

# Oil and Gas News Briefs

## Compiled by Larry Persily

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#### **Analysts say release from U.S. oil reserves only a temporary help**

(Bloomberg; March 31) - The administration's plan to release about 1 million barrels a day from U.S. government oil reserves for six months helped drive down crude prices by almost \$7 a barrel on March 31. And while the release will help the market this year, analysts said it won't solve a structural deficit for oil, including Damien Courvalin of Goldman Sachs. The release would reduce the amount of price-induced demand destruction, but it's not a persistent source of new supply for coming years, he said.

The release would help cap oil prices in the short-term, but it's unlikely to make up for the losses of Russian oil, said Jeffrey Halley, a senior market analyst at Oanda Asia Pacific. In the longer run, it means the U.S. reserves will be substantially reduced when demand climbs over the U.S. summer driving season, a potential upside for oil prices.

A constant stream of new supply is what the market really needs to ease prices, said Vandana Hari, of Vanda Insights in Singapore. It needs to be seen whether the move will be enough to knock down rising prices, or change the perception that such releases are little more than bandages, said Stephen Innes, of SPI Asset Management.

Previous releases have done little to ease the market but the size of the latest move could have a more lasting impact on prices, said Suvro Sarkar, an energy analyst at DBS Bank in Singapore. The impact will depend on how the release occurs — whether it's via direct sales or replacement. The U.S. currently holds about 570 million barrels in the reserves — the lowest since 2002. While the news could lower prices in the short term, it could lead to increased demand in the longer term to refill the reserves, he said.

#### **Other nations will join U.S. in releasing oil reserves**

(The Wall Street Journal; April 1) - Western nations and their allies have agreed to release oil from their reserves, joining the U.S. in trying to tame crude prices that have soared in the wake of Russia's invasion of Ukraine. The International Energy Agency — whose members include the U.S., most of Europe, Canada, Mexico, Japan and South Korea — said it would announce the amount of the release early next week. The IEA said its members have 1.5 billion barrels of oil in reserve.

The Biden administration on March 31 ordered the release of 180 million barrels of oil from U.S. reserves over six months, the largest ever planned drawdown of the nation's emergency energy stocks. The move aims to further cushion the West as it moves to

stop importing oil from Russia, the world's second-largest exporter of crude after Saudi Arabia and the world's third-largest producer.

IEA nations on March 1 tried to bring down prices by announcing the release of 60 million barrels of their reserves onto the market. Prices instead rose over the following week as traders feared continued escalation of the war in Ukraine. Last year, Russia exported 4.7 million barrels of crude oil a day, according to the IEA. The decision to tap oil reserves came after Western governments couldn't persuade OPEC nations to boost production, analysts said. "It is a reflection of the fact that the initial diplomatic outreach has failed," said Joel Hancock, lead energy analyst at Natixis.

### **Draw on U.S oil reserves will reduce stockpile to lowest since 1984**

(The Wall Street Journal; March 31) - President Joe Biden will tap up to 180 million barrels of government oil reserves to help tamp down near-record high fuel prices, an unprecedented intervention into oil markets following Russia's invasion of Ukraine. The oil release — about 1 million barrels a day for six months, starting in May — would be the biggest-ever drawdown from the country's stockpile of roughly 568 million barrels.

Biden also called on Congress to pass a law pushing oil companies to drill faster when they have leases on federal lands, including imposing fees for unused leases. "The action I'm calling for will make a difference over time," Biden said. "But the truth is it takes companies months, not days to increase production. ... This (reserves release) is a wartime bridge to increase oil supply until production ramps up later this year."

Biden's remarks drew criticism from the oil industry, which said that he unfairly blamed U.S. companies for not pumping more oil in response to shortages stemming from the Russian invasion and economic rebound from the pandemic. The administration has also repeatedly asked OPEC to boost output, which the cartel has repeatedly rejected. This newest release would leave U.S. government reserves with less than 400 million barrels, the lowest level since 1984, according to data from the U.S. Energy Information Administration. The reserves held almost 700 million barrels as recently as 2017.

### **Oil trader says drop in crude prices doesn't reflect risks**

(Bloomberg; April 3) - Oil prices have fallen to levels that don't reflect the risk of disruptions to Russian exports or the ability of China to keep the coronavirus pandemic under control, according to the world's biggest independent crude trader. While Brent surged to almost \$140 a barrel soon after Russia's attack on Ukraine in late February, it fell 13% last week to about \$104, due in part to the U.S. announcing an unprecedented release of strategic reserves to tame fuel prices and virus cases rising in China.

Those developments overshadowed the potential for less oil from Russia in the months ahead. Traders, shippers, insurers and bankers are wary of taking on Russian barrels as Western governments sanction Moscow for its invasion. "Oil feels cheaper than most would've predicted," Mike Muller, Vitol Group's head of Asia, said April 3 on a podcast produced by Dubai-based Gulf Intelligence. "Oil prices could be higher given the risk of disruption of supplies from Russia. But people are still lost figuring out those numbers."

Flows of Russian crude and oil products may be down between 1 million and 3 million barrels a day through the third quarter, according to Muller. The country normally exports an average of 7.5 million barrels a day. He also believes there is less chance of the nuclear agreement between Iran and world powers being revived in the coming months, adding further strain to hopes of lower oil prices. A deal limiting Iran's atomic activities would lift U.S. sanctions on its oil exports, enabling it to ramp up production.

### **OPEC+ takes just 12 minutes to make no change in oil plans**

(Bloomberg; March 31) - OPEC and its allies, including Russia, stood back from the crisis engulfing oil markets, refusing to deviate from their schedule of gradual production increases. The cartel ratified the 432,000 barrel-a-day supply increase scheduled for May at a 12-minute online meeting March 31, according to a statement. The decision was in line with expectations. At its previous meeting in early March, the group hurried through in just 13 minutes without discussing the Russia-Ukraine crisis that was dominating global commodities markets.

Maintaining a good relationship with Russia has been significant both economically and politically for OPEC, especially for Saudi Arabia and the United Arab Emirates. The alliance has allowed the two Gulf exporters to bolster their control over world crude markets while lessening their reliance on Washington. That's been particularly critical for Riyadh, as early in his presidency President Joe Biden sought to sideline Crown Prince Mohammad bin Salman following the killing of columnist Jamal Khashoggi.

One change that did emerge from the OPEC+ gathering is the decision to exclude from OPEC's crude-production estimates any data provided by the International Energy Agency, delegates said. It's a minor technical change intended mainly as a public snub to the agency that represents the interests of oil consumers and plays a key role in coordinating releases from emergency stocks.

### **High oil and gas prices contribute to rich export revenues for Russia**

(Bloomberg; April 1) - Russia's economy has staggered through the first full month of the war with Ukraine but it may yet emerge with a sparkling balance sheet if some of its biggest trade partners don't turn off the tap on its exports of energy. For all the

hardships visited on consumers at home and the financial chokehold put on the government from abroad, Bloomberg Economics expects Russia will earn nearly \$321 billion from energy exports this year, an increase of more than a third from 2021

It's also on track for a record trade surplus, which the Institute of International Finance said may reach \$240 billion. "The single biggest driver of Russia's current account surplus continues to look solid," IIF economists said in a report. "(Even) with current sanctions in place, substantial inflows of hard currency into Russia look set to continue." The calculus may change if there is a full embargo on energy sales. But even without it, Russia's oil exports and output are already falling, with the International Energy Agency predicting it may lose nearly a quarter of its oil production this month.

Many of Russia's traditional customers are looking elsewhere and choosing not to sign new contracts for supplies amid widespread condemnation of President Vladimir Putin's aggression. Others like India are getting steep discounts. Oil and gas account for half of Russia's exports and contributed about 40% to last year's budget revenue.

### **India's state refiners double down on discounted Russian crude**

(Bloomberg; April 1) - India will continue buying cheap Russian oil in the nation's interest, Finance Minister Nirmala Sitharaman said, even as pressure mounts to isolate Kremlin. "We have started buying, we have received quite a number of barrels ... and this will continue," Sitharaman said at a CNBC event on April 1. "India's overall interest is what is kept in mind."

Indian state refiners have been doubling down on Russian barrels that are being shunned by European buyers since the beginning of war in Ukraine. The country has contracted Russian crude oil for deliveries over the next three to four months, Oil Minister Hardeep Singh Puri said last week. Russia is offering more oil to India at a discount of as much as \$35 a barrel on prices before the war, Bloomberg News reported March 31. "I would put my energy security first. If the fuel is available at a discount, why shouldn't I buy it?" Sitharaman asked.

The comments come in the backdrop of Russian Foreign Minister Sergei Lavrov's visit to the country which has stayed away from outrightly condemning Russia, despite pressure from the U.S. and its allies. Crude at a discounted rate can help keep a check on prices in India, which imports 85% of its oil. Fuel retailers have started passing high prices to consumers, putting pressure on the government to slash fuel duties.

## **Iraq's March oil exports worth \$11 billion, most in 50 years**

(Al Jazeera; April 2) - Iraq's oil ministry says the country exported \$11.07 billion of oil in March, the highest level in 50 years, as crude oil prices soared in the wake of Russia's invasion of Ukraine. The record oil exports, which account for more than 90% of Iraq's income, is a big boost to the state coffers. The second-largest producer in the Organization of the Petroleum Exporting Countries, Iraq exported 100 million barrels in March, the ministry said.

In February, oil revenues reached an eight-year high of \$8.5 billion, with daily exports of 3.3 million barrels of oil. Oil revenues are critical for Iraq's government, with the country mired in a financial crisis and needing funds to rebuild infrastructure after decades of devastating war. Iraq, with a population of some 41 million people, is also grappling with a major energy crisis and suffers regular power cuts.

Despite its immense oil and gas reserves, Iraq remains dependent on imports to meet its energy needs. Neighboring Iran currently provides a third of Iraq's gas and electricity needs, but supplies are regularly cut or reduced, aggravating daily load shedding.

## **Guyana gives Exxon permission to start work on next oil project**

(Reuters; April 1) - ExxonMobil on April 1 received approval to begin work on its fourth offshore oil project in Guyana from the South American country's Environmental Protection Agency. The permit will allow Exxon to begin construction and operation of its Yellowtail project, the latest of up to 10 discoveries expected to be producing oil this decade. A final decision by Exxon on funding the project is pending.

Since Exxon and partners Hess and China's CNOOC started exploring off the coast in 2015, they have found more than 10 billion barrels of oil and gas. Yellowtail was the consortium's 13th discovery in the Stabroek block, an area covering 6.6 million acres and one of the largest finds in South America. Earlier this year, Exxon started up a new floating production, storage and offloading vessel that will bring total oil production capacity at its existing operations this year to more than 340,000 barrels per day.

When output begins in 2025, Yellowtail will pump up to 250,000 barrels per day, the company has said. Exxon has proposed a development plan that would require up to three ships drilling up to 67 wells. The Guyana permit prohibits routine flaring and venting of natural gas during operation and requires Exxon to keep an undersea device, called a capping stack, that can seal a well in event of an accident, according to a statement by the Guyana EPA. It also required that the partners provide a guarantee that indemnifies Guyana in event the consortium fails to meet its obligations.

## **China's LNG importers see opportunity with cheap Russian gas**

(Bloomberg; April 4) - China's top liquefied natural gas importers are cautiously looking to purchase additional Russian shipments that have been shunned by the market in a bid to take advantage of cheap prices. State-owned companies including Sinopec and PetroChina are in discussions with suppliers to buy spot cargoes from Russia at a deep discount, according to people with knowledge of the matter. Several LNG shipments were already purchased by Chinese importers in the past few weeks, traders said.

Most LNG importers around the world won't buy Russian cargoes out of fear of future sanctions or damage to reputation, as the war in Ukraine drags on and the European Union ratchets up pressure against Moscow. Chinese firms are emerging as some of the only companies willing to take on that risk, similar to China's oil refiners which are also discreetly purchasing cheap Russian crude that the rest of the world doesn't want.

Russian LNG is trading at more than a 10% discount to normal North Asia shipments in the spot market, according to traders. Spot prices surged to a record last month due to the war in Ukraine, which is tightening supplies just as global consumption rebounds. China isn't in dire need of LNG as milder weather and COVID-19 lockdown fears have curbed spot demand, but Russian gas at a deep discount could help top up storage tanks before prices rise again this summer.

## **U.S. LNG exports set new record, with 65% of volume going to Europe**

(Reuters; April 1) - U.S. liquefied natural gas exports rose nearly 16% last month to a record, according to preliminary Refinitiv data, with shipments to Europe continuing to dominate. U.S. LNG is in high demand as Europe tries to cut gas imports from Russia following its invasion of Ukraine while also looking to rebuild low inventories. U.S. LNG exports to all destinations totaled 7.43 million tonnes last month, according to Refinitiv, up from 6.4 million in February and topping the prior record of 7.25 million in January.

Europe was the top importer of U.S. LNG for a fourth straight month, taking about 65% of U.S. exports, which increased as new capacity came online in March. About 12% of exports went to Asia, and 3% to Latin America, the data showed. While U.S. LNG exports to Europe have ripped higher since November, analysts said more is needed with European gas inventories only about a quarter full, below the five-year average of 34% for this time of year. The European Commission has proposed inventories be 80% full by Nov. 1, which could keep demand strong after the winter heating season ends.

As many as 19 LNG tankers were near or on the way to U.S. Gulf Coast export terminals on April 1, according to data from Refinitiv Vessel Tracking service. Global LNG prices remained high in March, with European prices still drawing demand from Asia. The European LNG benchmark this week traded at \$39.22 per million Btu,

according to Refinitiv, compared to \$28.61 for the same week in February. Asia spot gas this week traded at \$35, according to Refinitiv, down from \$37.50 in February.

### **European demand for gas may help unlock U.S. projects**

(Bloomberg; March 30) - Russia's invasion of Ukraine has thrust liquefied natural gas into the international spotlight. While demand for LNG has been strong in Asia, Europe has been slow to embrace it as an alternative to cheaper, piped gas from Russia. That changed when a war broke out, sending already volatile gas prices surging. The U.S. has committed to working with international partners to boost supplies of LNG to Europe to about 1.8 trillion cubic feet annually by 2030.

Six years after the first cargo of American shale gas sailed out of Cheniere Energy's Louisiana terminal, the U.S. is vying with Qatar and Australia for the title of world's top LNG exporter. U.S. exports alone won't be enough to wean Europe off Russian gas completely, at least in the short term. Even operating at full tilt, the seven LNG export terminals stateside would meet only about a third of Europe's daily gas demand.

The facilities cost billions of dollars and take years to build, and a lack of financing has created a bottleneck: Roughly a dozen proposed terminals authorized by U.S. regulators over the past several years haven't been built because developers are still trying to line up funds. And Europe doesn't have enough import facilities to absorb a significant increase in tanker traffic. Nevertheless, political support for U.S. LNG has never been higher, creating tailwinds for companies trying to develop projects.

"Europe's divorce with Russia, its longtime energy supply partner, leaves an absolutely massive growth opportunity for U.S. LNG exporters," said Sean Morgan, an LNG industry analyst at Evercore ISI, who calls it a "once-in-a-generation" shift.

### **Russia's LNG exports remain strong as buyers need the gas**

(Bloomberg; March 30) - Russia's liquefied natural gas exports have remained strong since the invasion of Ukraine, highlighting how buyers from France to Japan are reluctant to halt deliveries of the fuel. LNG exports from Russia in March are roughly on par with deliveries a month ago, and are up 10% compared to a year earlier, according to ship-tracking data compiled by Bloomberg. Russia is poised to be the world's fourth-largest exporter this month, behind the U.S., Australia and Qatar, the data showed.

Governments around the world are condemning Russia's war in Ukraine but struggle to stop importing its natural gas that is used to power factories and heat homes. While most LNG importers are avoiding additional spot purchases from Russia, they are continuing to accept contracted deliveries of the fuel. Sanctions against Russia have

largely avoided gas, so LNG buyers can keep importing cargoes. A global supply crunch means importers want all the cargoes they've already contractually purchased.

So far this month, Japan is the top destination for Russian LNG, despite a noticeable move by utilities to stop purchasing spot cargoes from their northern neighbor. France is the second-biggest importer of Russian LNG. Paris-based TotalEnergies has a minority stake in the Yamal LNG export plant in Russia, and has publicly stated that it won't exit its investment due in part to security of supply to Europe. About a third of Russia's LNG shipments are still in transit, and it isn't immediately clear where they will end up. India and China are expected to continue buying spot LNG cargoes from Russia.

### **U.S. LNG industry appreciates new support**

(Houston Chronicle; March 30) - Since President Joe Biden came into office last year, Texas's fast-growing LNG industry has faced an uncertain future in the face of his administration's historic push to fight climate change. But Biden's seeming antipathy toward natural gas appears to be shifting rapidly amid soaring energy prices and a war in Ukraine that threatens to upend global energy security.

After the president and officials from the European Union last week announced plans to expand U.S. LNG exports to Europe over the next eight years — in an effort to reduce reliance on Russian natural gas — LNG executives began to wonder if they might have an ally in the White House after all. “The signals coming from the administration today are almost a 180 in direction,” said Charlie Riedl, executive director of the Center for Liquefied Natural Gas, a trade group. “We think we're in a good position.”

Speaking to reporters last week, Jake Sullivan, Biden's national security adviser, said that while the administration was still focused on transitioning to clean energy, natural gas remained “a substantial part of the energy mix.” How long this newfound allegiance will last remains to be seen. Biden's announcement March 25 has already generated criticism from environmental groups, who argue that it threatens to increase harmful emissions and upend U.S. efforts to fight climate change.

### **Japan will not abandon stake in Russia's Sakhalin LNG project**

(Reuters; March 31) - Japan will not abandon its stake in the Sakhalin-2 liquefied natural gas project in Russia as it is essential to energy security, Prime Minister Fumio Kishida said on March 31, his clearest comments yet on Tokyo's plans for its decade-old investment. The Ukraine crisis has put Japan's involvement in the Sakhalin-2 project and similar ones in Russia in sharp focus since Western oil majors have said they would pull out in light of the Russian invasion of Ukraine.



While resource-poor Japan has been ramping up sanctions against Russia, Tokyo has repeatedly said that Russian LNG is essential to energy security. "Japan has a stake in Sakhalin-2, which is contributing to securing long-term, stable and low-priced supply of LNG. It is an extremely important project for Japan's energy security," Kishida told parliament. "It is not our policy to withdraw," Kishida said, adding his government would continue seeking ways to reduce Japan's dependence on Russian energy sources.

Japanese leading trading houses Mitsui and Mitsubishi own stakes of 12.5% and 10%, respectively, in Sakhalin-2, from which Shell has announced plans to exit. Gazprom is the other partner. Russia supplies 4% of Japan's crude oil imports and 9% of its LNG imports, making Moscow a vital energy supplier for Japan, particularly after meltdowns at the Fukushima power plant in 2011 led to sharply lower use of nuclear power.

### **Japan will not withdraw from Russian oil and gas projects**

(Nikkei Asia; April 1) - Japan "does not intend to withdraw" from oil and liquefied natural gas projects in Russia, Trade Minister Koichi Hagiuda told reporters on April 1, as it makes a choice between energy security and further tightening sanctions on Russia for its war on Ukraine. Japanese trading and other companies have invested in the Sakhalin-1 and Sakhalin-2 oil and gas developments in Russia's Far East and the Arctic LNG-2 project. Each has been deemed essential to Japan's energy security.

"In the current situation of sudden energy price increases, we can procure energy at prices cheaper than the market price. This is extremely important for energy security," Hagiuda, the Minister of Economy, Trade and Industry, said of the projects. He also said Japan "does not intend to withdraw" from the Arctic LNG-2 project, which is scheduled to start production next year. Economic sanctions over the Ukraine war prohibit new European investment in Russia's energy sector, and Japanese and French companies that have invested in the Arctic gas project are no longer able to make new investments.

### **Chinese partner in Russian LNG says too early to make any changes**

(S&P Global Platts; March 30) - China's state-run offshore giant CNOOC said the under-construction Arctic LNG-2 project in Russia is proceeding relatively stable, but the company will rigorously assess risks related to sweeping technological and financial sanctions against Moscow, company chairman Wang Dongjin said March 30. CNOOC will continue to take a close look at the Russia-Ukraine war before making any decision of pulling investment from the country or acquiring more assets.

"It is too early to make a decision, while the Russia-Ukraine situation changes all the time, too many uncertainties," Wang during CNOOC's 2021 results call. CNOOC has a 10% stake in the LNG project, its only asset in Russia. The \$20+ billion development is

planned for 19.8 million tonnes annual output capacity, with its first LNG scheduled for next year. One of the other partners in Arctic LNG-2, France's TotalEnergies, said March 22 it had opted not to provide any more capital to the Novatek-operated project, while China's CNPC and a Japanese consortium are likely to stick with the project.

CNOOC, CNPC, TotalEnergies and the Japanese consortium each hold a 10% stake in Arctic LNG-2. Novatek holds the remaining 60%. There have been reports that western sanctions against Russian banks could make financing Arctic LNG-2 more difficult. Novatek in February estimated the overall completion rate of the project at 59% at the end of 2021, with progress on the first train estimated at 78% complete.

### **Chinese gas and power supplier signs up for LNG from Mexico**

(S&P Global Platts; April 1) - China's Guangzhou Development Group (GDG), a Guangdong provincial government-owned power and gas supplier, agreed March 31 to buy 2 million tonnes per year of LNG from Mexico Pacific LNG Markets in a 20-year deal for the proposed West Coast project. Mexico Pacific's export terminal is proposed for Puerto Libertad, Sonora, Mexico. The cargoes to China will be priced on a formula linked with the U.S. Henry Hub gas index.

The contract volume comprises 1 million tonnes per year from each of the two phases at the LNG export project, the statement said. Mexico Pacific proposes to build a three-train liquefaction terminal that would rely on U.S. feed gas to produce LNG. Guangzhou Development Gas Trading said Mexico Pacific is expected to take a positive investment decision for the first two phases of its LNG project in the second half of 2022. Mexico Pacific executives said earlier in March that the company was in the process of securing binding off-take agreements and expected to ship first LNG from the facility in 2026.

Guangzhou also has signed a 10-year contract with Sinochem, one of China's four largest state-owned oil companies, to buy 4 million tonnes per year of LNG, with delivery starting in 2023. Guangzhou had earlier signed a deal with BP to buy 650,000 tonnes per year 2022 to 2034. GDG is one of the major power suppliers in Guangdong province, one of the most heavily industrialized regions in China, and the largest power supplier in its capital Guangzhou city. It operates 12 power plants with a total installed capacity of about 4.05 gigawatts, according to the company's website.

### **Australian gas producer shifts production to use spare LNG capacity**

(Reuters; March 31) - Australia's Woodside Petroleum said on March 31 it has started sending gas from its Pluto offshore field to the North West Shelf project's liquefaction plant, allowing the company to cash in on high LNG prices. The gas is flowing through a 2-mile pipeline Woodside built to connect its Pluto LNG plant with the North West Shelf

project's Karratha gas plant, also operated by Woodside. The line gives Woodside an additional outlet for Pluto gas while helping to fill spare liquefaction capacity at Karratha.

"The processing of gas from the offshore Pluto fields through the Karratha gas plant enables Woodside to deliver additional LNG cargoes into the international gas market," Woodside CEO Meg O'Neill said in a statement. The Karratha plant needs new sources of gas to fill its 16.9 million-tonne-a-year capacity as the original fields in the North West Shelf project, Australia's oldest and largest LNG project, are drying up.

Gas from the Pluto field is the first to go into the Karratha plant from outside the North West Shelf's original sources. Woodside will pay a tolling fee to the North West Shelf joint venture to process its Pluto gas. Woodside's partners in the North West Shelf venture are units of BHP, BP, Chevron, Shell and Japan's Mitsui and Mitsubishi. Woodside hopes other companies with gas assets off northwest Australia will eventually use the Pluto-to-Karratha interconnector to help keep the Karratha LNG plant full.

### **Company proposes small offshore LNG production facility**

(Reuters; March 31) - New Fortress Energy on March 31 proposed to build the first offshore U.S. liquefied natural gas export facility and have it running in 12 months, a relatively short time amid a market hungry for the fuel. U.S. LNG producers are working near peak capacity to supply buyers seeking alternatives to Russian gas. Demand has pushed global prices to new highs and spurred interest in new projects.

There are several U.S. onshore LNG export terminals in development, but these giant plants can take five or more years to complete and cost billions of dollars. New Fortress' proposed terminal offshore Louisiana would produce about 2.8 million tonnes per year, about 20% of the capacity of some of the larger onshore projects. New Fortress plans to finance the project itself. It did not disclose the cost.

The company's plant design puts modular gas liquefaction units atop available drilling rigs that then serve as the production site. New Fortress said it has acquired a rig and other components and requires only U.S. regulatory approvals to begin work. The terminal would sit 16 miles off the coast, and allow tankers to dock and directly load.

### **Partners team up for green hydrogen to replace Russian gas**

(The Wall Street Journal; March 29) - German energy group E.ON and Australian billionaire Andrew Forrest are teaming up to produce green hydrogen to replace Russian natural gas, showing how the Western push to cut reliance on Russian energy imports in the wake of the Ukraine war is accelerating investments in renewable energy. The goal is to produce hydrogen in Australia using wind and solar power and begin

shipping it to Europe, where it would be distributed through E.ON's pipelines. Deliveries would begin in 2024 and build up to a volume of 5 million tons a year by 2030.

"The Ukraine war has created a whole new horizon for European energy supply," said E.ON chief operating officer Patrick Lammers, who signed a memorandum of understanding with Forrest on March 29. Under the preliminary agreement, Fortescue Future Industries — the renewable energy unit of Australian metals group Fortescue Metals — would produce green hydrogen for use in Germany and the Netherlands.

Green hydrogen, which is produced using electricity from renewable energy, has been touted as a climate-friendly alternative to natural gas but it remains expensive to produce and challenging to transport because it is highly flammable. Still, Europe has targeted hydrogen as a potential source of power to run factories in the future. Unlike gas, hydrogen emits water rather than climate-warming carbon dioxide when burned as fuel. Extracting hydrogen is energy intensive that can itself release large quantities of carbon dioxide but green hydrogen is produced using power from wind or sunlight.