Precious Metals Commodity Management LLC

Weekly Precious Metals News Articles: June 25, 2021

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Below is a cross section of relevant news article to the world of Precious Metals:

Markets, Supply & Demand, Investment, and Industrial Applications.

Printable PDF version attached. Enjoy-

Gold

- **Central bank gold buying gathers steam**
  - Central banks have been buying gold during the first four months of 2021. Over that period, we estimate that the official sector has added 150-200 tonnes of gold. A significant portion of this buying has come from the central banks of Hungary and Thailand, who added 63 tonnes in March and 43.5 tonnes in April, respectively.
    https://www.gold.org/goldhub/gold-focus/2021/06/central-bank-gold-buying-gathers-steam
- **The Federal Reserve starts the clock at this month's FOMC meeting**
  - During the last year and a half, the Federal Reserve has remained extremely nebulous as to when they would begin to unwind the current rate of interest which is set near zero, as well as their asset purchasing program of $120 billion per month of mortgage-backed securities and U.S. debt instruments.
  - When questioned during former FOMC meetings as to their timeline to begin to taper or raise interest rates they answered that it was data-dependent and it is not time to even begin discussing rolling back the current monetary policy. That all changed this week when the FOMC meeting convened and released its statement. It conveyed a different tone and started the clock with a rough timeline as to when they will increase rates (with two rate hikes set for 2023). They also acknowledged that they have begun to talk about talking about tapering. It is now widely believed by analysts that we could see some tapering as soon as March 2022, with a series of two rate hikes in 2023.
    https://www.kitco.com/commentaries/2021-06-18/The-Federal-Reserve-starts-the-clock-at-this-month-s-FOMC-meeting.html
- **Ex-Deutsche Bank traders found guilty of "spoof" orders in gold and silver futures markets**
  - According to the Reuters report, U.S. District Judge John Tharp Jr stated that the sentence for James Vorley, 41, from England was warranted to broadly deter other traders at banks from manipulative conduct. Prosecutors noted at trial that Vorley and his ex-colleague Cedric Chanu defrauded market participants by placing and then cancelling decoy orders to move commodities prices btw 2008-13.
  - Chanu, who is of French and Arab origin, was convicted on seven counts of wire fraud and is scheduled to be sentenced on 28th June.
    https://www.kitco.com/news/2021-06-22/Ex-Deutsche-Bank-traders-found-guilty-of-spoof-orders-in-gold-and-silver-futures-markets.html#.YNHwOkhpVwc.linkedin

- **Bolivia will buy gold to strengthen international reserves**
    - Bolivian President Luis Arce on Wednesday announced the submission of a draft bill to the Plurinational Legislative Assembly (bicameral parliament) to authorize the purchase of gold and thus strengthen international reserves.
    - 'We submitted a proposed draft bill that authorizes the Central Bank of Bolivia (BCB) to purchase domestically produced gold to strengthen the Net International Reserves (NIR) and authorizes it to carry out operations in international markets,' the president tweeted. https://www.plenglish.com/index.php?o=rn&id=68503

Semiconductor Related Articles (impacting Precious Metals electronics):

- **More Fabs Seen In Chip Boom**
    - But there's still a lack of understanding here, at least among some. They wonder why chipmakers simply can't build fabs in a day to keep up with booming demand. It doesn't work that way. It takes anywhere from one to two years to build a large-scale fab. The initial price tag for a state-of-the-art 300mm fab is around $10 billion. A large percentage of the cost is the equipment.
    - Building new fabs is only half the battle today. Finding enough equipment is the other challenge. "One problem we see is that some companies like TSMC and Samsung have increased their capex to historic high levels with huge demand for equipment. This has caused a bottleneck with an increase of lead times for equipment," Dieseldorff said. https://semiengineering.com/more-fabs-seen-in-chip-boom/
- **GlobalFoundries invests US$4bn in Singapore fab**
    - GlobalFoundries Inc plans to build a US$4 billion chipmaking plant in Singapore that is scheduled to start in 2023, choosing Asia for the site of its latest expansion, despite US President Joe Biden's administration calls to bring home semiconductor manufacturing.
    - The US-based firm joins rivals from Taiwan Semiconductor Manufacturing Co to Samsung Electronics Co that are expanding capacity to help address a persistent shortfall of chips for everything from vehicles to smartphones. https://www.taipeitimes.com/News/biz/archives/2021/06/23/2003759630
- **MEMS Semiconductors Strengthen After Holding Up Well in 2020**
    - Sensors and actuators made with MEMS technology are forecast to grow by high double-digit percentages in the next several years after starting a recovery in 2H20, says new report. https://www.icinsights.com/news/bulletins/MEMS-Semiconductors-Strengthen-After-Holding-Up-Well-In-2020/%20

Silver

- **Silver Institute: Silver Investment Webinar – 60 Minute Video Replay Link**
    - James Steel, HSBC Securities … Bart Melek, TD Securities … Michael Widemear, Bank of America Securities … Michael DiRienzo, Exec. Dir. Silver Institute. https://youtu.be/_Ao8wDohruI
- **U.S. says ban on Chinese firm's solar products will not slow clean energy progress**
    - The Biden administration said Thursday it banned U.S. imports of a key solar panel material from Chinese-based Hoshine Silicon Industry Co (603260.SS), but stopped short of imposing a ban on all imports of silica from Xinjiang and said the action would not harm U.S. clean energy goals.
    - The Commerce Department separately added five Chinese entities to the U.S. economic blacklist over forced labor allegations in Xinjiang -- including Hoshine. The White House cited the G7's recent pledge to clean up the global supply chain as part of its actions. https://www.reuters.com/business/us-targets-five-chinese-companies-over-alleged-forced-labour-xinjiang-2021-06-24/

- **First reactions to Biden's US ban on solar imports from China's Xinjiang province**
    - The Biden Administration's decision to ban solar imports from four Xinjiang-based polysilicon manufacturers has already raised concerns. One analyst warns of a "significant negative impact" across the U.S. solar industry.
    - https://www.pv-magazine.com/2021/06/24/first-reactions-to-bidens-us-ban-on-solar-imports-from-chinas-xinjiang-province/
- **'World's cheapest wafer' maker plans 2 GW Indian cell and wafer fab**
    - U.S.-based wafer manufacturer 1366 Technologies has confirmed plans for a 2 GW wafer and cell production facility in India. The unit is being planned under the Indian government's production-linked incentive (PLI) scheme, which aims to drive deployment of every stage of the solar supply chain, from polysilicon to module manufacturing**.** https://www.pv-magazine.com/2021/06/24/worlds-cheapest-wafer-maker-plans-2-gw-indian-fab/
- **Silver for Solar PV: IHSM clean energy insights: High module prices and shipping costs jeopardize 2021 installation outlook**
    - In the first installment of a new monthly IHS Markit blog, Edurne Zoco, Exec. Dir. for Clean Energy Technology, writes that high prices and increased freight costs are putting solar PV procurement teams under extreme pressure, particularly those teams with connection deadlines this year that were anticipating a more favorable pricing and logistic environment in the second half of 2021.
    - Matt: As discussed before, Solar PV module prices were on 3+ decade cost take down to $0.20/watt before commodity price increases (Silver, polysilicon, backsheet materials, glass, and Aluminum) have now place Chinese module prices in the $0.29-$0.31/watt range with Silver being $0.02/watt. https://www.pv-magazine.com/2021/06/03/ihsm-clean-energy-insights-high-module-prices-and-shipping-costs-jeopardize-2021-installation-outlook/

Precious Metals Mining:

- **Eurasia Mining PLC continues to consolidate platinum and battery metals joint venture in Russia**
    - On 26 March 2021, Eurasia signed a binding agreement to create a joint venture with Rosgeo in which Eurasia will own a 75% equity stake in nine platinum group metal and battery metals assets, four of which are post the Russian feasibility study stage, and which have state approved reserves.
    - The joint venture projects have a total of 104.6mln ounces of platinum equivalent Russian Code reserves and resources in the immediate vicinity of the company's Monchetundra project in the Kola Peninsula. https://www.proactiveinvestors.co.uk/companies/news/952277/eurasia-mining-continues-to-consolidate-platinum-and-battery-metals-joint-venture-in-russia-952277.html
- **Zimbabwe mining CEO to quit, putting economy reboot in doubt**
    - David Brown, CEO of Zimbabwe's Kuvimba Mining House, intends to step down, jeopardising the future of the company the government hopes will spur an economic revival.
    - Kuvimba says it aims to build one of the world's biggest platinum mines and revive a number of neglected gold and operations, projects that are key to boosting the nation's export earnings. https://www.mining.com/web/zimbabwe-mining-ceo-to-quit-putting-economy-reboot-in-doubt/
- **Norilsk Nickel's Global Palladium Fund lists exchange instruments on the LSE**
    - The Global Palladium Fund has listed Norilsk Nickel's copper and nickel-backed exchange traded instruments (ETCs) on the London Stock Exchange, the company said. For the first time, the instruments provide investors with low-cost access to copper and nickel. https://bmmagazine.co.uk/business/norilsk-nickels-global-palladium-fund-lists-exchange-instruments-on-the-lse/
- **State Of Emergency Lifted In Russia's Krasnoyarsk A Year After Arctic Diesel Spill**
    - The government of Russia's Siberian region of Krasnoyarsk has lifted the state of emergency in the Arctic city of Norilsk that was imposed in late May last year following a massive diesel spill. https://www.rferl.org/a/russia-norilsk-oil-spill-state-emergency-lifted-krasnoyarsk/31320583.html

E-Waste & Precious Metals Recycle Related:

- **Potential Basel Convention Changes Could Affect Movement of End-Of-Life Electronics**
    - The Ban Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal became law Dec. 5, 2019, having been adopted by the convention parties in 1995. The Ban Amendment prohibits shipments of hazardous waste from Organisation for Economic Co-operation and Development (OECD) countries to non-OECD countries for disposal or recovery.
    https://mail.yahoo.com/d/folders/1/messages/AJc7AZ58cXdeYNXmdgt5gFTLR6U
- **White House links e-scrap to 'resilient supply chains'**
    - In particular, the report emphasized the importance of recycling in supplying the country with rare earth elements, an area of concern due to U.S. reliance on China for the key metals. Rare earth magnets are found in the e-scrap stream, primarily in hard drives.
    - "Recycling of rare earth permanent magnets is an area of increasing activity among domestic entities," the report said. It cited a recent Department of Defense grant to a Texas rare earth recycler, as well as Department of Energy research into rare earth recovery, as examples of the growing interest from government agencies.
    https://resource-recycling.com/e-scrap/2021/06/24/white-house-links-e-scrap-to-resilient-supply-chains/?utm_medium=email&utm_source=internal&utm_campaign=June+24+ESN
- **Elephant in the room on solar power? A tsunami of solar panel pollution on the horizon**
    - "These early replacement decisions can create a tsunami of solar panel waste. … It is time for the industry and policy to seriously anticipate this tsunami of solar panel waste, possibly already within a decade."
    - At the same time, old panels often contain toxic pollutants such as lead. There's no major facility in Canada to recycle them just now and not many in the U.S., either. This means almost all used North American panels end up in landfills.
    https://edmontonjournal.com/news/national/david-staples-elephant-in-the-room-on-solar-power-a-tsunami-of-solar-panel-pollution-on-the-horizon
- **Experts discuss the record rise in copper prices - E-Scrap News**
    - The ISRI discussion came as copper prices have hit record highs. On the day of the session, the price was $4.53 per pound, up over 90% from a year earlier, according to the London Metal Exchange. As of Tuesday, May 19, the cash price was $4.75 a pound.
    - "This is quite a ride," said Chris Lewon, vice president of Utah Metal Works and moderator of the session. "I don't think anybody could have predicted this last year in the middle of the shutdowns from COVID."
    https://resource-recycling.com/e-scrap/2021/05/20/experts-discuss-the-record-rise-in-copper-prices/
- **Auto Catalyst Recycling - High Metal Prices And Supply/demand Issues**
    - The markets for Palladium and Rhodium are currently in a deficit and have been for some years now and will continue to be for a longer period ahead. A turning point will be the bigger market share of electric vehicle production to be expected by 2025. At the same time, OEMs will try to substitute some of the Palladium in catalytic converters with relatively cheaper Platinum. For Rhodium, there is currently no alternative technology. Rhodium is the best metal to reduce NOX emissions from gasoline cars, and emission regulations getting tighter in the future. Last year, China introduced 'China 6', which pushed the demand for Rhodium.
    https://autorecyclingworld.com/auto-catalyst-recycling-high-metal-prices-and-supply-demand-issues/

Platinum

- **Platinum Diesel Auto Catalyst Risk: How CDA Works to Cut Emissions, Improve Efficiency - Fuel Smarts - Trucking Info**

- CDA also offers huge potential to reduce nitrogen oxide (NOx) emissions. It will play a significant role in meeting 2024 and 2027 federal emissions requirements, as well as the new NOx-reduction and low-load-cycle emissions regulations currently being developed by the Environmental Protection Agency and the California Air Resources Board. https://www.truckinginfo.com/10145753/how-cda-works-to-cut-emissions-improve-efficiency

Fuel Cells/Hydrogen Economy Related Articles:

- **Hydrogen gas station network for Ford F150 LightningH**
  - The long-haul trucking industry will build an initial set of hydrogen stations to power their upcoming self-driving big rigs. I talked with their reps at a SEPA conference 2 1/2 years ago — they said they'd be happy to fuel our smaller vehicles, too. But, they'll focus first on a few highways: I-10, I-40… the good-weather, high-value arteries. Let's instead build our own network – one that can refuel a long-distance hydrogen vehicle anywhere in the U.S. That's the jump-start that's been missing. Elon did it for Tesla – he's approaching a thousand Supercharger stations in the U.S. alone. Let's begin with 10% of that number and grow it from there. https://www.hydrogenfuelnews.com/network-for-ford-f150-lightningh/8547196/
- **GM Technology Could Help Commercial Jets Shed 2 Tons of Weight at Takeoff**
  - "The fuel cell can bring in the air you're flying through, then we take hydrogen, which is stored on board, and combine it to make power and electricity; we can even make heat. It can also make water, leading to a huge fuel and emissions savings."
  - "A fuel cell is clean and the water product can be used to humidify the airplane or we can capture it and use it to flush toilets and sinks," Freese said. "The average aircraft takes off with two tons of water just to flush the toilet. We can now make water in flight." https://www.aviationpros.com/engines-components/news/21227347/gm-technology-could-help-commercial-jets-shed-2-tons-of-weight-at-takeoff
- **Giving Europe a Hydrogen (Pipeline) Backbone (Gas in Transition)**
  - H_2 dedicated pipeline in the EU: The 40,000-km network would be cost effective, transmission systems argue, largely because over two thirds would comprise existing gas pipelines. The new report, Extending the European Hydrogen Backbone, is an expanded version of a study issued last year, in which 11 gas TSOs were involved. The new study involves 21 countries and presents a full-scale hydrogen transmission network with a length of 39,700 km running from Finland to Spain and from the UK to Italy and Greece, which could be ready by 2040. 69% of the hydrogen backbone would consist of repurposed natural gas pipelines and 31% would be newly built.
  - Total investment cost would be between €43bn and €81bn ($52-98bn), the researchers estimate. Transport costs are estimated to be **€0.11-0.21/kg/'000 km**, which the report describes as "attractive and cost-effective, taking into account an estimated future production cost of €1.00-2.00 per kg of hydrogen." https://www.naturalgasworld.com/giving-europe-a-hydrogen-backbone-gas-in-transition-88840?
- **Cummins predicts hydrogen fuel cell trucks will be competitive with diesel by 2030**
  - In an S&P Global Platts report, it stated that Vice President for New Power Engineering Jonathan Wood from Cummins pointed to the improving cost of renewable hydrogen production and more affordable fuel cell production will bring the TCO down for fuel cell trucks.
  - "We think towards the end of this decade, we will be getting closer to TCO parity with a diesel engine," said Wood in the interview. "It does depend on region, it does depend on application, it does depend on electricity pricing … but that is the time frame we think we

will be getting close on TCO on some heavy-duty applications where we can get to low-cost hydrogen production."
https://www.hydrogenfuelnews.com/fuel-cell-trucks-cummins/8547312/

- **Siemens Energy set to provide hydrogen-capable turbines to Nebraskan plant**
    - Siemens Energy will provide two SGT6-5000F hydrogen-capable turbines to power Omaha Public Power District's (OPPD) new Turtle Creek Station Peaking Plant in Papillion, Nebraska. The hydrogen-capable turbines offer the ability to run on up to 30% hydrogen and biodiesel in support of future technology advancements.
    - The Turtle Creek Station is expected to be operational in late Spring of 2023. https://www.h2-view.com/story/siemens-energy-set-to-provide-hydrogen-capable-turbines-to-nebraskan-plant/
- **'Green' ammonia prices double that of regular supplies, according to Argus**
    - Argus has modelled a weekly price for green ammonia delivered to northwest Europe based on a theoretical "typical" production plant in the Middle East. This model currently yields a notional value of $1,196/t — more than twice the price of the conventional grey alternative. When compared with conventional fuels, in areas where green ammonia is seen as a promising substitute, the contrast is even more dramatic. Green ammonia is, for example, nearly four times the cost of fossil fuel-based marine shipping fuels, compared on an energy content, or British thermal units (Btu) basis. https://markets.businessinsider.com/news/stocks/green-ammonia-prices-double-that-of-regular-supplies-according-to-argus-1030549713

Palladium

- **Palladium Price Analysis: XPD/USD awaits US data around weekly top**
    - Palladium remains steady after refreshing one-week high.
    - Risk appetite remains firm on stimulus, trade news.
    - Fed's move, cautious mood ahead of US PCE inflation probe bulls. https://www.fxstreet.com/news/palladium-price-analysis-xpd-usd-awaits-us-data-around-weekly-top-202106250440
- **European new car sales rise 74% year-on-year in May**
    - European car registrations surged in May, rising for the third month in row, industry data showed on Thursday, as sales continued to recover from the low level reported last year when sales dropped across Europe due to coronavirus restrictions. http://uk.reuters.com/article/uk-europe-vehicleregistrations-idUKKCN2DT0IQ?utm_source=34553&utm_medium=partner
- **Used cars are selling for more now than when they were new**
    - In the past year, used vehicle prices on average have climbed 30%, according to Black Book, which tracks car and truck data. That's created many crazy situations where high-demand vehicles are selling for more than they did when they were new, said Alex Yurchenko, the company's senior vice president of data science. https://www.cbsnews.com/news/some-used-vehicles-are-selling-for-more-now-than-when-they-were-new/
- **Supply constraints to slow U.S. auto sales growth in June**
    - Growth in U.S. new vehicle retail sales for June is expected to be lower than the previous month, despite strong consumer demand, as supply constraints and chip shortages have led to lean inventories, consultants J.D. Power and LMC Automotive said on Friday. http://ca.reuters.com/article/idCAKCN2E11C2-OCABS?utm_source=34553&utm_medium=partner

PGM Minor Metals (Rhodium, Iridium, Ruthenium, Osmium)

- **Ruthenium PVD Targets: Avalanche announces space-grade Gigabit-density STT-MRAM**

    - pMTJ STT-MRAM developer Avalanche Technology announced its third-generation 1Gb space-grade parallel asynchronous x32-interface high-reliability P-SRAM (Persistent SRAM) memory devices. The company says that these new devices enable customers to design unified memory architecture systems for high reliability aerospace applications, in extremely small form factors. The new Parallel x32 Space Grade series is offered in 512Mb, 1Gb, 2Gb and 4Gb density options and has asynchronous SRAM compatible 45ns/45ns read/write timings.
    https://www.mram-info.com/avalanche-announces-space-grade-gigabit-density-stt-mram
- **Iridium and Platinum Catalysts: Smoltek's nanotechnology set to improve the efficiency of PEM electrolysers**
    - The unique quality of Smoltek's technology concept is that the catalytic nanoparticles of typically platinum nanoparticles of platinum or iridium oxide can be placed on an optimal nanostructure scaffold for the electrolyser cell, allowing for more & better mass transport of the products that arise.
    https://www.h2-view.com/story/smolteks-nanotechnology-set-to-improve-the-efficiency-of-pem-electrolysers/
- **Ruthenium and Iridium BWTS: 35,000 ships still need to install a ballast water treatment system within the next 40 months**
    - Ship repair yards are bracing for a "tsunami" of belated business as a key regulation comes into view.
    - Approximately 35,000 vessels still need to retrofit and install a ballast water management system in the next 40 months working out at 875 retrofitting installations per month.
    - "That is 700% more than what we have seen in recent years," said Per Nykjaer Jensen, head of Danish retrofitting specialists EUMT Techcross Scandinavia, in a video posted to YouTube this week.
    https://splash247.com/35000-ships-still-need-to-install-a-ballast-water-treatment-system-within-the-next-40-months/

Clean Energy General News (New Section)

- **How Ivanhoe's giant new Congo mine stacks up against copper mining's top tier**
    - Next year the mine will enter the top 10, and by 2026 when it enters steady state production it will vie with Freeport's Grasberg, itself in aggressive ramp up, as the number two mine in the world.
    - https://www.mining.com/how-ivanhoes-new-congo-mine-stacks-up-against-copper-minings-top-tier/
- **Soar Financial: YouTube / Twitter Live Stream Interview**
    - Expert: Clean Energy Minerals - Supply & Demand Effects on Price
    - Supply & Demand Effects on Price - Apple, Tesla & Google To Step Up!
    - Matt: Some expert … it's me.
    https://youtu.be/i5KuFy1YM3s
- **PGM Recovery Systems: YouTube Interview at IPMI Orlando Event last week.**
    - Why Our Current Mining Of Metals Won't Be Able To Keep Up With Demand For Creating Electric Vehicles!
    - Matt: It was You Tube interview week …. Some expert … it's me again.
    https://youtu.be/rVhuHJ8JNX8
- **The ongoing battle for stricter vehicle emission limits in Europe**
    - From an implementation standpoint, the European Commission is much closer to implementing Euro 7/VII standards than it is to setting CO2 standards or policies that achieve 100% sales of zero-emission vehicles. By implementing an ambitious and attainable Euro 7/VII standard this year, we can lock in the air quality benefits, ensuring that we will save lives. In other words, a Euro 7/VII standard is complementary to, rather than in conflict with, the transition to zero-emission vehicles.
    https://theicct.org/blog/staff/stricter-emissions-limits-eu-jun2021

BEV / LiB Battery Market News

- **High-nickel cathodes - an overview | Nickel Institute**

    - Among 3d transition metals, nickel ensures higher cell voltage and a continuous voltage profile, as well as a delocalized electron density i.e., good electronic conductivity. By employing higher amounts of Ni in the cathodes, the capacity increases. But this comes with a caveat - the adverse impact on the thermal stability and long-term cycling performance. Residual Li (Lithium hydroxide and lithium carbonate) form on the surface of a Ni-rich compound over time when exposed to air, which is detrimental to electrode slurry making and cyclability.
    - Scientists have come up with different strategies for solving the issues encountered in high-Ni-containing cathodes. Bulk doping (introducing impurities) as well as surface stabilization techniques impede gas evolution and other issues.
    https://nickelinstitute.org/about-nickel/nickel-in-batteries/high-nickel-cathodes-an-overview/
- **Recurrent Energy amps up battery storage activity executing on 2.3 GWh of storage projects**
    - With a pipeline of around 11 GWh of battery storage projects across the United States, of which 2.3 GWh are in late-stage development, Recurrent Energy has been actively developing both PV solar plus energy storage and standalone storage projects since 2014.
    https://batteryindustry.tech/recurrent-energy-amps-up-battery-storage-activity-executing-on-2-3-gwh-of-storage-projects/?
- **GM Doubles Down on Electric Vehicles**
    - The auto giant now plans to invest $35 billion in its electric-vehicle and autonomous-vehicle efforts through 2025.
    https://www.fool.com/investing/2021/06/20/gm-doubles-down-on-electric-vehicles/
- **Honda Isn't Giving up on Hydrogen, but EVs Remain Distant**
    - Did Honda back the wrong technology? The automaker doesn't think so.
    - Honda ends production of Clarity hydrogen fuel cell sedan, but isn't planning to drop FCV tech.
    - The automaker's next two EVs will arrive in 2024 with GM's Ultium battery and powertrain tech.
    - Honda's own EV architecture won't arrive until the second half of the decade, even as competitors scramble to field EVs much earlier.
    https://www.autoweek.com/news/green-cars/a36803459/honda-isnt-giving-up-on-hydrogen-but-evs-remain-distant/
- **Indonesia drawing plans to restrict nickel pig iron, ferronickel smelters**
    - Indonesia is considering a plan to restrict construction of smelters producing nickel pig iron or ferronickel in order to optimise use of its limited nickel ore reserves for higher-value products, a senior mining ministry official said on Thursday.
    - "Based on the input capacity of existing and under construction pyrometallurgical plants, assuming there is no further exploration, if constructions are not limited this high grade nickel ore reserve will only last for less than 20 years," he said.
    https://www.reuters.com/article/us-indonesia-nickel-idUSKCN2E00IG
- **A Mining Startup's Rush for Underwater Metals Comes With Deep Risks**
    - DeepGreen built a nearly $3 billion valuation on the dream of gently excavating the ocean floor. Now environmentalists want to block its plans to go public.
    https://www.bloomberg.com/news/articles/2021-06-24/a-mining-startup-s-rush-for-underwater-metals-comes-with-deep-risks

Regards –