



## Weekly Precious Metals News Articles: September 9, 2022

*Distribution: If you no longer wish to be on this mailing list, send me a note. If others want to be added to distribution, again let me know.*

### **Below is a cross section of relevant news article to the world of Precious & Critical Metals:**

This aggregation of current relevant article is assembled each week to follow precious & critical metals markets, supply & demand shifts, investment, mining, recycle and industrial applications.

**Printable PDF version with more embedded graphics is attached.** Enjoy-

### **Gold**

- [What Investors Miss About The Price Of Gold, And Where We Stand Today](#)
  - Gold should be looked at as a store of value and not as a long-term investment. Investors need to look at the entire landscape and not one or two economic indicators to determine the future value of gold.
  - Know the drawbacks of owning physical gold versus buying gold ETFs, you can find a list of topflight gold ETFs below.
- [Gold Price 'Still Lacking Safe-Haven Bid' as Eurozone Hikes Rates, Slashes GDP Forecasts](#)
  - "The question is when will we see gold take on more of a safe-haven role," Reuters quotes one derivatives broker, "as we begin to see economies slow due to these rising rate hike policies."
  - GDP growth across 19-nation EU was today reported at 4.1%/year for Q2, beating analyst forecasts.
- [Gold flat as more Fed rate hikes loom](#)
  - Gold prices were flat on Monday, after jumping +1.2% in the previous session, as cautious investors focused on the U.S. Federal Reserve's rate-hike path following a mixed jobs data.
  - Spot gold was unchanged at \$1,611.48/oz, as of 0148 GMT. Spot silver was steady at \$18.03/oz, platinum dipped -0.2% to \$833.34 and palladium fell -0.3% to \$2,015.81.

### **Semiconductor Related Articles (impacting Precious Metals electronics):**

- [Global Smartphone Shipments Expected to Decline 6.5% in 2022, Amidst Global Inflation and Softer Demand, According to IDC](#)
  - The decline is due to record-breaking inflation, geopolitical tensions, and other macroeconomic challenges that have significantly dampened consumer demand. As a result, the latest forecast figures represent a reduction of three percentage points from previous projections. However, IDC expects the setback to be short term and the market to rebound in 2023 with 5.2% growth year over year and, in the long term, a five-year CAGR of 1.4%.
- [PC shipments expected to drop this year](#)
  - Economic headwinds are expected to worsen consumer sentiment and contract the market over the next six quarters, a research firm said.
  - Worldwide PC shipments are forecast -12.8% to 305.3 million units this year, due to higher inflationary pressure, a weakening global economy and a higher comparison base last year.

- [Chip industry seeks an ecosystem-wide solution as ESG catches up with Moore's Law](#)
  - According to Ho, 62% of TSMC's carbon emission came from electricity use, while 24% came from its supply chain. To meet its zero-emission target before 2050, Ho said that TSMC would spend up to 2% of its annual revenue on ESG initiatives.
- [Samsung starts operation of mega chip manufacturing line in Korea](#)
  - The new production line (P3) in Pyeongtaek, the largest chip manufacturing facility ever built to date by Samsung, has started production of state-of-the art NAND flash since July.
  - "The Pyeongtaek campus is fast emerging as Samsung's key manufacturing hub for cutting-edge semiconductors ranging from the world's smallest 14-nanometer (nm) DRAM and leading-edge V-NAND to sub-5nm logic solutions," Kyung Kye-hyun, CEO and president of Samsung's device solutions division, said at a rare press event at the campus, some 70 kilometers south of Seoul.
- [TSMC says production capacity fully utilized despite order cut report](#)
  - The world's largest contract chipmaker TSMC reiterated on Wednesday that its production capacity remains fully utilized, following a media report that four of its major clients have scaled back orders, in comments to CNA.
  - Although TSMC declined to comment on market speculation about whether major clients have scaled back orders, the company said full capacity utilization will continue until the end of the year and its sales growth forecast for the year remains unchanged.
  - A front-page article in the Chinese-language Economic Daily News Wednesday cited a research report from J.P. Morgan as saying that four of TSMC's largest clients, Taiwan's IC designer MediaTek Inc. and three U.S.-based IC design houses AMD, Qualcomm Inc. and Nvidia Corp., have cut orders with the contract chipmaker, as the global semiconductor industry experiences inventory adjustments at a time of weakening demand.
- [Biden's \\$270 billion semiconductor bill to battle China isn't that big a deal, Goldman says. Unless there's some kind of huge 'international conflict'](#)
  - Last month, President Joe Biden signed into law the much-awaited CHIPS Act, a package that will funnel more than \$70 billion into the American semiconductor industry and set aside approximately \$200 billion for further scientific and technological research.
  - Biden's big win is likely not big enough to rid the global economy of its semiconductor supply-chain woes of the past few years, Goldman's research team, led by the investment bank's chief economist Jan Hatzius, found. But that could change quickly if, say, a major international conflict erupts between chipmaking countries given the "current concentration of production and expertise in Taiwan and Korea."

## Silver

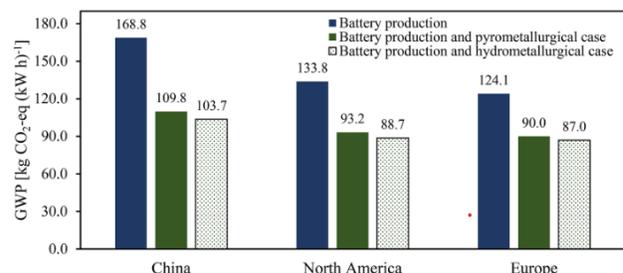
- [For Glimpses of Silver's Future, Look to Copper Not Gold](#)
  - Silver slipped below \$18 for the first time since June 2020, but some experts see it as having a unique path to recovery. "Don't pay attention to gold, pay attention to copper," said Ole Hansen, head of commodity strategy at Saxo Bank, in a phone interview with MarketWatch.
  - Gold is down 6% on the year, which has it ahead of the market at large. Silver, meanwhile, has fallen 23%, more closely matching copper's 21% decline.
- [Silver May Well Be Worth Buying After The Great Correction](#)
  - The prices of both gold and silver struggle as the Fed looks hawkish.
  - The prices of the grey metal depend on the health of the global economy since silver is both a hedge against inflation and an industrial metal.
  - It is likely the prices of silver will be under pressure for a short or even a medium time period. But the fundamental long-term thesis remains intact.

## Precious Metals Mining:

- [Implats to smoke out Northam's intentions for RBPlat after saying it would close bid in weeks](#)
  - Implats CEO Nico Muller said the company would close its takeover bid for Royal Bafokeng Platinum (RBPlat) at the month-end, a development that is likely to smoke out Northam Platinum's ambitions with respect to RBPlat. Muller said Implats expected an outcome to Competition Appeal proceedings "in the next few days" in which Northam has argued Implats' offer for RBPlat is prejudicial to the rights of smaller miners in South Africa's PGM industry.
- [The revolving door of Zimbabwe's mining investment keeps on spinning](#)
  - Zimbabwe's mining sector was delivered a body-blow in June when Russian firm Vi Holding withdrew its support for the long-proposed platinum group metals (PGM) mine Darwendale.
  - Darwendale is scoped to produce up to 860,000 oz of PGMs annually, a scale requiring \$3bn in investment, \$500m for its first phase alone. Government seems undeterred by the task: "That platinum project is a great asset for the country and we are not only focusing on platinum in acquiring shareholding but other assets as well," said George Guvamatanga, Zimbabwe's finance permanent secretary in an interview with Bloomberg News. "That is the new thrust of government."
- [Amplats cuts refined PGM target after Polokwane smelter rebuild delayed two months](#)
  - Amplats has cut its forecast for full year production of refined PGMs by up to 700,000 ounces following a delay in the commissioning of its Polokwane smelter rebuild project.
  - The Anglo American controlled firm said in an announcement today refined output will be between 3.7 to 3.9 million ounces compared to its previous forecast of four million to 4.4 million oz.

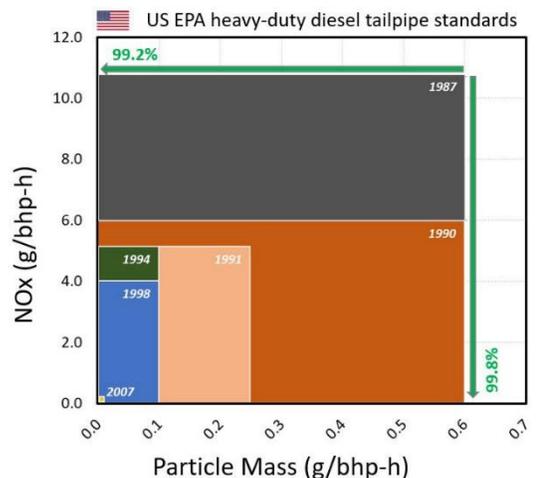
## E-Waste & Precious Metals Recycle Related:

- [Jewelry made with recovered metals gaining traction](#)
  - Jewelry made from recycled gold and silver is becoming more popular, especially among younger consumers. A recent New York Times article featured several jewelry companies that use metals reclaimed from electronics. For example, Danish brand Pandora, the largest jewelry maker by volume, announced in 2020 that by 2025 all of its jewelry would be made from recycled gold and silver, some of which would come from e-scrap.
  - In the article, Kim Parker, a jewelry editor and the former executive fashion and jewelry director for Harper's Bazaar U.K., said recycled gold "started off being a kind of a small consumer-led sort of trend, but now, you know, it's something that consumers are actually demanding."
- [California landfills are filling up with toxic solar panels - Los Angeles Times](#)
  - Solar panels purchased for home use under incentive programs many years ago are nearing the end of their life cycle. Many are already winding up in landfills.
  - Sam Vanderhoof, chief executive of Recycle PV Solar, says that only 1 in 10 panels are actually recycled, according to estimates drawn from IRENA data on decommissioned panels and from industry leaders.
  - The looming challenge over how to handle truckloads of waste, some of it contaminated, illustrates how cutting-edge environmental policy can create unforeseen problems down the road.
- [Life cycle assessment of recycling options for automotive Li-ion battery packs](#)
  - Hydrometallurgical processing is more beneficial due to the recovery of Li.
  - Most environmental benefits arise from recovered Al, Cu and Co fractions.
  - Recycling achieves reductions of more than 30% in 11 out of 13 impact categories.
  - Geographic specificity is a key source of GWP variability.



## Platinum

- **WPIC: [Platinum Quarterly Q2 2022](#)**
  - Forecast 2022 platinum surplus has increased since our last forecast, driven by negative investment demand, despite weaker supply and robust automotive, jewelry and industrial demand.
  - There have been significant downward revisions to 2022 supply expectations, driven by operational constraints in South African and North American mining operations and delayed end-of-life vehicle scrappage hampering recycling supply.
  - Bar and coin demand remains elevated ... Significant continued negative ETF demand ... Russia, contributing 11% of global platinum mine supply, still seems to be able to deliver to customers
  - China is continuing to import platinum at rates that are well in excess of its identified demand. If this rate continues through the 2H of 2022, it would more than absorb the forecast full-year surplus.
- **[Platinum remains well supported even as surplus grows to 974k ounces – WPIC](#)**
  - According to the WPIC quarterly platinum outlook report, the precious metal saw a surplus 349,000 ounces in the second quarter. For the year, the report said that the total surplus is expected to increase to 974,000 ounces, up from the previous estimate of 627,000 ounces.
- **[Modern trucks emit 99% lower emissions compared to those two decades ago, but it's not enough – LinkedIn Post from Dr. Ameya Joshi/Corning](#)**
  - Modern trucks emit 99% lower emissions compared to those two decades ago.
  - The latest regulations in California will require a further 90% reduction in tailpipe NOx emissions (that would be 90% of that little yellow box near the origin in this graph!)
  - Furthermore, the standards would apply to broader operating conditions including low loads, when the exhaust temperatures are below 200°C with limited SCR activity. The key challenge then is to reach the after-treatment hot as soon as possible, and remain warm throughout operation, to reduce cold-start and low load emissions. Electrically heated catalysts are not new and have been used primarily for light-duty passenger cars, but they are also being considered as one tool for meeting the upcoming standards including potentially for Euro VII.
  - Here's an article discussing some of the work we have done: [Meeting future NOx emissions using an electric heater in an advanced aftertreatment system](#)



## Fuel Cells/Hydrogen Economy Related Articles:

- **[Green hydrogen project in Louisiana scores \\$50 million federal grant](#)**
  - The project was proposed by the H<sub>2</sub>theFuture coalition for a clean H<sub>2</sub> cluster in South Louisiana. The project was one of 21 different projects to receive grants through the Build Back Better Regional Challenge
- **[US DoE seeks to fund nuclear hydrogen production and use projects](#)**
  - The nuclear H<sub>2</sub> project applications are for a funding opportunity amendment meant to support the development of thermal integration into plants. This would make it possible for those power plants to achieve high-temperature H<sub>2</sub> production. The opportunity also extends to end uses for nuclear power linked with hydrogen fuel.
- **[\\$8.3M award boosts chemistry research into fuel cells, batteries](#)**

- Cornell Chronicle: Professor Héctor D. Abruña, the E. M. Chamot Professor in the Department of Chemistry and Chemical Biology in the College of Arts and Sciences, has been awarded \$8.3 million to further his group's research related to fuel cells and advanced battery technologies.
- [Linde to more than double liquid green hydrogen capacity in the US](#)
  - Linde said it will more than double its green liquid H<sub>2</sub> production capacity in the US, with a brand-new 35MW (PEM electrolyzer) plant in Niagara Falls, New York.
  - Set to be operational by 2025, the plant will be fitted with a proton exchange membrane electrolyser and use hydroelectric power to produce liquid green hydrogen.
- [BMW starts production of fuel cells for hydrogen-electric X5](#)
  - "We think hydrogen-powered vehicles are ideally placed technologically to fit alongside battery-electric vehicles and complete the electric mobility picture," Oliver Zipse, BMW Group's CEO, said in a statement. "By commencing small-scale production of fuel cells today, we are demonstrating the technical maturity of this type of drive system and underscoring its potential for the future."
- ['Disproportionate' EU Green H<sub>2</sub> rules risk mass exodus to US, warns H<sub>2</sub> Europe](#)
  - The rules of the Delegated Act would require all renewable H<sub>2</sub> production to source power from dedicated renewable energy installations, with any grid-sourced green electricity offset by dedicated power supply within the hour, a process H<sub>2</sub> Europe calls temporal correlation.
  - Other countries such as India are planning to allow "banking", where green H<sub>2</sub> developers that produce their own renewable electricity can "bank" their excess supply with a local power distributor for up to 30 days, and buy it back at a fixed price when needed.
  - No such requirements are incumbent upon H<sub>2</sub> producers in the US Inflation Reduction Act, which is praised for its "clear and simple" framework on H<sub>2</sub>, especially the tax credit of \$3 per kg, which has the potential to make US-produced green H<sub>2</sub> cheaper than grey overnight.
  - *Matt: Saying it differently, regulators think forcing green H<sub>2</sub> (and later even Green Ammonia) plants to feed only off of variable renewables will screw their whole operations and cost structure overnight. Electrolyzers certainly have the benefit of quick scaling to variable energy input, but trying to be cost effective running an operating only 8-10 hours a day is a cost loser, killing green projects before they even get off the ground. Habor Bosch Ammonia synthesis does not respond well to part day operation. Forcing variable renewables is a Green H<sub>2</sub> (and likely green ammonia) project show stopper for the EU.*
- [Sasol partners with Japan's Itochu for green hydrogen projects](#)
  - S. African petrochemical firm Sasol said it was partnering with Japan's Itochu to explore the development of green H<sub>2</sub> and green ammonia projects for shipping fuel and power generation.
- [China Sinopec Lowers Hydrogen Development Target for 2025](#)
  - Chinese refiner Sinopec Corp is aiming to build 120,000 mtpa H<sub>2</sub> filling capacity for 2025, -40% below the goal set a year ago. The H<sub>2</sub> capacity targets mostly the transportation sector as the state oil and gas major builds H<sub>2</sub> filling stations alongside its vast network of petrol stations.
  - Built 83 H<sub>2</sub> filling stations and another 13 were under construction.
  - China's economic planner, the National Development and Reform Commission said in March the country envisaged 50,000 H<sub>2</sub>-fueled vehicles by 2025 and aimed for 100,000 to 200,000 mt's of green H<sub>2</sub>, made using renewable energy, production by then.
- [Topsoe confirms final investment decision for construction of world's largest SOEC electrolyzer plant](#)
  - The Board of Topsoe has now taken final investment decision (FID) to begin construction of the world's largest SOEC electrolyzer manufacturing plant in Herring, Denmark.
  - Plant manufacturing capacity is 500 MW per year with an option to expand to 5 GW.
  - First offtake agreement in place.

## Palladium

- [August 2022 MobilityNotes: Advanced Clean Cars II, Off-road Tier 5 - and more](#)
  - California's Advanced Clean Cars II is done - included is the 2035 ICE ban and what happens to the other "CA states"
  - Update on CARBs off-road low NOx rulemaking
  - The Japanese are investing in batteries in the US
  - New ICE engine developments are happening despite headline news to the contrary – OEMs have to meet upcoming fuel economy & low NOx regs – a note on new engines introduced by Navistar, Stellantis, and a potential order for Cummins H2 ICE for HD trucks
  - Announcement on the world's largest solid oxide electrolyzer plant for generating H2 to be used in making synthetic fuels.
- [The 17 states that follow California's emission standards and might now BAN gas cars](#)
  - Seventeen states with vehicle emission standards tied to rules established in California face weighty decisions on whether to follow that state's strictest-in-the nation new rules that require all new cars, pickups and SUVs to be electric or hydrogen powered by 2035.
  - Under the Clean Air Act, states must abide by the federal government's standard vehicle emissions standards unless they at least partially opt to follow California's stricter requirements.

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

- **(Ir & Pt Catalysts)** [Linde to more than double liquid green hydrogen capacity in the US](#)
  - Linde said it will more than double its green liquid H<sub>2</sub> production capacity in the US, with a brand-new 35MW (PEM electrolyzer) plant in Niagara Falls, New York.
  - Set to be operational by 2025, the plant will be fitted with a proton exchange membrane electrolyser and use hydroelectric power to produce liquid green hydrogen.
- [Cummins To Expand PEM Electrolyzer Manufacturing Capacity At Oevel, Belgium, Factory To 1GW](#)
  - The Important Project of Common European Interest (IPCEI) Hy2Tech program will help Cummins develop a new generation of PEM electrolyzer cell stacks to power large-scale H<sub>2</sub> production systems.
  - Cummins has added capacity at its Mississauga, Canada, facility and is building two new electrolyzer factories in Spain and China, each starting at 500MW of manufacturing capacity and scalable to 1GW.

## Clean Energy General News

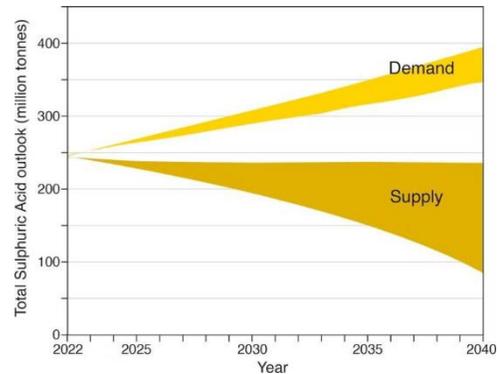
- [Switching The World To Renewable Energy Will Cost \\$62 Trillion, But The Payback Would Take Just 6 Years](#)
  - *Matt: Hysterical. No rational solution for energy storage presented. Idealistic hopeium*
- [Liz's big moment: Truss will unveil £150bn plan to freeze energy bills at £2,500 TODAY - but warn fracking and North Sea reserves MUST be used to stop costs soaring again in future](#)
  - Liz Truss is set to ease the pain of energy bills for households by freezing them at £2,500
  - New PM insists that failing to take action on the scale of the Covid response would damage economy.
  - But Ms. Truss will warn that major changes are needed to shore up Britain's long term energy supplies
- [Metal Plants Feeding Europe's Factories Face an Existential Crisis](#)
  - Power-intensive aluminum smelters say they need government support to survive.
  - Closing an aluminum smelter is an agonizing decision. Once power is cut and the production "pots" settle back to room temp., it can take months and tens of millions of dollars to bring them back online.
  - Yet Norsk Hydro ASA is preparing this month to do exactly that at a huge plant in Slovakia. EU production at the lowest levels since the 1970s and industry insiders say the escalating energy crisis is now threatening to create an extinction event across large swathes of EU's aluminum production.

- [The world's largest offshore wind farm, powering 1.4 million homes \(with 1.3 GW\), is now live](#)
  - Located 55 miles off the coast of Yorkshire, Hornsea 2 is adjacent to the Hornsea 1 in the North
  - The project is housed in an area of 462 sq. km., about half the size of New York City, are 165 (8MW) wind turbines sourced from the turbine maker Siemens Gamesa. Each turbine blade is 265 feet long, and the blade tip reaches a height of 656 feet above sea level.
- [Hydro's roadmap to zero-emission aluminum production](#)
  - Hydro is committed to achieving net-zero emissions by 2050 or earlier. Our efforts are concentrated along three main pathways to zero:
    - Recycling of post-consumer scrap with decarbonized operations
    - Carbon capture and storage for existing smelters (CCS)
    - Development of Hydro's proprietary HalZero technology for greenfield smelters
- [Going Hungry - A Commentary By John Stossel](#)
  - Much of that waste comes from synthetic fertilizer, so activists applauded when Sri Lanka's government decided to become the first country to really take their advice. Sri Lanka banned all synthetic fertilizers. Oops. Suddenly, the same farms produced much less food. Food prices rose 80%. One result: riots. As my new video shows, thousands swarmed the president's mansion. The president resigned and fled the country. It turns out that we need chemical fertilizers.
  - "We could only support 2 to 3 billion people on earth if we just relied on natural fertilizers like manure. ... There's 8 billion people." "It takes twice as much land to produce all the cows that you need to get the manure," he explains. "Synthetic fertilizers are a friend to saving nature because they reduce how much land we need."
- **A Quick Follow-Up: [A new factory, set to be built in Hunterston, Scotland, will manufacture the world's longest subsea cable that will carry clean energy from Morocco to the UK.](#)**
  - **Matt: \$20B in Solar and Wind, but \$20B to connect the power to the UK power grid.**
  - *They chose 360kt Carbon Steel (and not 140kt copper) for cable material. Added transmission loss percent unknown.*
  - **10.5 GW of Wind + Solar in Morocco.** *At typical large scale industrial price of \$2/kW installed, this is \$20B (£17bn) dollar project just in terms of the Windmills and Solar PV alone*
  - **Then add another \$19.5B to connect to UK grid 2,361 mile away.** *Suddenly it becomes very apparent why these offshore projects are so extremely costly. You spend as much on transmission as the renewables. Also, large UK infrastructure \$ needed too. Recall, this is a UK project. Spain, Germany & others in EU have expressed interest to do the same.*
  - **Transmission:** *The £17bn (\$19.5B USD) subsea cable project will power ~7 million UK homes by 2030. Four 3,800km-long cables made of 90,000 tons of steel will transport 7GW of solar and 3.5GW of wind energy from the Sahara Desert, carry it past Portugal, Spain and France, and deliver it to the UK. Matt: If they would have chosen copper, it would another billion in cost.*
- [Opinion: Axe the fertilizer ban](#)
  - By seeking to reduce fertilizer emissions by 30% by 2030 the federal government, like the governments of Sri Lanka and the Netherlands before it, is now advancing a policy that will threaten food production, increase food insecurity and raise prices.
  - Where does the 30% number come from? It is the target touted by key environmental groups, is similar to that set by the EU Green Deal in early 2020 and reflects Canada's December 2020 commitments to the UN that led to the 2021 Draft Federal Sustainable Development Strategy 2022-2026. Principles from the UN Sustainable Development Goals were also incorporated directly into the 2021 mandate letters of cabinet ministers. Canada clearly is following in lockstep with policy goals set by the EU and UN that also encompass plans to: **increase land set aside for nature to 30%, place at least 25% of agricultural**



land under organic production, reduce “nutrient loss of fertilizers” by 50% (or at least reduce overall fertilizer use by 20%) and reduce pesticide use by 50%.

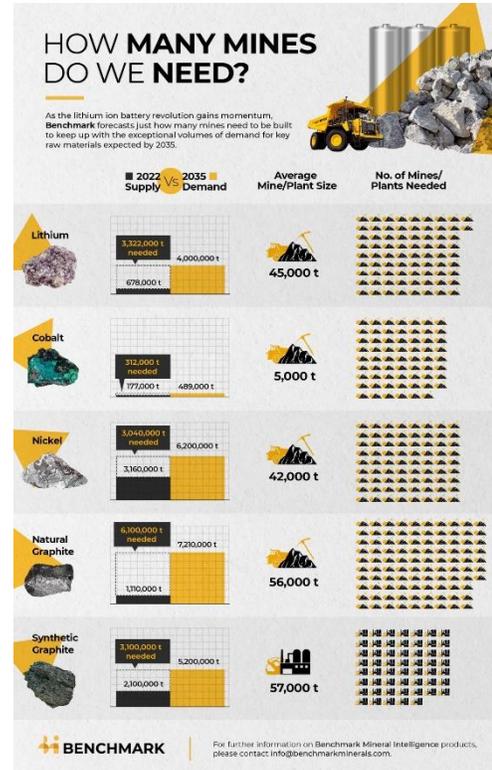
- [The list of fertilizer and chemical plants shutting down or rationing in the EU is impressive.](#)
  - With these natural gas prices, the list will grow. According to an ICIS Official, around 40% of urea production may have been cut in EU. Despite a possible recession, food prices will increase.
  - Away from nitrogen, plunging prices in sulphur were likely a warning of what is to come in sulphuric acid, phosphates and potash as ample supply and weaker demand conspire to create the perfect storm. Additional downside is expected across the latter three in coming weeks.
- [A projected shortage of sulfuric acid](#)
  - A projected shortage of sulfuric acid could stifle green technology advancement and threaten global food security, according to a paper published in The Geographical Journal.
  - Required for the production of fertilizers and for (mining and reeving clean energy metals).
  - Global sulfuric acid demand is set to rise significantly from 246 to 400 million metric tons (Mt) by 2040.
  - This will result in a shortfall in annual supply of between 100 and 320 Mt's (40% to 130% of the current supply), depending on how quickly decarbonization occurs.
  - More than 80% of the global sulfur supply is a waste product, extracted from fossil fuels.
- [Sulphur Programme 2.0 – Worlds largest Ni and Pd Miner developing its own path to Sulfuric Acid](#)
  - Sulphur Programme 2.0, Nor Nickel's new comprehensive environmental protection programme, aims to achieve world-class performance in sulphur capture and zero emissions within the cross-border zone affected by Kola MMC.



## **BEV / LiB Mineral & Battery Market News**

- [America Is Getting Battery Plants—What About Mines? - WSJ](#)
  - For electric vehicles to qualify for Washington's new tax credits, a wave of investment in mineral extraction and processing will have to follow the build-out of U.S. battery plants
- [Toyota doubles down on its hybrid bet in India](#)
  - Toyota teams up with Suzuki to crack Indian hybrid market
  - First new model is compact SUV, people-carrier to follow
  - Toyota aims to lower costs by making components in India
- [A New Chinese EV Battery Giant Has Emerged](#)
  - The military-linked company is expanding fast, further cementing Beijing's dominance of the supply chain and pushing past any geopolitical concerns.
- [Honda locks up additional EV battery minerals in new partnership with Hanwa](#)
  - Honda is forming a new partnership with materials trading company, Hanwa, to source critical EV battery materials. The automaker's new deal comes just a week after announcing it will invest \$4.4 billion with LG Energy to build LiBs in the US for Honda and Acura EV models. Honda expects to start construction for the new battery facility early next year with plans to generate 40 GWh annual capacity.
- [Redwood Materials closes in on search for sites in Europe](#)

- The battery recycling specialists around former Tesla man Straubel want to invest €1Bn.
- The recycling company is also considering a location in Scandinavia. Central or northern Sweden has been named, and according to several insiders, the company was in detailed discussions and preparing the final cost estimates. According to current plans, Redwood wants to select a site this autumn and has set up a small office in Mannheim, Germany. Ex-BASF manager Dirk Demuth has been appointed to lead the European expansion.
- **How Many Mines Do We Need?**
  - More than 300 new mines could need to be built over the next decade to meet the demand for electric vehicle and energy storage batteries, according to a Benchmark Mineral Intelligence forecast.
  - To meet the world's nickel requirements would require around 62 mines, including projected volumes of recycled.
  - *Matt: By 2050, over 1,000 new mines are needed.*



Regards – Matt



**Matt Watson, President**

**Precious Metals Commodity Management LLC.**

1694 Cairo Street, Livermore, CA 94550

(925) 321-2686

Email [MattWatson@PreciousMetalsCommodityManagement.com](mailto:MattWatson@PreciousMetalsCommodityManagement.com)

URL: <https://www.PreciousMetalsCommodityManagement.com/>



Newsom Promises There Will Be Enough Electricity For All Californians After Everyone Moves To Florida



California Government Recommends Purchasing A Giant Hamster Wheel To Charge Your Electric Car



Gavin Newsom Now Running Ads In Florida And Other States Where People Can Still Turn On Their TVs