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## Top News - Oil

### **EXCLUSIVE-U.S. sanctions hamper Russian efforts to repair refineries, sources say**

When engineers at Russian oil firm Lukoil discovered a turbine had broken at their largest refinery on January 4, they quickly realised the problem was far from trivial. There was only one company that knew how to repair the gasoline-producing unit at the NORSI refinery, located on the Volga River, some 430 km (270 miles) east of Moscow. The problem was that the company is American, according to five sources familiar with the incident. The firm, petroleum engineering multinational UOP, had withdrawn from Russia after the country invaded Ukraine in February 2022.

"They (the engineers) rushed around to find spare parts and they couldn't find anything," said a source close to Lukoil, who asked not to be named because he is not allowed to speak to the media. "Then the whole unit just stopped."

Four other sources said the unit - a catalytic cracker used to convert heavier hydrocarbons into gasoline - has been out of production since January and it was not clear when it could be repaired due to a lack of expertise inside Russia. The KK-1 unit is one of only two catalytic crackers at the plant.

As a result, the NORSI refinery - the fourth-biggest in Russia - has cut gasoline production by 40%, according to two of the sources. Lukoil did not respond to requests for comment for this story.

The Lukoil refinery is an example of wider problems in Russia's energy sector where some oil firms are struggling in the face of Western sanctions to repair their refineries, built with the help of U.S. and European engineering firms, according to at least 10 Russian industry sources.

The difficulties have been exacerbated by that have struck at least a dozen Russian refineries this year, the industry sources said. The attacks forced Russian refineries to shut in some 14% of capacity in the first quarter, according to Reuters calculations.

"If the stream of drones continues at this rate and Russian air defences don't improve, Ukraine will be able to cut Russian refining runs quicker than Russian firms will be able to repair them," said Sergey Vakulenko, an expert on Russia's energy industry and non-resident fellow at the Carnegie Endowment for International Peace, an international affairs think tank.

Russia's top energy official, Deputy Prime Minister

Alexander Novak, said last week that the damaged NORSI facilities should resume operations within a month or two, as Russian firms were working to produce the spare parts needed.

He also said other Russian refineries have boosted production after the drone attacks and there was no shortage on the local fuel market.

Russia's energy ministry did not respond to a request for comment. Minister Nikolai Shulginov said on Wednesday all refineries would be fixed by June, without providing further details.

The NORSI refinery, near the city of Nizhny Novgorod, has a capacity of 405,000 metric tons a month of gasoline or 11% of Russia's total.

The current outage would cost Lukoil nearly \$100 million in lost revenues a month, based on an average Russian gasoline price of \$587 per metric ton, according to Reuters' calculations.

Honeywell International Inc, the parent company for UOP, said in a statement to Reuters it had not provided any equipment, parts, products or services to the refinery at Nizhny Novgorod since February 2022, nor to the independently-managed Slavyansk ECO refinery.

The Slavyansk refinery was hit by a Ukrainian drone attack on March 18 and caught fire briefly.

"We are actively working to identify and interrupt any possible diversion of our products into Russia via third parties," Honeywell told Reuters by email. The company said it complies with all applicable export license requirements, sanctions laws and regulations.

The United States and its allies have imposed sanctions on thousands of Russian targets since the invasion of Ukraine and around 1,000 companies have announced their departure from the country.

Russia's export-focused \$2.2-trillion economy has proved more resilient to two years of the unprecedented sanctions than either Moscow or the West anticipated.

### WAR OF ATTRITION

Western companies such as UOP and Swiss engineering group ABB have supplied technology and software to all the 40 biggest refineries in Russia over the last two decades, according to more than 10 Russian industry sources. Each refinery has a combination of Russian and foreign equipment.

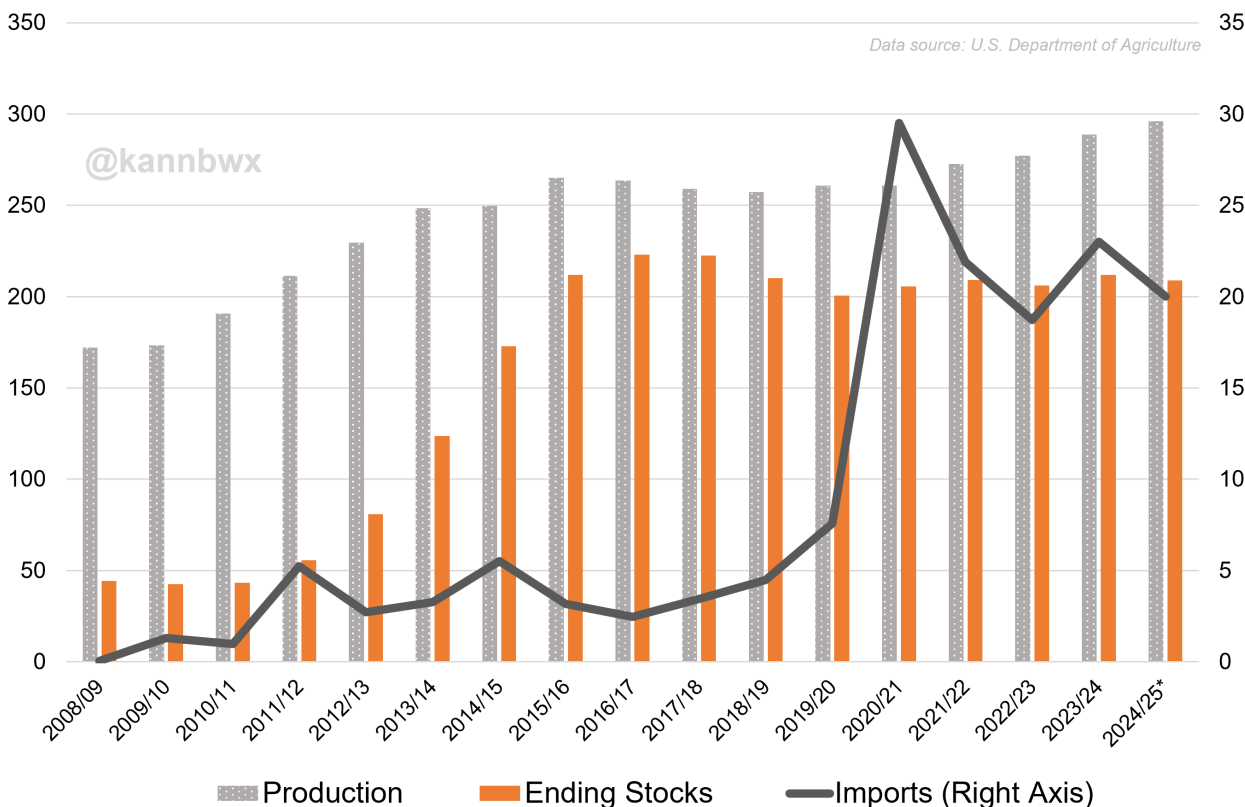
ABB confirmed to Reuters it stopped taking new orders in Russia once the war broke out in February 2022, and has

no plans to return to Russia once it has fulfilled its existing contractual obligations, a spokesperson said. The company did not provide details of those obligations. None of the five sources suggested the turbine failure in January at NORSI was a result of drone attacks. But the sources said the problems at the plant only became worse after NORSI was hit for the first time by Ukrainian drones in February when other pieces of equipment were damaged, putting additional strain on the entire refinery. As in the United States, the price of gasoline is a politically sensitive subject in Russia and authorities try to limit price rises. Recent measures included imposing a ban on gasoline exports for 6 months in February. Ukraine says it attacks Russian refineries because it wants to undermine the Kremlin's war machine by reducing state revenues and cutting fuel to the army. "Drones are tens, if not hundreds of times cheaper than the cost of repairs, which is important in a war of attrition," said Vakulenko, who was a former head of strategy at Russian energy major Gazprom Neft. He left the firm and Russia days after the start of the Ukraine war. Russia is the world's second-largest oil exporter. It has

rerouted most of its crude and products exports to Asia and Africa since Western nations imposed sanctions on Moscow. Should Moscow face a steep decline in refinery output, it would be forced to cut fuel exports in favour of crude, according to more than 10 Russian oil traders. Russia supplies crude to just a few large buyers, such as China, India and Turkey, but its portfolio of fuels buyers is comparatively broader as it can ship to smaller consumers without large refining systems in Africa and South America. Russia's refining industry dates back to the 1940s, when the United States provided equipment under the lend-lease program during World War Two. After the collapse of the Soviet Union, Russian oil firms invested tens of billions of dollars in upgrades with the help of firms such as UOP and ABB. UOP helped upgrade Norski and Slavyansk ECO refineries. It did not specify which other Russian refineries it has serviced, in response to Reuters' questions. The United States has imposed sanctions on companies around the world, including in Turkey, to prevent the

**Chart of the Day**

**China Corn Supply and Demand** (million metric tons)



\*2024/25 as estimated by USDA Beijing attache April 2024

transfer of technology to Russia.

Countries under Western sanctions such as Russia and Iran have long managed to find loopholes to obtain spare parts for Western-made equipment such as planes or cars.

But refining equipment is much rarer and more specialized; Western firms have tightened checks to prevent Russia from importing spare parts via third countries, one of the five sources said.

Two of the sources said Lukoil had asked Chinese companies to repair the KK-1 unit at Norski. The sources didn't name the Chinese companies. Lukoil declined to comment when asked if it had approached China.

"China has got the technology. But very often it would mean a full costly replacement of the unit rather than a normal, cheap, regular repair," one of the sources said.

### **COLUMN-U.S. manufacturers emerge from slump, set to boost fuel use: Kemp**

U.S. manufacturers have finally pulled out of the long, shallow slump that started in the middle of 2022, which will support petroleum consumption especially for diesel and other middle distillates in the months ahead.

The Institute for Supply Management's purchasing managers index for the manufacturing sector climbed to 50.3 in March (34th percentile for all months since 1980) up from 47.8 (18th percentile) in February.

For the first time in 17 months, the index rose above the 50-point threshold dividing expanding activity from a contraction, putting an end to an unusually prolonged but shallow cyclical downturn.

The production sub-index surged to 54.6 (45th percentile) up from 48.4 (15th percentile) in February and was at its highest level since May 2022.

New orders were also positive at 51.4 (27th percentile) signalling the expansion should have momentum in the near term.

The manufacturing sector seems to have passed the worst of the downturn in the middle of last year and displays early signs of recovering.

In contrast, the much-larger services sector, which has also been much more resilient, showed an unexpected deceleration, after a strong expansion earlier in the year.

The purchasing index for the services sector, including real estate, construction, mining and farming, slipped to 51.4 (14th percentile) in March from 52.6 (20th percentile) in February and 53.4 (27th percentile) in January.

Overall, however, the U.S. economy continued to expand last month, with a greater balance between manufacturing and services.

Reflecting the increase in business activity as well as employment gains and persistent inflation, traders have pared back their expectation for a reduction in interest rates later this year.

Futures prices show a roughly equal chance the central

bank will cut overnight interest rates two or three times by a total of 50 basis points or 75 basis points by the end of 2024.

Three months ago, the central bank was expected to cut rates as much as six or seven times by a total of 150 or 175 basis points.

### **FUEL CONSUMPTION**

Stronger manufacturing and the associated increase in freight are likely to boost petroleum consumption especially for diesel and similar middle distillate fuel oils. More than three-quarters of distillate fuel oil is used for freight transport and manufacturing, so fuel consumption normally tracks changes in the business cycle measured by the manufacturing index fairly closely.

Distillate consumption was down by around 2% in the three months from November to January compared with the same period a year earlier.

But the winter was unusually mild, cutting consumption of distillate heating oil, and growing use of biodiesel and renewable diesel has been nibbling away at the market for petroleum-derived distillates.

Even if biodiesel and renewable diesel are taken into account, total distillate consumption was essentially flat in the November-January period compared with a year ago. However, if the manufacturing recovery proceeds, distillate consumption should start to rise through the rest of 2024.

### **DISTILLATE INVENTORIES**

Stocks of distillates were 13 million barrels (-9% or -0.73 standard deviations) below the prior 10-year seasonal average at the end of January, according to the latest monthly data from the Energy Information Administration. Since then the deficit has remained broadly stable with inventories 15 million barrels (-11% or -0.90 standard deviations) below the 10-year average at the end of the week finishing on March 29.

Drone and missile attacks on tankers in the Red Sea and Gulf of Aden have led to extensive re-routing of distillate trade between North America, Europe and Asia, in most cases resulting in longer voyages.

But there has been little or no impact on the actual availability of distillates in the United States, confounding expectations stocks would tighten and prices would rise. Futures prices for ultra-low sulphur diesel delivered in May 2024 are trading around \$30 per barrel over U.S. crude oil delivered in the same month, but the premium or crack spread has narrowed from \$40 in early February. The crack spread has fallen to its narrowest since before Russia's invasion of Ukraine in February 2022, a sign supply is comfortable for the moment.

Hedge funds and other money managers have sold the equivalent of 23 million barrels of U.S. diesel over the six weeks since the middle of February.

The fund community has moved from a fairly bullish position on diesel in the middle of February to a mildly bearish one by the end of March. Fund sales have likely anticipated, accelerated and amplified the weakening of distillate prices relative to crude causing the crack spread to narrow.

#### OUTLOOK FOR 2024

Distillate inventories have not fallen as rapidly as anticipated earlier in the year as the market has adapted to the disruption of tanker routes. But inventories display a strong cyclical component so the manufacturing recovery is likely to lead to a further depletion of inventories and put upward pressure on spreads and

prices later in 2024. Ukraine's drone attacks on Russia's refineries could also diminish global supplies later in the year because Russia is a major diesel exporter.

The relatively low level of diesel inventories means there is little cyclical slack inherited from the downturn in 2022/23. Renewed consumption growth in 2024/25 is likely to tighten fuel supplies quickly and lead to early upward pressure on prices.

Together with a tight labour market, the limited spare capacity in diesel and other energy markets is one reason central banks are forced to be cautious in cutting interest rates.

John Kemp is a Reuters market analyst. The views expressed are his own.

## Top News - Agriculture

### COLUMN-Huge Chinese, Brazilian corn crops may limit US exports into 2025 -Braun

China may be poised to grow a record-large corn crop in 2024, besting the previous year's record despite government incentives aimed at increasing plantings of soybeans at the expense of corn.

That could keep Chinese corn supplies plentiful enough to further reduce reliance on U.S. corn exports, especially with a possible production rebound next year for Brazil, a

relatively new corn supplier to China.

The U.S. Department of Agriculture's Beijing attache this week forecast 2024-25 Chinese corn output up 2.4% to a record 296 million metric tons on improved yields and higher plantings. That would make for a fourth consecutive record in Chinese corn production, which four years ago stood near 261 million tons.

Food security remains of top concern for China, and curbing dependence on imports is part of the strategy.

### MARKET MONITOR as of 06:35 GMT

| Contract                         | Last               | Change | YTD     |
|----------------------------------|--------------------|--------|---------|
| NYMEX Light Crude                | \$86.94 / bbl      | 1.77%  | 21.34%  |
| NYMEX RBOB Gasoline              | \$2.77 / gallon    | 1.42%  | 31.66%  |
| ICE Gas Oil                      | \$867.00 / tonne   | 0.52%  | 15.48%  |
| NYMEX Natural Gas                | \$1.77 / mmBtu     | -4.13% | -29.79% |
| Spot Gold                        | \$2,278.25 / ounce | -0.91% | 10.46%  |
| TRPC coal API 2 / Dec, 24        | \$116.25 / tonne   | -1.06% | 19.85%  |
| Carbon ECX EUA                   | €58.50 / tonne     | 1.90%  | -27.21% |
| Dutch gas day-ahead (Pre. close) | €26.09 / Mwh       | 0.66%  | -18.08% |
| CBOT Corn                        | \$4.48 / bushel    | 0.67%  | -7.44%  |
| CBOT Wheat                       | \$5.73 / bushel    | 0.13%  | -10.40% |
| Malaysia Palm Oil (3M)           | RM4,366 / tonne    | -0.93% | 17.33%  |
| Index                            | Close 04 Apr       | Change | YTD     |
| Thomson Reuters/Jefferies CRB    | 343.39             | 0.40%  | 13.93%  |
| Rogers International             | 28.58              | -0.35% | 8.57%   |
| U.S. Stocks - Dow                | 38,596.98          | -1.35% | 2.41%   |
| U.S. Dollar Index                | 104.32             | 0.19%  | 2.95%   |
| U.S. Bond Index (DJ)             | 423.51             | 0.35%  | -1.67%  |

China's imported corn in 2023-24 is expected to account for 8% of domestic consumption versus 87% for soybeans, prompting increased farmer subsidies for soybeans versus corn in 2024-25. Chinese farmers still expect higher profits for corn over soy, especially given the recent improvements in corn yields and the potential further growth offered by genetically engineered seeds (GE), only recently introduced.

USDA estimates only 1.5% of China's 2024-25 corn area will be under GE seeds, though that could reach as much as 15% within the next two years. It is unclear whether further expansion in China's corn crop will eventually ratchet down the country's imports, which have been historically strong in the last four years despite the bumper crops.

USDA's attache projects 2024-25 Chinese corn imports at 20 million tons, down from 23 million this year.

Brazil has been China's top corn supplier since Brazilian vessels first began arriving there in early 2023, pushing out U.S. exports, which had been hot since China started buying large volumes of U.S. corn in mid-2020.

USDA's Brasilia attache this week pegged 2024-25 Brazilian corn production up 6% from this year on a return to normal yields and a slightly higher area.

However, a smaller 2023-24 crop, most of which is still being grown, could keep Brazilian corn prices higher and favor rival exporters. Falling U.S. corn prices could be U.S. exporters' ticket into China and other markets while Brazilian supply is lighter.

Chinese corn prices are often well above global ones, so sufficiently low prices overseas can have Chinese buyers preferring imports even when domestic supply is plentiful.

#### U.S. PACE PICKING UP

Census Bureau data released on Thursday showed February U.S. corn exports at a nine-month high of 5.37 million tons, up 64% from last year and safely above the five-year average.

March-May is the busiest time for U.S. corn shipments, and that was highlighted in last week's export numbers. USDA figures on Thursday placed U.S. corn exports in the week ended March 28 at a marketing-year high of 1.64 million tons, well above the 1.43 million reported on Monday as inspected for export during that same week. However, almost none of the February U.S. corn volume was to China, and as few as two cargoes were shipped there last month.

As of March 28, just 157,100 tons of purchased U.S. corn

still awaited shipment to China in 2023-24, the lowest for that date in seven years.

Potentially helpful for U.S. exporters is the backing off of Brazilian corn exports last month. Brazil on Thursday reported March corn exports at 431,307 tons, two-thirds lighter than a year ago.

Less than 20% was to China.

Karen Braun is a market analyst for Reuters. Views expressed above are her own.

#### Brazil approaches 2024 robusta harvest as prices skyrocket

Brazilian farmers are preparing to start harvesting a larger robusta coffee crop this year just as local prices are at an all-time high and London robusta futures reach a 16-year peak.

Brazil is the second largest producer of robusta after Vietnam, and the top grower of arabica coffee beans. While robusta is generally bitter with higher caffeine content, arabica is a milder, more highly prized variety. Poor crops in Vietnam along with disruption of shipping in the Red Sea, led to a surge in robusta prices and drove up demand for Brazilian robustas - or conilons as they are known locally - with European roasters buying them as a replacement.

Experts expect a larger robusta production in Brazil in 2024. They say the harvest should start in April in some fields, gaining speed from May. There is not much left at warehouses from the 2023 crop, they added. "Trees are looking good, with good amount of fruits," said Ramon Patrocinio, a crop consultant working for farms in Bahia and Espirito Santo states.

He believes production in those areas could grow 20% from 2023. Patrocinio believes new-crop robusta beans should start to get to market in June or July, after drying and cleaning.

"The ones harvesting early probably need to raise cash to pay for crop bills, because there are still a lot of green beans in the trees," said Enrique Alves, a researcher at Embrapa in Rondonia state, adding that ideally harvest should start when at least 80% of the beans are mature. Broker StoneX projects Brazil's 2024 robusta crop at 22.7 million bags versus 21.5 million bags in 2023.

Alves said many farmers sold their new crop last year at lower prices, so they will not take full advantage of the rally. Patrocinio said there are signs of increased robusta planting, with investors looking for areas with potential for irrigation.

## Top News - Metals

### **COLUMN-Funds pile pressure on lead as LME stocks hit 11-year high: Andy Home**

Funds have built up record short positions on the London Metal Exchange (LME) lead contract.

This is not entirely surprising given the rapid deterioration in market optics.

LME inventories of the heavy metal have leapt to 11-year highs thanks to its accelerated deliveries into exchange warehouses over the last few weeks.

Indeed, the mass warranting of 67,350 metric tons on March 19 was the largest single-day stocks arrival event in the London lead market since at least 1998.

LME time-spreads have collapsed under the weight of surplus metal, the cash discount to three-month delivery flexing out to levels last seen in 1992.

Curiously, the only thing that hasn't imploded is the outright price, last at \$2,115 per ton, which remains trapped in its long-standing \$2,000-2,300 trading range.

### **FUNDS AMASS BEAR POSITIONS**

Investment funds were bullish about lead's prospects for most of last year, with long positions peaking in September when the price was challenging the upper end of its trading range.

After lead failed to break higher, positioning gyrated later in 2023 and the first two months of 2024 before turning decidedly bearish in March.

Investment funds were net short of the LME contract to the tune of 15,356 contracts at the close of last week.

It's the largest collective bet on lower prices since the exchange started publishing its Commitment of Traders Report in 2018.

The only comparable flexing of bear muscles by the investment community occurred in September 2022, when the price slumped to a two-year low of \$1,746 per ton and the speculative net short peaked at 14,052 contracts.

Outright short positions have surged past 2022 levels to a fresh peak of 31,962 contracts, equivalent to almost 800,000 tons of selling.

### **STOCKS SHOCK**

LME stocks of lead stood at a depleted 25,150 metric tons at the start of 2023, equivalent to less than a day's global usage.

A string of smelter outages over the previous two years had tightened both physical and paper markets, culminating in a sizeable supply deficit of 134,000 tons in 2022, according to the International Lead and Zinc Study Group (ILZSG).

After sliding by 1.7% in 2022, global refined lead production bounced back by 2.8% in 2023, shifting the

supply-demand balance back into a 92,000-ton surplus. LME stocks rose by 109,000 tons last year, closely matching ILZSG's assessment of the changed market dynamics.

Inventory then fell over the first part of January, a peak demand season for lead due to higher automotive battery failure rates during the northern hemisphere winter months. Automotive batteries account for around 58% of lead usage, according to Macquarie Bank. Replacement batteries represent 77% of that total, demand peaking during the coldest and hottest months of the year.

Seasonal lead stock patterns, however, didn't last long. The arrivals started in the last week of January. A total 88,875 tons of metal were warranted at LME warehouses in Singapore over the ensuing month. Another 18,000 tons followed at the end of February. And then another 71,000 tons in the middle of March, including a bumper 64,550 tons on March 19. There were also arrivals in Europe and the South Korean port of Busan. Deliveries onto LME warrant have totalled almost 210,000 tons so far this year and the headline stocks figure hit an 11-year high of 275,925 tons on Tuesday. The sheer scale of the deliveries suggest these are partly off-market stocks being drawn into the statistical light of exchange trading by a favourable storage deal. Zinc has seen similar wholesale inventory movements as stocks financiers arbitrage warehouse costs between high-cost LME storage and lower-cost off-exchange storage.

### **A WHOLE LOT OF LEAD**

That said, it's still a lot of lead. LME registered stocks now represent almost eight days worth of global usage, up from less than a day just over a year ago. One driver of the glut is the strength of Chinese exports. The country shipped 188,000 tons of refined metal last year, up 62% on 2022 levels and the highest annual total since 2007. Some of that metal seems to have headed direct to LME warehouses. The amount of registered Chinese metal in the LME system jumped from zero at the start of 2023 to 51,175 tons at the end of February, by which stage it accounted for 31% of the on-warrant total. Some of the exports have likely displaced supply in other Asian countries, generating a second wave of deliveries to the market of last resort.

### **SPREADS COLLAPSE**

The deluge of deliveries saw the cash-to-three-months contango balloon out to \$50.68 per ton on March 20, a level last surpassed in June 1992. The period has since tightened back to \$30 per ton but by lead's historical standards that's still a super-contango and a warning sign that there may be more metal on its way to LME sheds.

The three-month price, however, has shown remarkable resilience, dipping sharply in late March but only to confirm support at the \$2,000 per ton level. Investment funds looking for a steeper move on the downside will have been disappointed and some may even already be covering on this week's recovery bounce. However, it's going to take a lot to reverse the negative optics of the LME stocks surge, particularly if it continues over the coming days and weeks. The big question is just how much more lead is there out there?

The opinions expressed here are those of the author, a columnist for Reuters.

### Japanese copper smelters' H1 output seen rising 4.2% y/y

Japan's refined copper production in the first half of the 2024/25 financial year is expected to rise 4.2% from a year earlier, Reuters calculations from plans outlined by smelters showed, amid stronger local demand from the chip industry.

The financial first half falls between April and September. Sumitomo Metal Mining (SMM) expects a 21% surge in first-half output following a two-month maintenance shutdown at its Toyo Smelter & Refinery between September and November last year, a company spokesperson said. Japan's biggest copper supplier Pan Pacific Copper (PPC) also expects a slight increase in its first-half supply due to enhanced output capacity at the

Hitachi Refinery in eastern Japan, a company spokesperson said. PPC, jointly owned by JX Metals, Mitsui Mining and Smelting and Marubeni, outsources smelting and refining operations to its parent companies' plants. It procures raw materials and sells the refined metals.

The company faced supply setbacks in the second half of the last financial year due to boiler trouble at the Saganoseki Smelter and Refinery in southern Japan, the spokesperson said. In March, the Japan Copper and Brass Association projected a 5.9% increase in domestic demand for copper products in the financial year just started, citing an expected recovery in the automobile and chip industries that will drive demand for plates and strips, copper tubes, and brass bars. The Japan Electric Wire & Cable Makers' Association (JCMA) has also forecast 2.0% growth in domestic copper wire shipments in the current financial year, helped by a resurgence in the semiconductor industry and robust export demand. Below are the production plans of base metals in metric tons for April to September by key suppliers PPC, Mitsubishi Materials, SMM, Furukawa, Dowa Holdings, Mitsui Mining and Smelting, Nittetsu Mining and Toho Zinc. The table shows comparisons against planned or estimated production in the second half and actual output in metric tons in the first half of the 2023/24 financial year that ended on March 31, with year-on-year percentage changes for the first half of 2024/25.

## Top News - Carbon & Power

### EXCLUSIVE-Russia's Novatek may scale back Arctic LNG 2, focus on Murmansk, sources say

Russia's Novatek is being forced to scale back its huge Arctic LNG 2 project after Western sanctions curbed its access to ice-class tankers, and will focus instead on developing its project at the ice-free port of Murmansk, industry sources said.

Russia has been focusing on developing global sales of seaborne LNG to make up for a drop in pipeline gas exports to Europe, which have plummeted to post-Soviet lows amid a severe rift with the West over Ukraine. The possible scaling back of the Arctic LNG 2 plant in the Gydan peninsular would complicate Moscow's goal to boost its share of the global LNG market to a fifth by 2030-2035 from around 8% currently.

The project had been due to become Russia's largest such plant with eventual output of 19.8 million metric tons per year of LNG and 1.6 million tons per year of stable gas condensate from three trains.

Novatek did not respond to a Reuters request for comment on its plans.

The company began liquefied natural gas (LNG) production at Arctic LNG 2's first train in December, but

has been behind schedule in supplying its first cargoes of super-cooled gas from the project amid shortages of ice-class gas carriers.

Sources have said the conversion of methane into a liquid at a temperature of minus 163 Celsius (minus 261 Fahrenheit) has now been suspended at the plant. Its second and third lines were due to begin operations in 2024 and 2026 respectively, with its second production train currently being built at a plant in Belokamenka in the Murmansk region.

However, the third train could be used instead at the Murmansk LNG plant announced by Novatek last June. "An option is being considered is to send a second gravity platform for Arctic LNG-2 in the summer, and to use a third one for Murmansk LNG," a source familiar with the plans said.

The Murmansk LNG project is slated to be even larger than Arctic LNG 2, with eventual output of 20.4 million tons per year. It is projected to start production at its first two trains by the end of 2027, with a last line scheduled to start operations in 2029.

One of the advantages of the Murmansk project in comparison to Arctic LNG 2 would be its access to the ice

-free port in the Barents Sea.

"All attention now is on Murmansk, the ice-class tankers are not necessary there," a source said.

The plans for Arctic LNG 2 were complicated last year when it was included in Western sanctions over Russia's conflict in Ukraine, prompting foreign shareholders to freeze participation and Novatek to issue a force majeure. Novatek has also failed to secure enough ice-class gas carriers as foreign partners were scared off by sanctions. The head of Arctic LNG 2 stakeholder TotalEnergies said in February that the project's third train had been put on hold but the second train was likely to be installed.

### **FOCUS-Policy push for carbon removal credits lures finance, aviation**

Demand for credits reflecting the engineered removal of carbon dioxide from the atmosphere is expected by some to surge as market-friendly incentives lure buyers from sectors as diverse as technology and finance, chemicals and aviation.

Many scientists believe extracting billions of tons of carbon dioxide (CO<sub>2</sub>) from the atmosphere annually, by using nature or technology, is the only way to meet goals set under the U.N.

Paris climate agreement to curb climate change, as efforts to cut emissions are not happening fast enough. To meet this challenge small startups are in the nascent stages of deploying new technologies to suck up the planet-warming gas and generate tradable carbon removal credits that companies can buy to offset their emissions.

So far, widespread use is years away and costs are much higher compared to more traditional ways to generate credits, such as through projects that preserve forests or fund renewable power projects.

Despite sceptics' arguments that carbon removal could encourage firms to keep polluting and is unlikely to reach huge scale quickly, the U.S. Inflation Reduction Act seeks to financially turbo-charge the market through tax incentives, helping to draw in buyers from a range of sectors.

The European Commission has also proposed a framework to certify carbon removals generated in Europe. Around 4.6 million tons of credits from a range of engineered removal projects were purchased in 2023, data from industry tracker CDR.fyi showed, of which around 118,000 tons were delivered, backstopped by confirmation from external certification companies that the carbon had been removed.

So far, a small group of firms are creating standards to assess the credits.

The firms, including market leader Puro.earth owned by Nasdaq and Isometric hope to give buyers more confidence to invest.

"We need trustworthy monitoring, reporting, and

verification systems that generate high-quality carbon removal credits... This is how we unlock private investment for speed and scale," said Anu Khan, a carbon removal expert at Washington-based non-profit Carbon180.

The bulk of the delivered credits in 2023, around 93%, were for biochar, CDR.fyi said, a scientifically simpler process of locking carbon emissions away by turning agricultural waste into charcoal, with most of the certifications provided by Puro.

Puro now plans to set standards around more exotic engineered technologies, such as 'advanced weathering' of rocks to help them absorb carbon and the use of chemicals to suck carbon out of ambient air. Isometric, meanwhile, has done the same for 'bio-oil', which turns waste into a liquid that can be injected into the ground. All in, Puro currently accounts for around 80% of the certified engineered removal credits. Retirements, where a credit is officially recorded as being used to offset a company's emissions, almost doubled in 2023 to 65,026 tons.

Puro expects its certifications will hit 400,000 this year, CEO Antti Vihavainen said.

"We are going to see, you know, 100% or nearly 100% compound average growth rates during the next three years," he said.

Among companies to retire credits in 2023 include German chemical company Bayer, Finnish airports operator Finavia, Microsoft, Swedish telecom Telia and U.S. lender JPMorgan, the Puro data showed.

### **HIGH COST**

While large technology companies have paid a thousand dollars or more a ton to help grow the market, including for the more nascent technology of 'direct air capture' (DAC), that remains too high for many buyers. Biochar credits are cheaper, at around \$140 a ton, while bio-oil credits can cost around \$600 a ton. All are more expensive than traditional carbon offsets which represent avoided emissions from projects such as renewable energy and can cost less than \$10 a ton. Some see regulatory involvement as a sign the market for carbon removal credits is viable.

"Given the structure of IRA and other regulatory proposals that are on the table, it's a good indication that there's going to be investment in carbon removal... which should help support the demand these companies need to grow," said Taylor Wright, who heads up the carbon management team at JPMorgan Chase, which has bought Puro-certified credits. Peter Reinhardt, the CEO at Charm Industrial, which turns agricultural waste into bio-oil, said he had also seen more buyers join in. "It definitely started in tech and then kind of moved into finance... We see a little bit of broadening into air travel and a few other industries," said Reinhardt, who is



working with Isometric. Germany-listed airline Lufthansa, for example, last month said it has entered a long-term strategic partnership with direct air capture project developer Climeworks but did not give details on the value of the deal. Bill Goldie, senior carbon adviser at environmental markets group Redshaw Advisors, said

airlines would only likely remain a small market for engineered removals for now.

"Typically, for compliance markets, large emitters are looking to comply at the cheapest cost so it's unlikely airlines would seek to use engineered removals to meet all of their requirements," he said.

## Top News - Dry Freight

### Tunisia buys soft wheat and durum in tender, traders say

Tunisia's state grains agency is believed to have purchased about 75,000 metric tons of soft wheat and some 50,000 tons of durum in an international tender on Thursday, European traders said.

This was more than the 50,000 tons of soft wheat sought in the tender.

The soft wheat was believed to have been bought in three 25,000 ton consignments for supply from optional origins. Two were said to have been bought from trading house Promising International at \$232.95 and \$233.25 a ton c&f and one from Cargill at \$239.90 a ton c&f.

The durum was believed to have been bought in two 25,000 ton consignments, one from Viterra at \$383.93 a ton c&f and one from EuroAgricola at \$384.48 a ton c&f.

Reports reflect assessments from traders and further estimates of prices and volumes are still possible.

Both the soft wheat and the durum were sought for shipment between April 25 and May 20, depending on the origin selected. In its last reported soft wheat tender on Feb. 23, Tunisia's state grains agency purchased about 100,000 tons at the lowest price of \$238.88 a ton c&f.

In its last reported durum tender on Feb. 7, Tunisia purchased about 100,000 tons at the lowest price of \$414.68 a ton c&f.

Durum importers have faced tighter supplies after a drought in top supplier Canada but greater sales by Turkey have helped to fill the gap.

### Ukraine's Kernel boosts grain export capacity with new vessel

Ukrainian agricultural group Kernel has expanded its sea fleet and can now export 100,000 metric tons of grain per month by ship, it said on Thursday.

Ukraine usually exports 95% of its farm exports via Black Sea ports and Ukraine's own ships can ensure exports even in the face of military dangers associated with Russia's invasion of Ukraine.

Kernel, the leading Ukrainian sunoil exporter, has purchased the Rotterdam Pearl V vessel, which can transport 50,000 tons of grain, it posted on Facebook.

The company said its fleet had been transporting Ukrainian exports to the Mediterranean and North-East Atlantic for more than a year, allowing it to manage costs along the entire supply chain.

### REUTERS TECHNICAL ANALYSIS Q2 OUTLOOK 2024 - WANG TAO

Brent and WTI may rise towards their Sept. 2023 highs. Palm oil targets 4,751 ringgit. Gold looks very bullish, heading towards \$2,500. Copper may bounce to \$9,460 before falling while aluminium may rise to \$2,461. Soybeans and corn may slide further to complete their long-term downtrends. Wheat may bounce into \$6-\$6.33 range. Coffee looks mixed and is biased to fall. Cocoa is likely to maintain its strong momentum and surpass \$10k. Dollar index may rise to 109. To read the full report, [click here](#)

**Picture of the Day**

*A cruise ship is seen through the fog outside the port in Larnaca, Cyprus, April 4. REUTERS/Yiannis Kourtoglou*

(Inside Commodities is compiled by Nachiket Tekawade in Bengaluru)

For questions or comments about this report, contact: [commodity.briefs@thomsonreuters.com](mailto:commodity.briefs@thomsonreuters.com)

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