

Oil and Gas News Briefs

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IEA forecasts renewables will overtake coal-fueled power by 2025

(Natural Gas Intelligence; Dec. 20) - Renewable sources of energy are collectively on track to eclipse coal as the world's leading source of electricity, with capacity growth forecast to nearly double in the next five years, the International Energy Agency said in a new report. IEA's Renewables 2022 report forecasts that abundant energy drivers such as wind and solar will account for more than 90% of global electricity expansion over the next five years and, along the way, will overtake coal by early 2025.

The agency expects the world's renewable capacity to increase by about 2,400 gigawatts between 2022 and 2027 — equal to the “entire installed power capacity of China today.” The “massive, expected increase is 30% higher than the amount of growth that was forecast just a year ago, highlighting how quickly governments have thrown additional policy weight behind renewables,” IEA researchers said.

They noted that countries across the globe, notably including the United States, are ramping up investments in renewable energy to reduce reliance on coal and oil in an effort to lower carbon emissions and slow climate change. Robust demand for natural gas, meanwhile, is widely expected to endure through the current decade and beyond, but IEA warned that gas supplies alone are not enough to meet the world's needs.

Germany increases short-term reliance on coal for power generation

(Bloomberg; Dec. 22) - Germany is set to boost its reliance on coal as it battles an unprecedented energy crisis — even at the expense of its ambitious climate goals. Europe's largest economy is burning the fossil fuel for electricity at the fastest pace in at least six years, data compiled by Bloomberg show. It's also poised to be one of the few nations to increase coal imports next year.

Across the globe, highly polluting — and relatively cheap — coal is making a comeback as countries seek to prevent soaring energy costs from triggering economic meltdowns. In Europe, the crisis is acute, after Russia curbed natural gas supplies in the fallout of its war in Ukraine. Germany is now trying to balance the short-term priority of bolstering energy security with the longer-term goal of net-zero emissions.

“Everyone is keeping their climate targets, but it's true that when you face the dilemma to keep the lights on or decrease carbon emissions, the choice is to keep the lights on,” said Carlos Fernandez Alvarez, the acting head of gas, coal and power at the International Energy Agency. Germany plans to phase out coal use by 2038, but the

ruling coalition is pushing for an even earlier target of 2030. To weather the current crisis, the country has temporarily brought back some coal plants that were offline.

Germany now generates more than a third of its electricity from coal plants, according to Destatis, the federal statistical office. In the third quarter, its electricity from coal-fired generation was 13.3% higher than the same period a year earlier, the agency said.

Permian producers try wastewater recycling instead of reinjection

(The Texas Tribune; Dec. 19) - Fracked wells in West Texas don't just produce petroleum. Much more than anything else, they spit up salty, mucky water. Typically, companies have discarded that fluid, hundreds of millions of gallons per day, by injecting it back underground, occasionally causing small earthquakes. But as water becomes more scarce, companies are beginning to reconsider their water handling.

For now, hydraulic fracturing in arid West Texas uses large amounts of fresh aquifer water to crack open subterranean shale rock, unleashing a mixture of oil, gas and fossil brine 10 times as salty as the sea. Increasingly, frackers are starting to reuse that brine, easing the burden on aquifers. "We've just month by month seen extraordinary growth in the volumes we are managing," said Matthew Gabriel, CEO of XRI Holdings, which recycles oil field wastewater in the Permian Basin, the nation's top oil-producing region.

This month, XRI announced a 230-mile expansion to its 450-mile Permian pipeline network, which carries water from oil fields to treatment plants and back. XRI is also adding three more treatment plants to its existing 30 facilities. Fracking doesn't require particularly clean water and the treatment to prepare it is pretty simple, Gabriel said. It's the pipeline network that makes it economical, providing the equivalent of oil field plumbing to replace the laborious process of trucking in water and trucking out waste.

Texas convened water experts for a state-funded study of recycling of wastewater from oil wells. Released this year, the Texas Produced Water Consortium report estimated Permian wastewater production at approximately 11 million barrels, or 462 million gallons, per day in 2019, the last year of data. Since then, the figure has likely increased in step with soaring Permian oil and gas output. Underground disposal remained a much cheaper option than reuse, the report said, but might not be for long.

New York climate council votes to phase out fuel-burning furnaces

(Syracuse.com; Dec. 19) - A New York state commission on Dec. 19 approved plans to phase out fossil fuel-burning home furnaces beginning as soon as 2025 as part of the state's aggressive program to address climate change. The plan adopted by the state

Climate Action Council requires energy-efficient electric heat pumps or other non-combustion heating systems in every new home built in 2025 or thereafter.

For existing homes, residents whose fossil fuel-burning heating units give out after 2030 will have to replace them with a zero-emission system. Those are just two of the many policies in a 445-page plan adopted by the council, a 22-member commission made up of state agency leaders, environmental experts, energy industry leaders and others.

Some of the policies approved in the council's "final scoping plan" require further action before they can be enforced. The new regulations on heating systems, for example, will require changes to the state building code. Other changes may require new legislation. But the council's plan is now the official policy for how state government will meet goals for greenhouse gas reduction required under a state law passed in 2019.

Residents in coastal Italian town fight against LNG import terminal

(Wall Street Journal; Dec. 19) - Italy's ability to keep homes warm and the lights on beyond this winter hinges partly on a liquefied natural gas import terminal off the Tuscany coast. Roberta Degani is fighting it tooth and nail. "I don't want it here, not even for a day," says Degani, a 59-year-old from Piombino, the port town chosen to host the gas-filled vessel. "It puts the whole city in danger." Most of her fellow townspeople feel the same. The issue is in court, awaiting a decision.

The struggle in Tuscany illustrates the difficulties that Europe faces as it moves to cut its dependence on Russian energy. Europe is rushing to replace Russian gas, including by importing more LNG from suppliers including the U.S. and Qatar. For that, however, Europe needs more LNG terminals. Dozens of new terminals are being set up, but the challenges are formidable, ranging from getting major projects approved and built within months instead of years, to opposition from climate-change activists and residents.

The job of LNG terminals, such as the floating facility intended for Piombino, is to store the superchilled liquid delivered by tankers, returning it to gaseous form for injection into the grid. The Italian government identified Piombino as the site that would allow the first of those vessels to start operations in the shortest possible time; it's due to go online in May. But labor unions, right-wing politicians, climate activists and communists in Piombino have united behind slogans such as "Piombino is not for sale" and "The regasification unit is death." Many say it would be like having a giant bomb in their port.

Investments slow to materialize for hydrogen projects in Australia

(Bloomberg; Dec. 18) - Australia has only one committed hydrogen project out of a vast pipeline of resource development proposals worth A\$266 billion (US\$178 billion),

showing the challenge in becoming a major exporter of the zero-carbon but still unproven fuel. Investment in the country's huge fossil fuel sector, meanwhile, has continued apace, with oil and gas accounting for 55% of major projects in development, government figures show.

The world's second-biggest exporter of coal and liquefied natural gas has in recent years talked up its potential to be a clean-power and transition-minerals superpower. Green hydrogen, which is manufactured using renewable energy, is central to this ambition. But the majority of hydrogen feasibility studies have ended in failure, with developers concluding that projects cannot stand up commercially, the government said in its report Dec. 19. Only A\$100 million has been committed to hydrogen so far.

"Most feasibility studies have concluded that significant government support is still required for low-carbon hydrogen projects to be commercially viable," the report said. Major companies including BP, Macquarie and Fortescue Metals have plans for ambitious hydrogen projects in Australia. But as yet big capital is overwhelmingly betting on carbon-emitting fossil fuels. New investment in natural gas — which unlike hydrogen has an established market — is booming, with A\$46 billion of investment committed.

[U.S. turns a profit by selling oil reserves when prices were higher](#)

(Wall Street Journal; Dec. 19) - Volatile energy markets have made 2022 a big year for commodity traders. One of the biggest and perhaps most unlikely winners: The U.S. government. Emergency releases of crude from the U.S. Strategic Petroleum Reserve (SPR) are slated to end this month, concluding an unusual attempt to push down gasoline prices after Russia's invasion of Ukraine sent global oil prices soaring.

Over the release period, Washington sold 180 million barrels of crude at an average of \$96.25 a barrel, well above the recent market price of \$74.29 — meaning the U.S., for now, is almost \$4 billion ahead. The price of West Texas Intermediate for delivery next month is down 40% from its wartime peak, reflecting concerns that China's pandemic reopening isn't juicing global demand. The question is whether the good news will last.

While the U.S. government is starting to buy up crude to refill its reserves, many analysts expect oil prices to rebound next year as the Chinese economy comes back online. It is unclear how much oil Washington ultimately will buy. "Fortunately, we sold high," Douglas MacIntyre, deputy director for the Energy Department's Office of Petroleum Reserves, told a Senate Energy Committee hearing this month.

[New England getting foreign LNG delivery this week](#)

(Reuters; Dec. 20) - New England will get another load of much-needed liquefied natural gas for the winter heating season in the coming days from a vessel full of the fuel on its way to Boston Harbor. That would be the second LNG cargo from Trinidad and Tobago to go to the U.S. Northeast this winter. The first arrived in November.

New England depends on LNG and oil to fuel some power plants on the coldest days when most of the pipeline gas available to the region is used to heat homes and businesses. About half of the power generated in New England comes from gas-fired plants. The Cadiz Knutsen was expected to reach U.S. energy company Constellation Energy's Everett LNG import terminal in Massachusetts on Dec. 21.

Foreign LNG cargoes to the port are down from previous years as New England gas buyers are competing with European utilities which are willing to pay around \$33 per million Btu for gas compared with just \$5 in the United States. The Massachusetts terminal has imported just 18.1 billion cubic feet of gas as LNG during the first 11 months of this year. That is down from 19.8 bcf during the same period in 2021 and the five-year (2017-2021) average of 35.9 bcf, according to federal energy data.

China imports record volume of Russian LNG

(Bloomberg; Dec. 21) - China imported record quantities of Russian liquefied natural gas last month, while oil and coal imports also surged as other buyers shunned Russian energy products as punishment for its invasion of Ukraine. Russian LNG sales to China doubled from a year earlier to 852,000 tons in November, despite a 5.4% decline in China's total purchases of the fuel, according to Chinese customs data. Gas piped from Russia may have risen as well, in line with increased total pipeline imports, although China hasn't broken out how much comes from its neighbor since the start of the year.

Overall purchases of Russian energy, including oil products, hit \$8 billion in November, from a revised \$7.8 billion in the prior month. The total now stands at \$68 billion since the war in Ukraine began, from \$41 billion over the same period last year. The record for a single month was the \$8.4 billion set in August.

Oil imports from Russia in November rose 17% from a year earlier to 7.81 million tons, the highest total since August and overtaking Saudi Arabia as China's top supplier. Russia's overall seaborne crude shipments have since collapsed after the Group of Seven nations imposed measures targeting Moscow's petroleum revenues earlier this month, including a drop-off in cargoes to Asia affected by the terms of the sanctions.

Shipyard delays could push more Russian LNG to Europe short term

(High North News; Dec. 19) - Western sanctions targeting Russia's shipbuilding sector are likely to result in greater volume of Russian LNG flowing toward Europe starting in 2023. A shortage of specialized ice-class tankers will redirect cargoes from Novatek's new LNG project from Asia to Europe. Novatek's next Arctic LNG plant is slated to open in 2023, but due to sanctions against the Russian shipbuilding sector the gas carriers intended to transport the LNG — currently under construction at the Zvezda shipyard in Russia's Far East — will be delayed by at least one year.

Originally, Novatek had aimed to deliver 80% of LNG from its new plant to Asia, but without a sufficient number of tankers the company will likely elect to ship its gas along the much shorter route to Europe. Western sanctions targeting the shipbuilding sector could have the unintended consequence of sending more Russian LNG to Europe. Based on recent news, Novatek has managed to overcome Western sanctions targeting construction of its plant and aims to complete its Arctic LNG-2 project largely on time.

Its shipbuilding partner, however, faces a significant delay in producing much-needed Arc7 LNG carriers. The specialized ships are key to transporting liquefied natural gas from the Arctic to markets in Europe and Asia. Novatek and its partners already operate a fleet of 15 Arc7 carriers, highly ice-capable tankers, shuttling gas from the Yamal LNG project. For Arctic LNG-2, the company had ordered an additional 21 vessels. The first batch of five tankers at the Zvezda shipyard faces substantial delays of up to a year.

[Europe's cap on natural gas prices could help avert spikes](#)

(Bloomberg; Dec. 19) - Europe's move to cap natural gas prices at home is expected to also avert sharp swings for prices in Asia, potentially keeping a lid on global energy markets if it's implemented as planned next year. Liquefied natural gas importers in Europe and Asia compete for supply from the same exporters, such as the U.S. and Qatar. And Asian LNG prices closely follow moves in Europe, with the two markets becoming closely linked over the past year as importers fought for available cargoes.

Now that the European Union has agreed to put a ceiling on its gas benchmark, the region's importers may be unable to significantly increase their bids to take LNG supply away from Asia. That could also reduce the likelihood of runaway bidding wars — and price spikes — for spot LNG shipments. Still, the price cap in Europe is controversial because it may steer supply away from the bloc. The industry has warned that LNG cargoes will favor Asia if prices there are higher than the caps in Europe.

In addition, a price ceiling without an associated cap on demand risks making Europe's gas supply deficit worse by encouraging consumption, Goldman Sachs analysts said in a report Dec. 19. That could tighten global supply and, in a worst-case scenario, force governments to ration gas. The EU has agreed to cap gas prices at €180 per megawatt-hour, roughly \$56 per million Btu. For the trigger, gas prices must be above the ceiling

for three days and also above LNG prices to a certain degree. If the cap had been in effect in 2022, it would have been used over 40 days in August and September.

Texas LNG developer signs up Portuguese buyer to 20-year deal

(LNG Prime; Dec. 20) - NextDecade, the developer of the Rio Grande LNG export plant in Texas, has signed a long-term deal to supply liquefied natural gas to Portuguese energy firm and LNG player Galp. Under the 20-year deal, Galp would buy a million tonnes per year of LNG, according to a statement the company released on Dec. 20. Commercial deliveries from Next Decade's project could start as soon as 2027.

Galp's volumes and prices are indexed to the U.S. Henry Hub natural gas benchmark plus a fixed liquefaction fee, it said. NextDecade and engineering and construction giant Bechtel is moving forward with early construction works to prepare the Rio Grande site located in the Port of Brownsville, Texas. NextDecade said in a separate statement it is targeting a positive final investment decision on the first three liquefaction trains of the project during the first quarter 2023, with FIDs of its remaining trains to follow thereafter.

The full Rio Grande project could include five trains with a capacity of 27 million tonnes per year. Besides this contract with Galp, NextDecade has signed several LNG supply deals this year, including with ExxonMobil, China's Guangdong Energy, China Gas, ENN and France's Engie. Last month, NextDecade won a two year-extension from the Federal Energy Regulatory Commission to put the plant into service by November 2028.

U.S. regulator approves re-export of U.S. gas as LNG through Mexico

(Reuters; Dec. 20) - The U.S. Energy Department on Dec. 20 approved permits for Sempra Energy to send U.S. natural gas to Mexico for re-export as LNG, filings on its website showed. The permits allow Sempra to ship gas via pipeline to Mexico where it will be converted to liquefied natural gas and sent to global markets. The LNG will be exported from Sempra's Energy Costa Azul terminal on the Baja Peninsula — which is being built in two phases, the first of which is expected to be completed in mid-2025 — and from Vista Pacifico, which has not yet begun construction.

The authorizations allow Sempra to export an LNG equivalent of 475 billion cubic feet per year of gas from the proposed Costa Azul facility, and 200 bcf a year from Vista Pacifico. While the permits will do nothing this year to help Europe as it faces an energy crisis, they will eventually add alternatives to Russia LNG for buyers, particularly in Asia.

Opponents seek FERC rehearing of Louisiana LNG project approval

(S&P Global; Dec. 20) - Environmental groups are seeking a rehearing of the Federal Energy Regulatory Commission's recent authorization of the Commonwealth LNG project, accusing the agency of an "ostrich-like" approach to gas projects that "falsely claims" FERC is powerless to evaluate some environmental effects. The litigation continues the pattern of opposition confronting LNG projects and expansions along the U.S. Gulf Coast and also delves into the environmental justice implications of cumulative fossil fuel, petrochemical and other industrial facilities in the region.

The commission Nov. 17 unanimously approved the LNG facility in Cameron Parish, Louisiana, despite some commissioners' concerns related to environmental justice impacts or other outstanding permitting matters. The project is proposed at 8.4 million tonnes of production per year. At the time of the decision, FERC Chairman Richard Glick said he voted in favor of authorizing the project because federal law requires approval unless the record shows the project is contrary to the public interest.

The Sierra Club, Natural Resources Defense Council, Center for Biological Diversity, Healthy Gulf, Louisiana Bucket Brigade, National Audubon Society and Turtle Island Restoration Network filed a request for rehearing Dec. 19 on multiple grounds. Seizing on Glick's concurrence, the groups alleged that FERC failed to articulate a "coherent" standard for the exercise of its authority and failed to engage in a meaningful balancing of benefits and harms.

Norwegian LNG partners will switch plant to run on electricity

(Reuters; Dec. 20) - Equinor and its partners in the Arctic Snoehvit offshore gas field will invest 13.2 billion Norwegian crowns (US\$1.34 billion) to upgrade the Hammerfest liquefied natural gas plant, which processes the output, the government and companies said on Dec. 20. Hammerfest LNG, also known as Melkoeya, delivers about 230 billion cubic feet of natural gas as LNG per year, enough to cover energy demand for about 6.5 million European homes, or 5% of all Norwegian gas exports, the companies said.

Equinor and its partners plan to install onshore gas compressor units at Melkoeya, which will extend production from Snoehvit, they said. The plant has operated since 2007. "These investments, which allow us to utilize the capacity at Hammerfest LNG for decades to come, are key to ensuring Norway remains a long-term, predictable supplier," Minister of Petroleum and Energy Terje Aasland said in a statement.

The companies will also replace the Hammerfest plant's gas turbine generators with an onshore power connection, cutting carbon dioxide emissions by 850,000 tonnes a year. Norway runs on hydroelectric power, and the electrification project means the nation's transmission system operator will build a high-voltage power line to Hammerfest. "The project will secure long-term ... gas exports from Melkoeya toward 2050," Geir Tungesvik, Equinor's head of projects, drilling and procurement, said in a statement.

Nuclear reactor maintenance cuts further into French power supply

(Bloomberg; Dec. 19) - Electricite de France has extended maintenance halts at two nuclear reactors by four months and warned it may have to carry out lengthy repairs at seven others next year, further straining European power supplies. The world's largest nuclear fleet has suffered prolonged shutdowns this year that have left Europe even more reliant on natural gas at a time of record prices. While EDF has returned many nuclear units to service in recent weeks, its aging plants look set to run far below optimal capacity this winter. That could worsen an energy supply crisis.

France has been forced to import power, having traditionally been a major exporter to neighboring countries. Its reactors are now running at just over two-thirds of typical capacity. That means more electricity will have to come from gas, eating into European storage that's become more difficult to refill after Russia cut supplies. France's grid operator has flagged the risk of a potential power shortfall in the colder months as heating demand rises while EDF continues to grapple with reactor repairs.

Multiple plant shutdowns have resulted from stress corrosion cracks on pipes in the reactors' cooling systems. Since EDF uncovered the problem at the end of 2021, it has found that 16 of its 56 reactors are more prone to the issue than its older units because of their designs. Ten of these have been fixed this year or are still undergoing repairs. On Friday, the utility said it's now considering fully replacing the cooling-system pipes on the remaining six "sensitive" reactors as a preventative measure.

China completes \$24 billion hydropower dam on Yangtze River

(Reuters; Dec. 20) - China's second-largest hydropower facility on the upstream branch of the Yangtze River was formally completed on Dec. 20 after the last generating unit was connected to the grid, state broadcaster CCTV said. The Baihetan hydropower plant is equipped with 16 one-gigawatt turbines, making it the second-largest hydropower generator in China and the world, behind only the Three Gorges Project, also on the Yangtze.

The plant is estimated to generate 62.44 billion kilowatt-hours annually, CCTV said, which could save about 90.45 million tons of coal a year and cut annual carbon dioxide emissions by 248.4 million tonnes. Baihetan is one of six giant hydropower stations along the Yangtze, China's longest river. The Three Gorges Corp., the project's developer, has described the 948-foot-tall dam and its associated infrastructure as one of the country's biggest and most challenging engineering projects.

Construction began in 2017, with a total investment estimated at 170 billion yuan (\$24.38 billion). As a major project in China's west-east power transmission program, it will deliver electricity across the country to cities in the east. China is pressing ahead

with hydropower construction in the southwest, despite a long and punishing drought this summer that saw generation volumes plunge and forced regions to ration power.