



## Weekly Precious Metals News Articles: April 15, 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

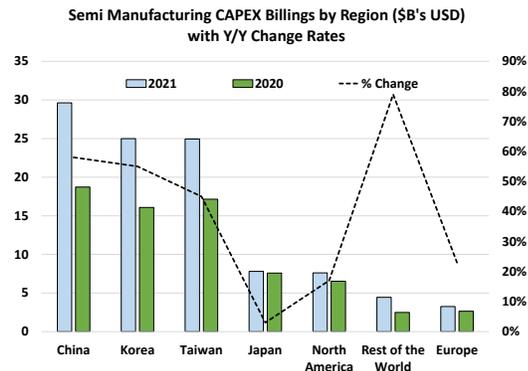
- [Gold Holds As Risks Abound](#)
  - Global geopolitical risk is escalating hand-in-hand with intensifying concerns about inflation, most notably due to the impact on energy markets resulting from a reduction of Russian oil and gas exports.
- [Barrick Gold: A 'Best-in-Class' Precious Metals Play](#)
  - Huge Cu and Au Mining Opportunity: Barrick has tabled an investment worth \$7 billion in one of the world's largest undeveloped gold and copper deposits in Pakistan's Reko-Diq. Assuming Barrick succeeds with this investment, the project would commence a 6-year timeline with a deep mining exploration surge.
  - The 2010 geophysical report claimed that the Pakistani mine had a lifespan of 56 years with a 40 Mt/year Copper and Gold throughput. It's still debatable whether Barrick's cost-outlay will be met, but with a CapEx-to-sales ratio of 20.32%, I think that it could be a lucrative investment.
- [TANAKA Develops Gold Shell Nanoparticles That Can Be Prepared in High Concentrations Using High Dispersion Stability](#)
  - TTK has developed gold shell nanoparticles that can be prepared in high concentrations using high dispersion stability. This product is designed to cover the particle surface—such as that of silica—with an extremely thin gold shell that has a thickness of approximately 10 nm. It exhibits strong surface plasmon resonance. Additionally, by using the high dispersion stability in water and polar solvents, it is possible to prepare dispersion liquids with high concentrations that are 100 to 1,000 times that of gold nanoparticles currently being sold on the market.
  - ~Achieving dispersion liquids with high concentrations that are 100 to 1,000 times that of existing products with expected applications in optical devices such as optical displays, optical sensing, and biosensors~
- [Why Gold Hasn't Risen Further in the Wake of Russia's Invasion of Ukraine](#)
  - Gold bullion has risen just 1% since Feb. 24, when the gold market was already facing strong sentiment headwinds.

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

- [Total IC Unit Shipments Forecast to Climb 9% This Year](#)
  - Worldwide IC unit shipments will increase 9.2% this year to 427.7 billion units and resume tracking with the long-term IC unit compound annual growth rate (CAGR) of 9.4%. The 9.2% gain anticipated

this year follows the large, 22% increase experienced during the economic recovery of 2021—the largest increase in IC unit growth since the boom year of 2010.

- [Gartner Forecasts Worldwide IT Spending to Reach \\$4.4 Trillion in 2022](#)
  - Rates of Inflation, Geopolitical Disruption and Talent Shortages Not Expected to Slow IT Investments
- [Eight-inch \(200mm\) IC fab capacity set to surge 21% to mitigate supply-demand imbalance](#)
  - Semiconductor manufacturers worldwide are on track to boost 200mm fab capacity by 1.2 million wafers, or 21%, from the start of 2020 to the end of 2024 to hit a record high of 6.9 million wafers per month, SEMI said in its new report.
- [Chip supply relief coming in 2024 when wafer plants open](#)
  - Research firm Techcet this month warned demand for silicon wafers – the blank canvases on which chip dies are fabricated – will outstrip supply until the end of 2023, which will hold up the production of certain chips and/or cause prices of components to rise. In other words, there isn't just over-demand for finished microprocessors and other ICs, but for the very wafers themselves, driving up costs.
- [The pandemic boom in PC sales is over](#)
  - Gartner said on Monday that it estimates that PC shipments decreased 7.3% on an annual basis to 77.5 million units, which was driven primarily by a steep drop in Chromebook shipments. Chromebooks are low-cost laptops popular in schools that run a Google operating system.
- [Global Semiconductor Sales Increase 32.4% Year-to-Year, 3.4% Month-to-Month in February](#)
  - The SIA announced global semiconductor industry sales were \$52.5 billion in the month of February 2022, +32.4% over the February 2021 total of \$39.6 billion and +3.4% more January 2022.
- [Semiconductor Equipment Surges 44% to Industry Record](#)



## Silver

- [Silver Is the Sleeper of Precious Metals](#)
  - A demand spike for silver seems likely, and the good news for investors is that supply has been relatively flat. Silver mines take a great deal of time to come online, and production hasn't changed all that much since the aughts.
- [First Solar bags two module orders totaling 4.75 GW](#)
  - The US manufacturer secured this week two solar module supply deals from Origo Energy and Silicon Ranch, respectively.
- [Silver Markets Continue to Rally](#)
  - The silver markets have rallied quite nicely during the trading session on Wednesday as we are threatening the \$26 level now.

## **Precious Metals Mining:**

- **Sibanye-Stillwater undaunted by AMCU threat of secondary strike at its PGM mines**
  - According to a report by BDLive on Tuesday, union leaders gave members at Sibanye-Stillwater's PGM mines permission to join a strike at the firm's gold mines, currently in its 36th day.
  - "Sibanye-Stillwater has not yet received notification of any secondary strike at its PGM operations and will take appropriate legal action in the event that this is given," the company said in a statement today. "Wage negotiations at the Sibanye-Stillwater SA PGMs operations have not started and are only scheduled to begin in June/July this year as per previous years."
- **NUM, AMCU to ramp up Sibanye gold strike, down tools at affiliated platinum mines**
  - Sibanye-Stillwater spokesperson James Wellstead tells Mining Weekly wage negotiations at its South African platinum operations have not even started, and are due to start in June/July "as per the norm".
  - "We have not received notice of a secondary strike at our South African platinum group metals operations," he states.
- **PGM market to tighten as industry absorbs impact of ban on Russian metal to UK**
  - The platinum group metals (PGMs) market would tighten after two Russian refiners were blocked from supplying an UK metal exchange, said Tharisa CEO Phoevos Pouroulis.
  - Pouroulis said that although demand from countries still trading with Russia continued to take its PGM production, the latest sanctions "... indicates the market will tighten".
  - "Any operational shortfall by the major producing country, South Africa, will assist in the tight demand supply balance supporting prices and, unless there is a significant drop in economic activity, prices and the outlook for the next 24 months and the longer term remain firmly intact," said Pouroulis.
- **Brazil's largest indigenous reservation overrun by illegal gold mining, says report**
  - The report by the Hutukara Yanomami Association found a 46% rise in wildcat mining last year on rivers in the reservation where some 29,000 Yanomami live in northern Brazil, threatening isolated communities with little or no other outside contact.

## **E-Waste & Precious Metals Recycle Related:**

- **More developed countries dumping toxic e-waste in Global South, U of T researchers find**
  - PBDE emissions are highest in areas of China, India, Bangladesh and Western Africa, the researchers say. Emissions take place mostly while these products are being recycled, often done in small backyard workshops with minimal safety standards. Wania says some emissions happen during the manufacture and use of consumer goods, but the vast majority occur at the end of a product's life cycle.
  - Emissions in China from 2000 to 2020 were approximately 300 tonnes, with about half of that linked to imported e-waste. By comparison, PBDE emissions in Europe during that time were only about 5.5 tonnes, with more than 100 tonnes offloaded to other parts of the world.
- **Iowa House calls for paper trail for catalytic converter sales**
  - The Iowa House addressed the "growing problem" of catalytic converter theft by requiring recyclers and scrap metal dealers to keep a confidential log of paperwork authenticating ownership.
- **Policymakers ponder recycling's role in 'critical mineral' supply**
  - Many speakers focused on batteries for electric vehicles, with Manchin noting the International Energy Agency found that stationary and electric vehicle batteries will account for about half of the mineral demand growth from clean energy technologies over the next 20 years.
  - "The recycling of critical minerals has been identified by many, including some in the current administration, as an essential factor in the future of critical minerals supply," Wood said, but added that "although recycling will play an increasingly important role, materials can only be recycled once they have entered the system."

## **Platinum**

- **[NYMEX suspends trading of Russian platinum, palladium produced after April 8](#)**
  - NYMEX said that platinum and palladium produced by two Russian refineries (Krastsvetmet and Prioksk) after April 8 cannot trade on the exchange.
  - Metals produced by Krastsvetmet and Prioksk after April 8 will not be eligible for warranting and delivery until further notice, exchange operator CME Group said in a notice on Friday.
  - The suspension followed similar action by the London Platinum and Palladium Market that blocked platinum and palladium produced by Krastsvetmet and the Prioksky Plant amid the conflict in Ukraine.
- **[Palladium and platinum prices jump after London market blocks Russian precious metals](#)**
  - The rally in palladium and platinum is the latest example of sharp moves in commodity markets sparked by the war in Europe. The conflict has disrupted exports of grains from Ukraine, a breadbasket. Prices for oil, natural-gas, coal, uranium and nickel have jumped on the threat of interruptions to shipments from Russia, a commodities superstore.
- **[Hydrogen key to long-term use of platinum, says SFA Oxford's Forrest](#)**
  - Coordinated industry intervention is required to create sustainable platinum group metal (PGM) markets, with hydrogen the key to the long-term use of platinum, said outgoing SFA Oxford head Stephen Forrest in a swansong address.

## **Fuel Cells/Hydrogen Economy Related Articles:**

- **[Siemens Energy to produce hydrogen electrolyzers in Berlin](#)**
  - The new production lines for the hydrogen electrolyzers are already being constructed. They are being set up on 2,000 square meters (over 6,500 square feet) of the Berlin location and will come with an estimated cost of €30 million (\$33 million).
- **[H-TEC SYSTEMS and Group E to produce green hydrogen in Western Switzerland](#)**
  - The Schifflenen Dam hydropower will be powering two H-TEC SYSTEMS ME450/1400 PEM that will be used in this project to produce green hydrogen. The production is expected to begin in 2023. From that point, it will produce about 300 tons (300,000 kg H<sub>2</sub>) of renewable H<sub>2</sub> per year.
- **[UK accelerates hydrogen fuel and domestic clean energy strategy](#)**
  - The British Energy Security Strategy has outlined how the UK will be deploying hydrogen fuel, wind, solar, and nuclear energy while supporting domestic gas and oil production in the near term. It represents a substantial acceleration over previously discussed plans, to the point that 95% of UK electricity could be low carbon by 2030.
- **[Scania & Cummins to build 20 fuel cell trucks](#)**
  - Scania will work with Cummins to build 20 fuel cell trucks for the HyTrucks consortium. These will be based on Scania's battery-electric vehicle platform and use fuel cell systems and H<sub>2</sub> fueling and storage solutions from Cummins. The 20 H<sub>2</sub> trucks are scheduled for delivery in 2024.
- **[Bosch unveils hydrogen-compatible stationary fuel cell system](#)**
  - Bosch's new solid oxide fuel cell prototype has an electrical efficiency of more than 60% and an overall efficiency above 85%. It also has a targeted power output of 10 kW and can produce up to 3 kW of thermal energy.
- **[Are electric or hydrogen trucks the future of US transport?](#)**
  - Making the wrong selection could end up costing them billions of dollars as transport decarbonizes.
- **[Massive Australian green hydrogen project moves forward with new Japanese partner](#)**
  - Water-from-air technology company Aqua Aerem's Desert Bloom green hydrogen project received Major Project Status from the Northern Territory government last year. It has now

announced a partnership with Japanese energy giant Osaka Gas that not only brings the 10 GW project closer to reality, but has also seen the company boost its ambitions to 20 GW in light of “quickly developing demand.”

- [HT-PEM fuel cell company Advent Technologies, Hyundai enter technology assessment, sales & development agreement](#)
  - Advent Technologies Holdings and Hyundai Motor Company have signed a technology assessment, sales, and development agreement. Under the agreement, Hyundai will provide catalysts to Advent for evaluation in its proprietary MEAs.

## **Palladium**

- [Impala CEO says palladium and rhodium prices will rise for years due to shortages](#)
  - Costs of palladium and rhodium are ready to rally for a really long time as a supply squeeze tightens for the metals that are vital to controlling vehicle emissions, said the head of the world’s third-biggest maker of platinum group metals. Costs of palladium and rhodium, that are utilized in catalytic converters. Are +30% this year. The absence of “major investment in new supply” may assist with supporting the convention, said Nico Muller, the CEO at Impala Platinum.
  - Palladium prices got another boost on Friday when the London market suspended the only two accredited Russian refiners from minting platinum and palladium for the market. Russia produces about 40% of the world’s palladium and prices have risen on concerns about supply disruptions since the invasion of Ukraine, even though the metal has not been targeted by government sanctions.
- [Palladium Extends Gains After Suspension of Two Russian Refiners](#)
  - Meanwhile, the Japan Exchange Group said the Osaka Exchange is considering revoking Russia’s good delivery designation for platinum and palladium brands in its futures market following the LPPM’s move. If the designation is canceled, it’s expected that open interest in the contracts will decrease “sharply,” and liquidity will decline for some time, it said.

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

- [Controlling rhodium aluminate formation is the key to longer catalyst life | Engine + Powertrain Technology International](#)
  - The study’s findings showed that in the long run, establishing a new design that prevents the formation of rhodium aluminate could help get the most out of these devices. This in-depth understanding of the device’s structure could also help inform better designs for future catalytic converters. “Our results give car manufacturers a specific direction to follow to optimize the use of rhodium-based catalysts,” said Li.

## **Clean Energy General News**

- [IRENA: Renewables provided 80 per cent of new global power capacity in 2021](#)
  - Solar and wind power continued their rapid expansion around the globe in 2021, pushing global renewable energy capacity to record levels, according to fresh figures from the IRENA.
  - The latest edition of IRENA’s Renewable Capacity Statistics report shows renewables dominated power additions around the world in 2021, comprising an unprecedented 81 per cent of new generation in 2021. It calculates that across all countries, renewable power grew by 9.1 per cent in 2021, bringing clean energy’s share of global power capacity to 38 per cent.
- [BMW CEO warns against electric-only strategy](#)
  - BMW Chief Executive Officer Oliver Zipse said companies must be careful not to become too dependent on a select few countries by focusing only on electric vehicles, adding that there was still a market for combustion engine cars.
- [Rotterdam port unveils green ammonia import terminal scheme](#)

- Reacting green hydrogen with nitrogen forms green ammonia, which allows the hydrogen to be transported in large volumes. The ammonia can then be stored and converted again to green hydrogen. Green ammonia is also immediately usable as CO2-free fuel for shipping or as a raw material for the production of fertiliser.
- **Vanishing LME shadow stocks add to metals market turmoil**
  - The total amount of registered metal in the London Metal Exchange's (LME) global warehouse network fell below 1 million tonnes in March. Exchange stocks of aluminum, copper, lead, nickel, tin, and zinc haven't been this low since the last century.
- **Energy strategy: UK plans eight new nuclear reactors to boost production**
  - **Nuclear** - plans to build as many as eight new nuclear reactors, including two at Sizewell in Suffolk. A new body will oversee the delivery of the new plants.
  - **Wind** - aims to reform planning laws to speed up approvals for new offshore wind farms. For onshore wind farms it wants to develop partnerships with "supportive communities" who want to host turbines in exchange for guaranteed cheaper energy bills.
  - **Hydrogen** - Targets for hydrogen production are being doubled to help provide cleaner energy for industry as well as for power, transport and potentially heating.
  - **Solar** - The government will consider reforming rules for installing solar panels on homes and commercial buildings to help increase the current solar capacity by up to five times by 2035.
  - **Oil and gas** - A new licensing round for North Sea projects is being launched in the summer on the basis that producing gas in the UK has a lower carbon footprint than doing so abroad.
  - **Heat pumps** - There will be a £30m "heat pump investment accelerator competition" to make British heat pumps which reduce demand for gas.

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

- **Elon Musk Tweet**
  - Price of lithium has gone to insane levels! Tesla might actually have to get into the mining & refining directly at scale, unless costs improve.
  - There is no shortage of the element itself, as lithium is almost everywhere on Earth, but pace of extraction/refinement is slow.



- Elon Musk says Tesla may have to get into the lithium business because costs are so 'insane'
- **Honda and GM to expand joint-development EV efforts**
  - GM and Honda have announced that they are to expand their ongoing partnership and co-develop a series of affordable electric vehicles (EVs) based on a new global architecture, using GM's next-generation Ultium battery technology.
  - The companies are working together to achieve global EV production in the millions, starting in 2027, including compact crossover vehicles (with annual volumes of more than 13 million vehicles), leveraging the two companies' technology, design and sourcing strategies.

- GM working to accelerate new technologies like lithium-metal, silicon and solid-state batteries, along with production methods that can quickly be used to improve and update battery cell manufacturing processes. Honda, meanwhile, is making progress on its all-solid-state battery technology which the company sees as the core element of future EVs. Honda has established a demonstration line in Japan for all-solid-state batteries and is making further progress toward mass-production.
- **The near-500% rally in lithium price is showing cracks in China**
  - Chinese lithium carbonate, which has gained almost 500% in the past year, slipped slightly on Monday after steadying in the past week, according to Asian Metal Inc. The nation's worsening coronavirus outbreak has upended the electric-vehicle supply chain, and buyers' resistance to high prices is clouding the demand outlook.
  - "Downstream demand is weakening as the pandemic hinders carmakers' production in China and inventory levels remain high at battery manufacturers," said Maria Ma, an analyst at Shanghai Metals Market. "Companies are also pressured by the elevated lithium prices and there's strong price resistance."
- **GM signs cobalt deal with Glencore as rush for battery metals intensifies**
  - The cobalt, secured from Glencore's Murrin Murrin operation in Australia, will be used in GM's Ultium battery cathodes, which powers the Chevrolet Silverado EV, GMC Hummer EV and Cadillac Lyriq vehicles, the companies said in a joint statement.
  - They did not disclose the size of the deal.
- **Galp & Northvolt locate lithium conversion plant in Setúbal**
  - The selected site, in Sapeç Bay Industrial Park, start of commercial operations 2026.
  - ~700 million will be invested, which will create around 200 direct and 3,000 indirect jobs
  - Aurora lithium conversion plant, which aims to become a steppingstone for the development of an integrated lithium-battery value-chain in Europe.
  - The plant, which will be one of Europe's largest and the most sustainable, is set to have an initial annual production capacity between 28,000 and 35,000 tons of battery-grade lithium hydroxide. The plant will use a proven conversion process, leveraging recent process improvements and technologies to increase its sustainability and efficiency.
- **China Battery Giant CATL Joins \$6 Billion Venture in Indonesia**
  - China's top battery producer plans to boost its presence in the aspiring electric-vehicle hub of Indonesia by partnering with local state-owned groups to build a \$5.97 billion mining-to-batteries complex.
  - A unit of Contemporary Amperex Technology Co. Ltd. will join PT Aneka Tambang and PT Industri Baterai Indonesia on the project that spans everything from nickel mining to battery materials, recycling, and an EV batteries factory.

Regards –