



Weekly Precious Metals News Articles: April 29, 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 price surge: Goldman Sachs' experts predict bullion will hit \\$2,500 by end of year](#)
 - The surge would imply a possible gain of 32 percent.
 - Goldman Sachs also suggested the risk of recession made owning the bullion even more compelling.
 - According to the Telegraph, they said: “Our economists see a roughly 20 percent to 35 percent chance of a US recession occurring over the coming year.”
- [Gold price gives up \\$1,900 and silver falls below \\$24 an ounce, analysts see room for lower prices](#)
 - Gold and silver are starting the week with some heavy selling pressure as gold prices drop below \$1,900 an ounce and silver falls below \$24/Toz. According to some analysts, the drop below the critical psychological level opens the door to further losses as bearish sentiment rises in the marketplace.
- [London Metal Exchange Abandons Attempt to Crack Gold Market](#)
 - The LME will abandon its attempt to break into precious-metal trading after just five years.

Semiconductor Related Articles (impacting Precious Metals electronics):

- [Gartner Forecasts Worldwide Semiconductor Revenue to Grow 13.6% in 2022](#)
 - Component Supply Constraints Expected to Gradually Ease Through 2022
 - Garner Semiconductor market outlook 2021: \$595B 2022: \$676B 2023: \$700B
- [Wafer Capacity Forecast to Climb 8.7% As 10 New Fabs Enter Production](#)
 - 8.7% jump in IC industry capacity forecast for 2022 will come primarily from the addition of 10 new 300mm wafer fabs scheduled to open this year. The biggest increases in capacity from the large new memory fabs of SK Hynix and Winbond as well as the three new fabs (two in Taiwan; one in China) from TSMC, the world’s largest pure-play foundry. Other new 300mm fabs include CR Micro’s fab for power semiconductors; Silan’s fab for power discretes and sensors; TI’s RFAB2 facility for analog devices; ST/Tower’s fab for mixed-signal, power, RF, and foundry; and SMIC’s new fab for foundry operations.
- [Worldwide Smart Home Devices Market Grew 11.7% in 2021 with Double-Digit Growth Forecast Through 2026](#)
 - The worldwide market for smart home devices grew +11.7% in 2021 y/y.
 - 895+ million devices shipped.
 - Notwithstanding the market volatility due to the coronavirus pandemic and its impact on supply chains as well as demand-side shocks, IDC anticipates that the worldwide smart home

device market will see steady growth over the next five years as smart home users expand their smart home ecosystems and seek more sophisticated connected experiences.

- [5G, automotive to drive semiconductor revenue through 2022](#)
 - "Although unit production of automotive vehicles will grow below expectation at 12.5% in 2022, semiconductor device [prices] are expected to remain high due to continued tight supply driving the automotive semiconductor market to double-digit growth (19%) in 2022."
"Automotive [high-performance computing], [EV and Hybrid-EVs] and advanced driver assistance systems will lead growth in automotive electronics sectors"
 - 5G deployments are also expected to spur semiconductor revenue for the current year, as 5G smartphone production rises +45.3%, surpasses 4G/LTE and accounts for 55% of the 808 million units set to be produced this year, according to the report. The consequent boost in supply will keep overall price points for 5G phones lower, and helps 5G penetration increase.

Silver

- [Silver Market Trying to Stabilize](#)
 - Silver markets have gone back and forth during the course of the trading session on Tuesday, as we continue to see a lot of volatility in general. Looking at this chart, it is obvious that we have shifted to a very negative attitude, but the candlestick on Tuesday suggests that perhaps we are going to stabilize a bit, perhaps even bounce. That bounce, of course, is a sign that perhaps we could start selling off again unless of course, we take out the \$25 level to the upside. The US dollar has been like a wrecking ball for silver, and I think will continue to be so.
- [Nontoxic Silver Coating for Medical Implants Resists and Kills Bacteria](#)
 - Genetic Engineering & Biotechnology News: Researchers described the development of the new silver-based film-forming antibacterial engineered (SAFE) coating, in the journal ACS Sciences. They reported that the coating, which could be applied via single-step dipping, spraying, or solution-skinning processes, was nontoxic, and enabled sustained, long-term silver release from different types of surfaces and medical devices, which stopped bacteria from adhering to these materials over 30 days.
- [Nano state: tiny and now everywhere, how big a problem are nanoparticles?](#)
 - From August, the EU will ban use of TiO₂ nanos in food (where it is called E171) and the European Commission recently announced that 12 nanomaterials would soon be prohibited in cosmetics.
 - Detchevery says: "As scientific knowledge about the environmental and health impacts of engineered nanos such as silver and titanium dioxide advances, we need to make sure nanos are only allowed for specific and essential uses in order to minimise any adverse effects at the source and [ensure they are] not released uncontrollably."
- [Silver News April 2022 Newsletter](#)
 - Global Silver Demand Surged 19 Percent in 2021
 - New Photovoltaic Cell from Silver and Bismuth Shows Promise
 - Silver Antimicrobial Coatings Enter the Mainstream
 - Silver Part of Three-Metal Catalyst to Reduce Greenhouse Gases
 - Silver Inks Aim for Higher Print Resolution

Precious Metals Mining:

- [Miner Anglo American lowers output guidance after quarterly drop](#)
 - Copper production -13%, Iron ore production -19% because of high rainfall at its Kumba and Minas-Rio
 - Metallurgical coal production -32% due to high rainfall at Mogalakwena.
 - PGMs -6%, hit by high rainfall at Mogalakwena. Full-year guidance was 4.1-4.5 Moz now 3.9-4.3 Moz
 - Rough diamond production, however +25% thanks to less disruption from rainfall in Botswana.

- [Nornickel Q1 nickel output up, palladium down](#)
 - Output of platinum group metals was lower, with production of palladium down 8% to 706,000 troy ounces and of platinum 12% lower at 163,000 ounces. In the first quarter of 2021, Nornickel processed a large amount of work-in-progress PGM material.
- [Nornickel mulling two production plan scenarios beyond 2022, some investment projects might be rescheduled](#)
 - Two scenarios for its production plan beyond 2022:
 - Scenario 1 assumes the normalization of the situation in the near future and the resumption of equipment supplies currently suspended. "In this case, we will carry out the projects we have earmarked without redesigning, as we have conceived them, using the same equipment."
 - Scenario 2 in two or three months we'll realize there will be no (access to western) equipment. Then we'll adjust the roadmaps for the main projects. In this case, key projects will be carried out using other equipment, for argument's sake with Chinese and Russian components," he said.
 - Nornickel might have to reschedule some investment projects in the second scenario, where western equipment is unavailable. Nornickel was still planning to expand capacity at the Nornickel Harjavalta refinery in Finland which will produce material for car batteries in Europe.
- [Mining giants struggle despite commodities price boom](#)
 - The world's biggest miners had a tough start to the year, struggling to hit production goals and keep costs under control in the face of Covid-19 disruptions and global inflationary pressures. There are also signs of growing problems at their operations as soaring energy prices boost costs, while Covid absenteeism and operational missteps curb output. For the wider economy, tightening raw materials supply risks fueling an inflationary spiral.
- [Sibanye CEO's jaw-dropping R300 million \(\\$18.85M USD\) payday](#)
 - A massive payday for the precious metal miner's CEO results from record-high commodity and company share prices. Organised labour has labelled the remuneration immoral as gold mine workers continue to strike over wage demands. It is unlikely the company's management will again see remuneration numbers this large any time soon.
- [\(S. African power company\) Eskom says power system is 'severely' constrained, warns of load shedding at very short notice](#)
 - The power utility lost multiple generators over the weekend.
- [Miner \(Implats\) expands beneficiation facilities](#)
 - 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.

E-Waste & Precious Metals Recycle Related:

- [BEST4HY H2020 project: stock of the situation after one year](#)
 - An international partnership developing technologies for the recovery of critical raw materials from hydrogen technologies. **Matt: A EU Green New Deal Funded Clean Energy Recycle Research Project**
 - The validation of existing and novel technologies for PEMs recycling led by Hensel Recycling have progressed with the optimisation of PEM dismantling through 5 different mechanical trials. The ideal disassembling procedure has been successfully individuated and proved satisfactory results. Similarly, a hydrometallurgical treatment has been performed by IDO-Lab for the Pt recovery from the PEM FC

provided by EKPO. Good progress also on the ionomer extraction with alcohol dissolution, where a BEST4Hy advisor have been involved.

- [Supply chain jam creates long delays for recycling equipment](#)
 - E-scrap processors and other recycling stakeholders are feeling the pressure of extended lead times for machinery components, forcing them to adapt to yet another pandemic-related market phenomenon.
 - Any orders today for the manufacturer's larger systems have a 2023 shipping date, van Dijk said, though the company can still fulfill smaller orders in 2022.
 - Ken Thomas, president of nationwide e-scrap company Universal Recycling Technologies (URT), said sourcing equipment with copper components has been challenging, as have high shipping costs. Upgrades at URT's processing facilities in Wisconsin and Texas have also been delayed, he said.
- [Giving your electronics a new life: Inside an e-recycling facility in Onalaska](#)
 - "Most electronics, more than 90% of what's in them can be recycled," said Sarah Murray, e-cycling coordinator for the Wisconsin Department of Natural Resources.
 - Electronics can have toxic chemicals that can seep into waterways when they're not disposed of correctly. "These are a lot of things we don't necessarily want to be putting into our landfills," said Casey Hines, a sales executive at Dynamic Lifecycle Innovation in Onalaska.
- [E-waste, tech's big dirty secret](#)
 - Processing e-waste also opens the opportunity to recover the precious metals used in every device. If all the rare metals were salvaged from the discarded e-waste in 2019, it would have been worth around US\$57 billion, estimated conservatively.
 - Metals end up as e-waste, gold, silver, palladium, platinum, indium & gallium all used in electronics. More than 16,000mt of metals can be recovered from recycling 1 million cellphones.

Platinum

- [The Sustainable Importance of Platinum in Biomedical Applications](#)
 - Since the early 1970s, platinum has been used internationally in a variety of medical devices to treat ailments such as heart disease, stroke, neurological disorders, chronic pain, and other life-threatening conditions. The metal is used to make essential components for pacemakers, implantable defibrillators, catheters, stents, and neuromodulation devices among others. The properties of Pt that make it attractive for such applications include its biocompatibility, inertness within the body, durability, electrical conductivity, and radiopacity.
- [Unique platinum coins to be used at Wimbledon to mark Jubilee celebrations and Centre Court tennis centenary](#)
 - Made of 70 g pure platinum, each gram representing a year of service from Her Majesty, the coins have been specially designed to commemorate both Her Majesty the Queen's Platinum Jubilee and the centenary of Wimbledon's Centre Court at the All England Club's Church Road Grounds.

Fuel Cells/Hydrogen Economy Related Articles:

- [Geopolitical support for hydrogen evolution positive for platinum group metals](#)
 - Hydrogen Europe and the European Clean Hydrogen Alliance are now calculating that 2030 will see the generation of 320 GW to 400 GW of green hydrogen, at least half of which is forecast to be brought about with the help of PGMs.
- [Hydrogen-powered ferry prepares to launch in San Francisco Bay](#)
 - The San Francisco Bay will soon have a new fossil fuel-free ferry floating in its waters, propelled completely by hydrogen fuel cells, and officials hope it heralds change on the high seas.
- [Facebook parent Meta will release catalyst data to help make hydrogen fuel more cheaply](#)

- The data set, developed in collaboration with Carnegie Mellon University, could provide important input to AI research looking for cheaper chemical catalysts for a critical chemical reaction used in H₂ fuel production.
- Meta's AI division and Carnegie's Department of Chemical Engineering are building machine learning models that simulate chemical reactions. This data set, the largest released in that field, could accelerate the discovery of low-cost catalysts.
- **New Website: [The European Hydrogen Backbone \(EHB\) initiative](#)**
 - The EHB initiative aims to accelerate EU's decarbonisation journey by defining the critical role of H₂ infrastructure, based on existing and new pipelines, in enabling the development of a competitive, liquid, pan-European renewable and low-carbon H₂ market.
 - The initiative seeks to foster market competition, security of supply, security of demand, and cross-border collaboration between European countries and their neighbours.
- **[Hyundai Motor Company and Advent Technologies Celebrate Commencement of Technology Assessment](#)**
 - "With Advent's unparalleled HT-PEM (high-temperature fuel cell) technology and experience in fuel cell production and Hyundai's broad experience, we believe this agreement will be a significant step towards potentially breakthrough high-temperature fuel cell developments. We are eager to begin work with a partner as enthusiastic about the promise of fuel cells as Advent is," Dr. Gregoriou added.
- **Pt & Ru: [Toyo Engineering and JGC Form EPC Alliance for Fuel Ammonia Plants](#)**
 - Fuel ammonia shows promise as a decarbonized fuel for power generation, shipping, etc. The government has therefore set expanded implementation targets of 3Mtpa as of 2030 and 30Mtpa as of 2050. Various companies and organizations both in Japan and overseas have launched initiatives aimed at the manufacturing, transport and use of fuel ammonia.
- **Pt & Ru: [Liquid ammonia is the carbon-free fuel of choice for Aviation H2](#)**
 - Following a three-month feasibility study, Aviation H2 has selected the use of liquid ammonia to turbofan combustion as the best route to carbon-free flight and will soon start modifying turbofan engines to test and prove the concept
- **[Hydrogen fuel cell technology essential to meeting trucking's decarbonization goals](#)**
 - The transportation sector represents the largest source of greenhouse gas emissions in the U.S., contributing 27% of the nation's total emissions. Of those, 24% come from medium- and heavy-duty vehicles that haul our Amazon packages and stock our grocery store shelves. These vehicles also account for most transportation-related criteria pollutant emissions, including nitrogen oxide and sulfur oxide, which can form smog and contribute to poor air quality.

Palladium

- **Car Sales: [Satellite data show extent of China's crippling lockdowns](#)**
 - China's Covid Zero approach has forced major hubs like Shanghai to shut down
 - Chinese port activity fell below levels seen during the first coronavirus outbreak in 2020 and construction has plummeted, satellite data show, suggesting official economic figures will likely worsen as Covid lockdowns spread.
- **[New car sales in Russia seen falling by at least 50% in 2022 -AEB](#)**
 - Sales of new cars in Russia are expected to fall by at least 50% in 2022 to around 0.8 million units, the Association of European Businesses (AEB) said on Wednesday, as the automobile market in Russia grapples with supply issues.
- **[Toyota reports record high global production for March, despite slump at home](#)**
 - Toyota posted record high global production in March, as overseas production made up for a drop off at home, highlighting the impact of factory stoppages and weaker consumer demand in Japan.

- Japan's largest automaker produced 866,775 vehicles worldwide in March it said, +2.8% Mar'21.
- **[Is Palladium Ripe For A Rebound Or Is There More Downside?](#)**
 - At Tuesday's settlement on New York's COMEX, Toz of palladium was at \$2,178.50, down 36% from its peak. In fact, after our Mar. 16 story, palladium fell to \$2,025.50 on Mar. 29. That in itself is a drop of 41%, bringing us to the crucial question: Is palladium primed for a rebound, or has it more to lose?
 - "Much of the angst in palladium is surrounding the potential problems with the Chinese economy," Bart Melek, head of commodity strategies at TD Securities, said in comments carried by Reuters.
 - "(With) an increasing amount of that country being shut, chances are auto demand and economic activity broadly aren't going to be as strong as we thought, and this is offsetting a lot of the potential shortage concerns associated with the Russian sanctions," Melek added.

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

- Pt & Ru PVD: **[Researchers create a computer entirely from non-volatile memory](#)**
 - If non-volatile memories (NVMs) that operate at the same speed as volatile memories can be produced commercially, it is highly likely that such NVMs would make DRAM and SRAM extinct extremely fast. The ability to store information even when a computer is shut down allows operating systems to boot up and resume operation without needing to use energy in booting, loading services, and restarting programs. This could see computers that reduce power consumption to virtually nothing when unused for more than a few minutes and may even lead to computers that never reboot.
 - Another significant advantage that NVMs could present is the ability to create unified memory. This is where a computer uses a single memory unit to run programs from, store temporary data, and store long-term data. Such a design would end the need for RAM while also significantly speeding up operations; writing to a file would be as fast as a program storing variables.
- Ir & Pt Catalyst: **[Plug Power and Olin Corporation Partner to Produce Green Hydrogen in 15 Ton Per Day Plant to Serve North America](#)**
 - Plug Power, a leading provider of turnkey hydrogen solutions for the global green hydrogen economy, and Olin Corporation, a leading vertically integrated chlor alkali producer and marketer, announced today the signing of a MOU with the intention to create a JV to produce and market green hydrogen to support growing fuel cell demand in the global hydrogen economy.

Clean Energy General News

- **[Biden rollback of Trump-era permitting reforms will harm his own clean energy agenda](#)**
 - The United States also needs to modernize permitting to build a domestic supply chain of critical minerals. By 2040, demand for energy-related minerals such as lithium, cobalt, nickel, and graphite could grow by 20 to 40 times, according to the International Energy Agency. Unfortunately, our critical mineral supply chains are largely controlled by foreign adversaries, including China and Russia.
 - The Biden administration recently declared battery-related critical minerals a national security priority by invoking the Cold War-era Defense Production Act. The move was applauded by many, yet invoking the DPA does not streamline the permitting process. And in some cases, Biden's administration is still working to delay and block new mining projects that will be essential if, for example, many more people are going to be driving electric vehicles, as Biden has himself suggested.
- **[If Chevron, Exxon and Shell can't get carbon capture right at Gorgon, who can?](#)**
 - At a cost of more than \$3 billion, Gorgon, the largest carbon capture and storage (CCS) project in the world has failed to deliver, underperforming targets for the first five years of operation by about 50%.
- **[Fewer rare earths \(Nd\) needed for permanent magnets](#)**

- The research team applied the melt-spinning method and the hot-deformation method, which have very fast cooling rates compared to the conventional process, to the process of fabricating rare-earth-reduced precursors and final bulk magnets, respectively.
- As a result, they succeeded in optimizing the microstructure of the magnets by suppressing the formation of unnecessary magnetic particles. In addition, they were able to simultaneously improve the residual magnetization and coercive force, which are the main properties of permanent magnets.
- *Matt: Fascinating engineering work. Nd demand set with other large-scale demands inducing direct drive wind and EV motors, and equipment. Scalable recycle needed.*
- [**Aluminium prices likely to decline 25% as Chinese output rebounds: Crisil**](#)
 - "Calendar 2022 will also see a supply deficit because of the extended supply cuts and robust demand globally, which will support prices. However, we expect the deficit to be relatively lower at 1 MT versus 2021 because Chinese output should improve in the second half," Hetal Gandhi, Dir., CRISIL Research

BEV / LiB Mineral & Battery Market News

- [**BMW joins Toyota in denouncing a fully electric future**](#)
 - The boss of BMW has joined a growing chorus of executives across the automotive industry who have cautioned against completely phasing out petrol and diesel engines.
- [**Elon Musk's Tesla races ahead of rising costs with price hikes**](#)
 - The price increases are designed to cover higher costs for the next six to 12 months, which protects Tesla on orders for cars that it may not deliver for a year.
 - "Price increases are nicely exceeding cost inflation," said Craig Irwin at Roth Capital.
- [**General Motors, Honda in talks to develop solid-state EV batteries**](#)
 - GM and Honda's partnership for solid-state storage would deepen their growing relationship. The two companies already develop hydrogen fuel cells and EV's together.
- [**Lithium spot prices: topping out or temporary breather?**](#)
 - Since March 10th we have seen almost continuous weekly price falls, losing close to 7% from their record highs as of April 21st. Lithium hydroxide, having initially shown slightly more resilience, is now following suit in similar fashion.
 - As is often the case, there is not one single factor driving the recent price action, but several acting simultaneously. Perhaps most obvious is the resurgence of Covid in China and a return to strict containment policies. A significant source of China's domestic lithium supply are the brines of Qinghai province, where production sees a seasonal dip during the winter months due to the cold weather. An increase in output is always expected moving into Spring.
- [**Russia's Rosatom and Nornickel plan lithium project, RIA reports**](#)
 - However, the risk of a lithium deficit has become a bigger issue for Russia since its main suppliers - Chile and Argentina - have stopped exports to Russia due to Western sanctions imposed on Moscow over what Russia terms a "special military operation" in Ukraine.
 - Rosatom sees the Kolmozerskoye deposit as the most promising lithium deposit in Russia and wants to develop it together with Nornickel, the world's largest producer of palladium and refined nickel, RIA quoted Kirill Komarov, Rosatom first deputy chief executive, as saying.
- [**Umicore Wins High-Nickel Cathode Supply Deal with Mercedes-Backed ACC**](#)
 - The Belgium-based company said it will supply ACC's planned battery factories with 13 gigawatt-hours of high nickel cathode materials starting in 2024 from its new plant in Poland. ACC is owned by TotalEnergies, Stellantis and Mercedes-Benz.
- [**Approaching supply deficits in battery metals are already pushing up prices in the EV supply chain: Benchmark**](#)

- Nearly all crucial battery metals will witness supply deficits in the next decade as mining projects struggle to come online, Benchmark Mineral Intelligence analysts have said.
- **Benchmark Minerals: China's lockdowns weigh on cobalt and lithium**
 - In China, prices of lithium and cobalt are falling as lockdowns in Shanghai and other major cities hit demand in the world's largest electric vehicle market.
 - Increasing prices for battery raw materials have put pressure on Tier 1 battery suppliers LG and CATL who both reported sharp drops in their net profits in the first quarter of this year as a result. Benchmark's Raw Material Index for high-nickel and LFP battery cells is up 84% and 90% from the start of the year, respectively.

Regards –