



Weekly Precious Metals News Articles: April 22, 2022

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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

- [Gold heads for weekly dip on looming rate hikes, strong dollar](#)
 - Gold fell 1% on Friday en route to its biggest weekly decline since mid-March as indications of fast interest rate hikes from the U.S. Federal Reserve drove Treasury yields and the dollar higher.
- [Gold investors bet against Fed as war threatens paradigm shift](#)
 - “Gold has effectively been questioning the Fed’s ability to raise actual real rates, while delivering a soft landing for the economy,” said Marcus Garvey, head of metals strategy at Macquarie Group Ltd. “You could argue gold has very heavily priced the Fed not being successful.”
- [Curcumin and gold nanoparticles key to ethanol fuel cells](#)
 - Curcumin and gold nanoparticles have been combined to create an electrode that requires 100 times less energy to convert ethanol into electricity.
- [Chiral gold nanoparticles increase vaccine efficacy by more than 25%, study suggests](#)
 - Vaccines can be made 25+% more effective by adding left-handed chiral gold nanoparticles as adjuvants, according to a study by an international collaboration.

Semiconductor Related Articles (impacting Precious Metals electronics):

- [TSMC expects global semiconductor sales to grow by 13% in 2022](#)
 - In its annual report released earlier this week, TSMC said in the wake of expanding 5G services, the faster pace of artificial intelligence development, and digital transformation, the demand for electronic gadgets was expected to grow at a stable rate and boost semiconductor sales, excluding memory chip revenue, by 11-13 percent this year.
- [Making chips in U.S. too expensive: TSMC founder](#)
 - It costs TSMC 50% more to make the same product in the U.S. than in its chip factories in Taiwan, Chang said in a recent podcast interview with the Brookings Institution.
 - Chang was skeptical about Washington's push to boost domestic semiconductor manufacturing in response to concerns that Taiwan may not be safe as a war between China and Taiwan could erupt in the Taiwan Strait and disrupt chip supplies, saying that if there was no war, then this would be a wasteful and expensive exercise in futility.
- [54% of semiconductors were manufactured by US companies in 2021](#)
 - After the U.S., South Korean companies were second in overall IC sales last year with 22% market share, followed by Taiwanese companies, on the strength of their fabless company IC sales, holding

9% of global IC sales, compared to a 6% share held by European and Japanese suppliers. Chinese vendors only captured 4% of the total market in 2021.

- **[Ford's Chicago plant shut down this week as semiconductor shortage enters its 2nd year](#)**
 - Ford's Chicago Assembly Plant shut down this week due to the global semiconductor shortage, now entering its second year of roiling the auto industry. Production also suspended at Michigan Assembly Plant (Bronco and Ranger), while F-150 (Pickup Truck) production was curtailed at its Kansas City plant.
 - "The global semiconductor shortage continues to affect Ford's North American plants, along with automakers and other industries around the world," Ford spokeswoman Kelli Felker said Tuesday.

Silver

- **[Silver Prices Face Downward Pressure as Yields Surge Higher](#)**
 - Silver prices continued to decline as benchmark yields rally amid expectations for tighter monetary policy. Yields continue to spike as Fed Chair Powell speaks on the global economy at IMF. This situation comes as investors show concerns around rising inflation & tighter hawkish monetary policy.
- **[Silver demand to reach its highest on record in 2022, Silver Institute says](#)**
 - Silver demand will climb to a record level this year thanks to increasing use of solar panels as governments boost renewable energy to meet climate goals, setting the stage for years of supply deficits, an industry report said on Wednesday.
- **[Global industrial demand for silver hits record in 2021, and is set to extend gains this year](#)**
 - Global industrial demand for silver climbed to its highest level on record in 2021.
 - Silver's use in industrial applications rose 9% to an all-time high of 508.2 million ounces in 2021
 - Philip Newman, managing director at Metals Focus, told MarketWatch "Industrial demand also managed to reach a new high despite the ongoing chip shortage and other supply-related disruptions"
 - Silver use in photovoltaics, which is the conversion of sunlight into electricity, grew
 - Investment in physical silver jumped 36% to 278.7 million ounces
 - All categories of global silver demand, which include industrial, investment and jewelry, strengthened last year, taking total demand to 1.05 billion ounces, up 19% from 2020, the report said.

Precious Metals Mining:

- **[\(IMPLATS\) Miner expands beneficiation facilities](#)**
 - Platinum-group metals (PGMs) producer Impala Platinum (Implats) has committed about R12-billion over five years to expand its Southern African processing facilities.
 - The company will in expanding its existing Zimbabwean smelting capacity and constructing a sulphur dioxide abatement plant to mitigate air quality impacts. The smelter has access to hydropower. The addition of a 35 MW solar plant, which will be expanded to 185 MW in a phased approach, will result in an "industry-leading" environmental footprint for the Zimbabwean smelting facilities.
 - The expansion will accommodate an additional 600 000 oz/y which, post-smelting, will be transported to Implats' South African processing facilities for further refining.
- **[There's no green economy without mining: Rickford](#)**
 - Northern development minister challenges environmental groups to 'get on board' with Ontario Minerals Strategy. "There is no such thing as a green economy without mining," the minister said. "So if an environmentalist wants to take issue with mining, check your iPhone, that's your critical minerals. Think about your electric vehicle. Think about battery storage. That's coming from critical minerals. We have them in exquisite quantities and qualities here in the North," Rickford said.
- **[Biden's Efforts To Boost Mining Won't Matter Without Permits](#)**

- As Bloomberg noted following Biden’s announcement, his plan does nothing to streamline these often-Byzantine permitting processes. That omission was frustrating to National Mining Association President Rich Nolan, who Bloomberg quotes as saying that “Unless we continue to build on this action, and get serious about re-shoring these supply chains and bringing new mines and mineral processing online, we risk feeding the minerals dominance of geopolitical rivals. We have abundant mineral resources here. What we need is policy to ensure we can produce them and build the secure, reliable supply chains we know we must have.”
- [Anglo revises full-year production guidance for PGMs, met coal, iron-ore lower](#)
 - Full-year guidance for PGMs has been revised down to between 3.9-million and 4.3-million ounces, compared with the previously expected 4.1-million to 4.5-million ounces.
- [Miner Barrick's First-Quarter Output Hurt by Nevada Gold Mines](#)
 - Miner Barrick Gold, said on Thursday first-quarter production fell 17.7% from the previous three months, hurt by lower output at its Carlin and Cortez mines in Nevada.
 - Barrick said gold output was lower at its Carlin and Cortez mines due to depletion of stockpiled higher grade underground ore after the mechanical mill failure at a roaster facility, which processes the gold ore, in the second quarter last year.

E-Waste & Precious Metals Recycle Related:

- [Apple says nearly 20% of all material used in its products in 2021 was recycled, adds recycled gold certificate](#)
 - According to the company, in 2021, 59% of all the aluminum Apple shipped in its products came from recycled sources, with many products featuring 10% recycled aluminum in the enclosure.
 - 4% certified recycled rare earth elements.
 - 30% certified recycled tin, with all new iPhone, iPad, AirPods, and Mac devices featuring 100 percent recycled tin in the solder of their main logic boards.
 - 13% certified recycled cobalt, used in iPhone batteries that can be disassembled by Apple’s recycling robot Daisy and returned to the market.
 - Certified recycled gold, featured in the plating of the main logic board and wire in the front camera and the rear cameras of iPhone 13 and iPhone 13 Pro.
- [Apple unveils ‘groundbreaking’ recycling machine](#)
 - US technology giant Apple has launched a recycling machine which it says can capture metals from its products better than “conventional shredders recyclers rely on”.
 - Apple explained that its new machine, Taz, is designed to recycle modules containing rare earth magnets as an alternative to the conventional shredder many recyclers rely on.
 - “New shredder-like technology to separate magnets from audio modules and recover more REEs”.
 - Taz was designed by “engineers and experts” and a pilot plant has been operating in Austin, Texas.
- [Inside the high-powered process that could recycle rare earth metals](#)
 - Which is why researchers are innovating to find new ways of breaking rare earths down. Some have tried bacteria, but feeding those microbes has proven energy-intensive.
 - Now, one group from Rice University has devised a recycling method that relies on intense electricity called “flash joule heating.” The researchers behind it had previously tested it on old, chopped-up circuit boards to strip them of precious metals like palladium and gold and heavy metals like chromium and mercury before safely disposing them in agricultural soil.

Platinum

- **Platinum Jewelry Sales Continue Their Record Growth**
 - PGI said year-end sales saw a 15 percent increase in 2021 when compared with 2020, which was already up 3 percent over 2019.
- **The prospect of platinum use in battery electric vehicles is on the horizon**
 - Development of PGM use in batteries has also shown that platinum and palladium are able to improve the energy density of existing lithium-ion batteries. With early indications showing that PGM based lithium-ion batteries could extend BEV range by as much as 30 per cent, this also means that, for the same battery range, batteries could be 30% lighter, the weight of heavy batteries being a large drawback for BEVs, particularly in trucks.
- **Platinum retraces back toward \$1000/oz**
 - Platinum has had a bullish few sessions bouncing off the recent lows of \$951.50/oz. The price is now heading toward the psychological \$1000/oz area but there has been a lot of congestion in that area in the past.

Fuel Cells/Hydrogen Economy Related Articles:

- **BMW Says It's Still into Hydrogen, Not All-In on EVs Yet**
 - Toyota isn't the only one pushing for hydrogen.
 - Going electric is the thing of the moment for a lot of automakers. In addition to boutique electric marques like Rivian, Tesla, and Lucid, OEMs the world over are announcing their lineups are going to be "all-electric by 20XX." However, there are still some holdouts. Honda only makes one electric vehicle, despite pledging to ramp up EV production by 2030. Toyota is still putting serious cash into hydrogen despite cars like the bZ4X, and BMW, well BMW just doesn't want to go electric.
- **Beijing H₂ body admits that Chinese electrolyzers cannot compete with Western machines, yet**
 - Despite being far cheaper to buy, inferiority of Chinese electrolyzers means their levelised cost of H₂ would actually be higher, says China Hydrogen Energy & Fuel Cells Industry Innovation Strategic Alliance
 - Chinese-made electrolyzers have thicker separators in the electrolyser stacks — 1mm, compared to less than 0.5mm in the West — resulting in lower current densities and therefore lower efficiencies.
 - CNTHE, China's third-largest electrolyser maker is developing a pressurised alkaline machine that would increase the hydrogen output from each MWh of electricity and be more responsive to the ups and downs of wind and solar power than the traditional unpressurised alkaline electrolyzers typically made by European manufacturers.
- **Plug Power Snags Walmart Fuel Deal As Green Hydrogen Revs Up Amid Oil Price Spike**
 - Under the agreement Latham, New York-based Plug will supply up to 20 tons of hydrogen per day to the retail giant, enough fuel being to power as many as 25,000 forklifts for Walmart. Plug will deliver liquid hydrogen to Walmart distribution facilities in specialized tanker trucks. The companies aren't providing financial terms of the deal, among Plug's first to supply green hydrogen, or saying how quickly it can ramp up to that 20-ton target.
- **Meta to support cheap hydrogen fuel production by sharing catalyst data**
 - The oxide catalyst data set was developed through a collaboration between Meta and Carnegie Mellon University. By sharing the data set, the goal is to provide important information for artificial intelligence (AI) researchers to replace ruthenium, iridium, and platinum catalyst materials with considerably cheaper chemical materials. These are used in critical chemical reactions required for H₂ production and could be key in producing cheap hydrogen fuel.
- **Why green ammonia is vital to the hydrogen economy**
 - Transporting H₂ as ammonia is not a free lunch: converting from one to the other uses 7-18% of the energy in the hydrogen itself. However, that is still considerably better than the 30% lost in liquefaction.
- **Pioneering large-scale green ammonia project gets world's first clean hydrogen certificate**

- German certification body TÜV Rheinland gives stamp of approval to planned facility in Oman, which will have 300MW of electrolyzers powered by 500MW of solar
- **Hydrogen: A Hot Commodity Lacking Sufficient Statistics**
 - In this piece, the author explores the different issues around measuring hydrogen demand, production, and trade, and makes recommendations to improve data coverage and harmonize unit conventions. The fact that hydrogen is still at a relatively nascent stage requires some thinking by statistical agencies on what definition of hydrogen to use, which data to collect, and how and whether to include hydrogen-related fuels such as ammonia and methanol in demand statistics.
- **Greater fuel cell adoption would be a massive boost for South Africa's platinum group metals**
 - Many countries have hydrogen strategies which have opened the way for large fuel-cell trucking and coming with that is an envisioned eventual logical extension of this to hydrogen cars, which would put the PGMs industry in a very good place.
- **Hyundai Recalls 54 Nexo Fuel-Cell Vehicles For Possible Hydrogen Leak**
 - According to the filing with the National Highway Traffic Safety Administration, the receptacle filter can detach immediately after filling with hydrogen. This could cause the refueling inlet not to seal correctly. If this occurs, then fuel could leak out, and in the presence of an ignition source, there might be a fire.
- **The Hydrogen Stream: Fuel cell engines for stationary power uses**
 - Broad range of Green Hydrogen global activities summarized here
 - Airbus and Kawasaki Heavy Industries plan to work together to prepare a hydrogen-fueled ecosystem.
 - Storgrundet Offshore and Lhyfe want to build a 600 MW hydrogen production plant in Sweden.
 - Canada-based First Hydrogen has identified four industrial sites in the United Kingdom and is advancing discussions with landowners to secure land rights to develop green hydrogen production projects.

Palladium

- **European car sales dip for ninth consecutive month in March -ACEA**
 - The number of new vehicles registered in the European Union, Britain and the European Free Trade Association fell 18.8% year on year in March, data from the region's carmaker association showed.
 - All four of the major European Union markets - Spain, Italy, Germany and France - reported a decline in car registrations ranging from 17.5% in Germany to 30.2% in Spain.
- **Russia to drop emissions laws as car sales plummet**
 - Emissions laws in Russia look to have been thrown out the window in the name of economic prosperity amidst the fallout over its invasion of Ukraine
 - Russia set to drop Euro 5 emissions standards
 - New car sales expected to drop by 50% in 2022
 - Ukraine invasion has led to a 63% collapse of Russian new-car market
- **Sumitomo Chemical to build API plant**
 - Sumitomo Chemical has announced plans to build a new plant for APIs and intermediates to come onstream in September 2024 at its Oita works on the southern tip of Honshu. This comes in response to growing demand from the small molecule sector.
 - Oita, the company said, "can manufacture a wide variety of APIs and intermediates that require complex chemical reactions and also flexibly scale from development to commercialisation". It is also compliant with EU, US and Japanese GMP standards.
- **Palladium: Stronger for Longer**
 - Palladium has to be one of the clear winners of the 2022 commodity rally.
 - Analysts recently raised their price forecast for Q1 2022 to \$2,800/oz due to strong demand from the auto sector, which consumes 85 percent of the world's palladium, and to \$2,700/oz by the end of Q2 2022 due to strong demand from the auto sector.

- Russia mines around 40% of the world's palladium, so any continuous stock worries are most certainly justified as long as the conflict in Ukraine proceeds.

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

- **[Green hydrogen electrolyzer provider closes \\$45 million Series B](#)**
 - Ohmium International secured funding that is expected to quadruple the manufacturing output of its modular PEM electrolyzers. The funds are expected to increase Ohmium's manufacturing capabilities four-fold from 500MW annually to 2GW by the end of the year.
- **[CIP reveals Portuguese green hydrogen plan](#)**
 - The industrial-scale MadoquaPower2X project will be based in Sines, Portugal, and will use renewable energy and 500MW of electrolysis capacity.
 - It is the first project to be installed at the future energy and technological hub of Sines, with Production of 50,000 mt of green H₂ and 500,000 mt of green ammonia per year.

Clean Energy General News

- **[We Are Massacring Birds to Slow Climate Change. It's Got to Stop | Opinion Nesweek](#)**
 - The world's biggest producer of renewable energy, the Florida-based NextEra Energy, has killed at least 150 Bald and Golden Eagles at its wind projects in eight different states since 2012. ESI Energy Inc, a wholly owned subsidiary of NextEra, pled guilty to three counts of violating the Migratory Bird Treaty Act (MBTA) last week and was sentenced to probation and \$8 million in fines and restitution; it must also implement a plan to protect eagles which could cost another \$27 million.
- **[Supply of Critical Minerals Amid the Russia-Ukraine Crisis and Possible Sanctions](#)**
 - In particular, markets and policy makers are focused on the effect of the Russia-Ukraine conflict on major industrial base metals like aluminum and nickel, as well as strategic minerals like palladium, scandium, and titanium. All five are on the 2022 US Critical Minerals List. Nickel and Cobalt stand out because they are two of the four strategic minerals for lithium-ion battery production, along with Lithium and Graphite.
- **[JPMorgan: World Urgently Needs Extra \\$1.3 Trillion Energy Investment](#)**
 - Global oil demand is set to grow by 10 percent by the end of this decade, while demand for natural gas is expected to jump by 18 percent, according to the U.S. investment bank. Energy investment, therefore, should include all forms of energy, including oil and gas, nuclear power, and renewables.
 - "Until scalable, reliable, clean and affordable technologies are available, the world will need to work with all of the current sources of energy, fossil and non-fossil, and their respective drawbacks."
- **[Tin still flying high despite resurgent production: Andy Home](#)**
 - But the price has since regained a foot-hold above \$40,000, last trading at \$42,955/mt. Prior to last year's super-charged rally, the previous all-time high had been the peak of \$33,600 recorded in 2011.
 - Tin is still showing every sign of scarcity pricing, attesting both to the strength of current demand and the scale of the supply-chain depletion that has occurred over the last couple of years.
- **[China aluminium production up 1.8 % to 3.3 mln tonnes in March - stats bureau](#)**
 - China's aluminium production rose by 1.8 % to 3.3Mt in March from a year earlier.
 - In the first three months of the year, China produced 9.63Mt, -0.4 % from the same period last year
 - Production of ten nonferrous metals - including copper, aluminium, lead, zinc and nickel – rose 3.1 % to 5.64Mt from a year earlier. YTD +0.9 % at 16.17Mt.
- **[New methanol ships start to change ocean freight amid efforts to replace some bunker fuel and cut down on emissions](#)**

- During the next three years there will be an unprecedented number of methanol ship launches for uses including container transportation with the development possible thanks to new methanol engine offerings to help shippers' lower emissions compared with diesel and bunker fuels.
- "There are some 90,000 vessels in the world consuming over 330 million metric tons of diesel bunker fuel a year and there are only a dozen vessels running on methanol," said Greg Dolan, CEO of the Methanol Institute, in an April 2022 interview.
- This is about to change as shipping company Maersk said on March 10 it partnered with six companies to source at least 730,000 mtpa of methanol by the end of 2025 needed to power a dozen ships.
- **[Fifth of Peru copper mining goes offline with more shutdowns likely](#)**
 - As of Wednesday, about a fifth of (Peru's) copper output will be off-line as MMG Ltd's Las Bambas mine joins Southern Copper Corp.'s Cuajone in succumbing to community protests. At the same time, unions in the mineral-rich Cusco region are staging strikes against rising prices, while residents near a Glencore Plc copper mine are preparing to resume protests.
 - To be sure, community conflicts are nothing new in Peru and some of the current unrest is more about protecting water supplies than grabbing a bigger share of the mineral spoils.
- **[Barrick bets big on Pakistan with \\$7 billion copper mine project](#)**
 - The conceptual design calls for the \$7 billion project to be built in two phases, with each able to process about 40 million mtpa and production as soon as 2027.
 - Among Barrick's reasons are juicy returns: annual production of about 200,000 tons of copper would start just as the world faces a shortfall of a commodity that's key to the the clean-energy transition, given how much is used in electric vehicles and renewable energy

BEV / LiB Mineral & Battery Market News

- **[Tesla \(TSLA\) earnings Q1 2022](#)**
 - Tesla beat analysts' expectations on top and bottom lines for Q1 2022.
 - For the period ending March Tesla reported \$3.22 earnings per share, and revenue of \$18.76 billion.
 - It also recorded record automotive margins of 32.9%
- **[Almost Half Of All Tesla's Built In Q1 Had The LFP Battery Pack](#)**
 - The impressive progress on LFP energy density paired with an unprecedented market demand and growing supply chain concerns actually triggered a growing diversification.
- **[China's CATL says unit wins Jiangxi lithium mining rights for \\$135 mln](#)**
 - China's Contemporary Amperex Technology Co Ltd (CATL) said on Thursday a subsidiary had won the rights to a lithium mine in the country's southern Jiangxi province for \$134.76 million USD.
- **[Raw materials for lithium-ion batteries are in a state of disequilibrium](#)**
 - A new McKinsey report makes the case that prices for lithium carbonate, lithium hydroxide, cobalt, nickel, and other #battery raw materials have increased dramatically since Q3 last year. The most egregious is lithium carbonate, where prices have soared from US\$15,000 to US\$78,000 per metric ton.
 - Market forces have been slow to correct the supply-demand discrepancy.
 - McKinsey reports that in 2020, about 0.41 million metric tons of LCE were produced; in 2021, production exceeded 0.54 million metric tons (a 32% increase).
 - In addition, lithium recycling could reach 6% of supply by 2030. Supply-side
- **[Statevolt building \\$4B EV battery facility in SoCal](#)**
 - Swedish industrial entrepreneur Lars Carlstrom, also the founder and CEO of Italy-based electric vehicle (EV) battery manufacturer Italtel and founder of Britishvolt, announced Tuesday that he has formed a new company to build a \$4 billion, 54-GWh EV battery factory in Southern California's Imperial Valley.
- **[US Department of Energy Awards First Battery Supply Chain Loan to Syrah Anode Project](#)**

- The US Department of Energy will support a US graphite anode project with a \$107 million loan, in its first commitment to building a domestic electric vehicle supply chain.
- The loan is the first to the battery supply chain from the department's \$17.7 billion Advanced Technology Vehicles Manufacturing Loan Program.
- **[EV parts maker Schaeffler signs first of a kind European rare earth deal](#)**
 - First deal in Europe auto sector to source domestic rare earths
 - Europe seeking to cut dependence on China for rare earths
 - Five-year deal with Norway's REEtec for rare earth oxides
- **[Envision AESC investing \\$2B to build 30 GWh gigafactory in Kentucky](#)**
 - Envision AESC, a leading Japanese electric vehicle battery technology company, will invest \$2 billion to build a new gigafactory in the Kentucky Transpark in Bowling Green, Warren County. The 30GWh plant will produce new generation battery cells with 30% more energy density than the current generation, reduced charging time and increased range & efficiency for EVs, powering up to 300,000 BEVs by 2027.
- **[Ford inks Argentina lithium supply deal with Lake Resources](#)**
 - Ford Motor Co (F.N) said on Monday it has signed a preliminary deal to buy lithium from a Lake Resources NL (LKE.AX) facility in Argentina, marking the first time the automaker has publicly announced where it will procure the electric vehicle battery metal.
- **[Rivian CEO Warns Of Coming EV Battery Supply Shortage](#)**
 - Rivian's CEO is warning about a forthcoming shortage of battery supplies and says the forthcoming challenge from such a shortage would be more profound for the industry than the current semiconductor shortage. EV companies are in the midst of trying to scramble for raw materials like cobalt, lithium and nickel, the Wall Street Journal reported.

Regards –