas currently accounts for just some 5% of total energy consumption in Finland, a country of 5.5 million people.