



Weekly Precious Metals News Articles: April 1, 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 settles higher for the session, month and quarter](#)
 - Gold futures finished higher Thursday, tallying gains for the month as well as the quarter as the Russia-Ukraine war continued to boost haven demand for the precious metal.
 - Gold rose amid some safe-haven demand, due in part to the Ukraine-Russia war, weakness in the U.S. dollar, and likely “end-of-the-quarter interest,” Jeff Wright, chief investment officer at Wolfpack Capital, told MarketWatch. The ICE U.S. Dollar Index trades about 0.5% lower for the week.
- [Bullion groups launch gold bar database to thwart fraud](#)
 - The London Bullion Market Association and the World Gold Council said companies including miners Barrick and Newmont, refiners Metalor and MKS PAMP and shippers Brinks and Loomis would submit data to a pilot scheme that should eventually extend worldwide.
- [Gold poised for weekly gain as Ukraine crisis spurs safe-haven demand](#)
 - Gold prices were on pace to post their best week in three as the ongoing Ukraine war bolstered the safe-haven metal’s appeal, although higher U.S. Treasury yields pressured bullion on the day.
 - Risks around Russia and Ukraine as well as talk about inflationary pressures have supported gold.
 - The Federal Reserve raised borrowing costs for the first time in three years last week March 16, and since then top U.S. central bank policymakers have signaled a more aggressive approach to monetary policy tightening this year to fight rising inflation.
 - Some investors perceive gold as a cushion against inflation.

Semiconductor Related Articles (impacting Precious Metals electronics):

- [Smartphone production to drop by 2.5%: TrendForce](#)
 - Global smartphone production is expected to grow at a slower annual rate of 2.5% this year due to the sluggish seasonal demand in the first quarter, Russia’s invasion of Ukraine and COVID-19-related lockdowns of Chinese cities. Production is forecast 1.366 billion units 2022.
 - However, as COVID-19-induced disruptions and semiconductor shortages linger, coupled with concerns about inflation and energy supply, smartphone production might be subject to further downward revisions later, it said.
- [US plans semiconductor alliance with Taiwan, South Korea, and Japan](#)
 - The US has proposed forging a semiconductor industry alliance between the United States, Taiwan, South Korea, and Japan in a move to prevent China from gaining dominance over the strategic sector.

- [Apple is reportedly eyeing phone subscription service](#)
 - Apple may soon launch a hardware subscription service, allowing customers to lease an iPhone through monthly payments and potentially trade up when new phones come out.
 - Bloomberg said the service could launch as soon as the end of this year. It would function similarly to how users currently subscribe to iCloud, like a car-leasing program. The program would not charge a monthly fee that would change based on which device the user chooses.
- [Apple reportedly cuts production of its new iPhone SE by 20%](#)
 - Apple is reportedly scaling back production of its new budget iPhones in China, less than three weeks after launching the product. This decrease is reportedly an early sign of the Ukraine war and inflation's negative impact on electronics demand.
- [Analog IC sales to rise 12% in 2022, says IC Insights](#)
 - Analog IC sales are forecast to grow +12% to US\$83.2 billion in 2022, with shipments +11% IC Insights said. The analog IC market growth of +30% in 2021 lifted sales to an all-time high. The combination of strong demand and well-documented supply-chain disruptions contributed to a 6% rise in the chip ASP last year.
 - This year, every major analog market category tracked by IC Insights is forecast to post sales increases ranging from +7% in the amplifiers and comparators segment to +17% growth for automotive application-specific analog ICs.

Silver

- [Silver Rebounds As Dollar Moves To Multi-Week Lows](#)
 - The U.S. dollar is under strong pressure, which is bullish for precious metals.
 - A successful test of the resistance at the 20 EMA will push silver towards the next resistance at \$25.30.
- [World will need 5.2TW of solar this decade to avoid climate breakdown](#)
 - The International Renewable Energy Agency's latest global outlook has spelled out just how 'woefully' far the world is from capping temperature rises at 1.5C, and lamented: 'The stimulus and recovery efforts associated with the pandemic have also proved a missed opportunity.'
 - *Matt: Global Solar PV installation just passed the 1.0TW milestone. 5.2x the demand by 2030 will require a +17.5% CAGR, and a total of 2.2 billion troy ounces of silver from 2022-2030.*
- [Solar starts strong in the U.S., growing 40% year over year in January](#)
 - Solar PV reached new heights through 2021, with estimates pegging total global deployment at the milestone of 1TW of installed active capacity on the planet. In January 2022, the USA made its latest contribution by bringing 22 projects to commercial operation, adding 952MW of capacity.

Precious Metals Mining:

- [The Crunch is coming for South African Platinum Mines, by way of wage demands](#)
 - South Africa's biggest platinum mining unions will start submitting wage demands to companies this week. The negotiations, for a three-year wage deal, including Anglo American Platinum, Sibanye Stillwater and Impala Platinum (Implats), are expected to start in the first week of April.
 - Prolonged strike action at the platinum mines may well result in a decline in PGMs supply. It is important to note, that the platinum market is already tight and in supply demand deficit, and in this regard, strike action will likely support further upward pressure on the price of platinum.
- [Implats to benefit most from palladium surge through \\$3,000/oz, says Citi](#)
 - The price of palladium could challenge \$3,000 per ounce according to a report by Citi last week which has tipped Impala Platinum (Implats) to benefit most.

- “Our commodity team remains bullish on palladium and expect a major sequential recovery in global automotive production in 2022 and 2023 to benefit PGMs broadly, and palladium in particular due to its higher sensitivity to auto catalyst demand,” it said.
- **[Implats confirms project, SIB capital rollout of R50bn over next five years](#)**
 - Implats confirmed it would spend R50bn over the next five years on capital projects targeted at increasing production of both concentrate and refined platinum group metals (PGMs).
 - Capital had been allocated to stay-in-business (SIB) operations as well as new growth projects. The group has said it will produce 300Koz of refined PGMs as a result of projects and debottlenecking.
- **[Implats to benefit most from palladium surge through \\$3,000/oz, says Citi](#)**
 - “Our commodity team remains bullish on palladium and expect a major sequential recovery in global automotive production in 2022 and 2023 to benefit PGMs broadly, and palladium in particular due to its higher sensitivity to auto catalyst demand,” it said.
 - The palladium price has weakened 9% in the last 30 days despite Russia’s invasion of Ukraine which has resulted in sanctions, although not directly on Russian metal exports.
- **[Defiant South African Unions Stage Protest Against Sibanye](#)**
 - Members of South Africa's National Union of Mineworkers (NUM) and the Association of Mineworkers and Construction Union (AMCU), who have been on strike at Sibanye-Stillwater's gold operations since March 9, hold placards as they stage a protest outside the company's Kloof Mine, in the southwest of Johannesburg, South Africa, March 25, 2022.
- **Copper: [Anglo Looks to the Sea as Water Scarcity Hits Chilean Mines](#)**
 - With no letup in Chile’s years-long drought, Anglo American Plc is looking at developing a desalination project in partnership with state-owned Codelco, Japan’s Mitsui & Co. and a local water utility.
 - At a cost of \$500 million to \$1 billion, the desalination project probably wouldn’t be ready for another four or five years.

E-Waste & Precious Metals Recycle Related:

- **[\(US\) Feds want industry help to lower PV recycling costs](#)**
 - The department sees the need for government intervention. The 5-year plan document estimates the cost to recycle PV modules ranges from \$15-\$45/module, compared with a cost of \$1-\$5/landfill them.
 - “As we accelerate deployment of PV systems, we must also recognize the pressing need to address EOL for the materials in a sustainable way,” Kelly Speakes-Backman, principal deputy assistant secretary for the Office of Energy Efficiency and Renewable Energy at the U.S. Department of Energy, stated in a press release. “We are committed to ensuring that the recovery, reuse, recycling and disposal of these systems and their components are accessible, low-cost and have minimal environmental impact.”
- **[TSMC to open zero waste production center next year](#)**
 - TSMC plans to open a zero-waste manufacturing center in Taichung next year as part of the company’s efforts to facilitate a circular economy. TSMC senior vice president of Europe and Asia sales Lora Ho said the proposed zero waste manufacturing center is expected to help the chipmaker effectively cut waste. Zero waste manufacturing centers can turn waste into electronic components that can be used again, facilitating a circular economy, TSMC said.

Platinum

- **[China’s Imports Shift Platinum Into A Global Deficit, Presenting A Conundrum To The Industry](#)**
 - I argue that supply-and-demand forecasts presented to the market, do not give a complete picture of the platinum industry at present. I contend that my estimates of import and export data together with estimates of above-ground inventory, both globally and by region, provide additional and important

information to take into account when forecasting market trends, overall market balance and the residual platinum price.

- **[Gas Engine Converter vs. Diesel Engine Converter](#)**
 - Catalytic converters reduce toxic emissions produced by a vehicle's internal workings. The density of PGM metal loadings in gas versus diesel engine converters accounts for the difference in value.
 - A diesel engine converter contains fewer precious metals because diesel fuel is cleaner and produces fewer toxic emissions. As a result, there are fewer emissions that need to be catalyzed, resulting in fewer precious metals and lower recyclable values.
 - The location of these two converters is also a distinguishing feature. In a gasoline-powered vehicle, the converter is usually located closer to the engine, whereas in a compression-fired diesel engine, the diesel oxidation catalyst is usually located downstream of the exhaust manifold.

Fuel Cells/Hydrogen Economy Related Articles:

- **[Have European blue hydrogen plans ended before they could begin?](#)**
 - The EU has considerable intentions for using H₂ made using natural gas and carbon capture and H₂ storage technology as a part of its decarbonization strategy. However, the war in Ukraine has changed the nature of natural gas availability to European countries, very likely altering the viability of using it for large-scale H₂ production moving forward.
 - "From geopolitical aspect, [blue H₂] projects will be harder to implement," said Szabolc. Hungary had been looking into nuclear pink hydrogen.
- **[China sets out blueprint for fuel cell vehicles for 2025](#)**
 - By 2025, China is expected to have mastered the core technologies and manufacturing processes. Also, there will be around 50,000 H₂ FCEVs on Chinese roads by 2025.
 - Last year, 17,000 such vehicles were sold worldwide, with 1,586 delivered in China.
 - China's annual H₂ prod. output from renewable energy is expected to reach 100k-200k mt by 2025.
- **[Fuel cell electric vehicles are forecast to drive material long-term demand growth for platinum](#)**
 - Broad based commercial adoption of FCEV could see automotive demand for platinum reach current automotive demand by the early 2030's (specifically 3.5Moz/year by 2033).
- **[H₂ Mobility gets \\$121 million from investors to build hydrogen network](#)**
 - Germany's H₂ Mobility fuelling station network said on Tuesday it will get an extra 110 million euros (\$121 million) over the next five years to roll out more infrastructure for FCEVs powered by H₂.
 - *Matt: H₂ Refueling depots costs on ave. \$6-8M per to construct. In California, subsidies cover ~\$2M per site. \$121M will potentially only get you 60 or so stations.*
- **[Toyota develops new module to store, transport hydrogen](#)**
 - Toyota has used its hydrogen tank tech in a new module to expand hydrogen storage to railways, shipping facilities, cargo ports, and fuel cell generators. Its 70MPa tank has a storage capacity of 2.7 kg to 18.7 kg and a tank mass ranging from 43.0 kg to 243.8 kg, depending on the size.
- **[Indian scientists develop platinum-based electrocatalyst, could provide breakthrough in fuel cells](#)**
 - A group of scientists at International Advanced Research Centre for Powder Metallurgy and New Materials have developed a Pt based electrocatalyst that they claim demonstrate comparable performance in fuel cells other electrocatalysts available in the market today while offering more durability through superior corrosion resistance. With expected commercialization in the next quarter, it could be a breakthrough for indigenous fuel cell development paving the way for low-cost, durable fuel cells.

Palladium

- **[Russian Palladium and Platinum – Too Important to Sanction](#)**
 - In other words, due to, in the words of the LPPM, "terrible events" in Ukraine, the LPPM decided to do nothing, all because Russian palladium and platinum are too important to sanction.

- [Gold retreats, palladium slides 9% on progress in Ukraine talks](#)
 - Gold prices fell more than 1% to a one-month low while palladium shed nearly 9% on Tuesday (March 29), as signs of progress in Russia-Ukraine peace talks dented demand for precious metals.
- [Can U.S. cars get cleaner?](#)
 - Europe and China prove they can, a Corning Inc. engineer-director says in a WCX 2022 technical paper.
 - Considering the adverse health effects, the World Health Organization recently recommended a 50% reduction in PM2.5 (from 10 to 5 mg/m³) levels for healthy air. The U.S. Environmental Protection Agency is also considering revising the annual PM2.5 national ambient air quality standard down from the current level of 12 mg/m³ to 8–10 mg/m³

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

- [Leading hydrogen electrolyser makers announce more than \\$250m of new investment to help fund factory expansions](#)
 - Norway's Nel (Alkaline and POEM) raised \$174m in a share offering, while Germany's Sunfire (Alkaline and Solid Oxide Fuel Cells) pulled in \$95M from Series D capital raising
- **Iridium Oxides:** [Green H₂ capacity in Germany could reach 28GW in 8 years](#)
 - The DWV said that it is possible Germany will have reached a maximum green H₂ supply capacity of 16.25 GW per year by 2025. Then, by 2030, that number will have exploded to 27.8GW. This represents a considerably higher achievement than the goal the country has set for itself.
- **Ir & Pt alternative:** [Scientists Found a Sustainable Way of Producing H₂ for Fuel Cells & Fertilizers](#)
 - Eventually developed an active and stable catalyst by inserting manganese into the spinel lattice of Co³O₄, resulting in the mixed cobalt manganese oxide Co²MnO₄.
 - Co²MnO₄ performed admirably in testing. The activation levels were comparable to those of cutting-edge iridium oxides. Furthermore, the new catalyst lasted more than two months at a current density of 200 milliamperes per square centimetre, indicating that it could be useful in practice. In comparison to other non-rare metal catalysts, which typically only last days or weeks at much lower current densities, the new electrocatalyst could be a game-changer.

Clean Energy General News

- [The Ugly, Expensive Plan to Bring Green Power to China's Megacities](#)
 - China, the world's biggest greenhouse gas emitter, can't meet its environmental goals without connecting its abundant sources of renewable energy with its coastal megacities. By 2030, it plans to have enough solar and wind capacity to generate 1,200 gigawatts — equivalent to all of the U.S.'s power needs. To hook that up to the grid, it's investing in a national network of power lines that by one estimate will take 30 years and cost \$300 billion, compared with the recent 10-year, \$65 billion allocation to grid infrastructure by the U.S. Congress.
- [The Power Distribution Problem: The Ugly, Expensive Plan to Bring Green Power to China's Megacities](#)
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- [Germany can do without Russian gas by 2024, oil and coal by end-2022 – econ min](#)
 - Natural gas supply poses the biggest challenge and it will likely take until mid-2024 for Germany to be able to forgo deliveries from Russia, said the minister. Significant expansion of renewables, reduction of

consumption in all sectors, diversification and the ramp-up of hydrogen are needed for this. In the short term, RWE and Uniper are finalising contracts to rent three floating LNG terminals that could be used to import liquefied natural gas directly into Germany, possibly already in the coming winter.

- [Biden to ship natural gas to Europe in hydrogen fuel transition plan](#)
 - The idea behind this new plan for export fuel is to use pipelines, tanks and terminals in the short term for transporting liquefied natural gas to the EU. The idea is that it will satisfy the European energy demand now and have the necessary infrastructure in place for hydrogen fuel production later on.
- [In the battle over electric vehicles, could hydrogen win?](#)
 - China has set a goal of using over 1 million FCEVs for commercial purposes by 2030.
 - There will be more FC buses and trucks in EU soon. 1,000+ buses are planned during the next decade.
 - The Port of Rotterdam and Air Liquide have developed an initiative to deploy 1k fuel cell trucks by 2025, and a joint call signed by over 60 industrial partners aims for up to 100k FC trucks by 2030.
 - The IEA forecasts that fuel cell manufacturing could produce 6M FCEVs by 2030, ~40% of the "Net Zero Emissions by 2050 Scenario" needs.
- [Chile miners sanguine about change](#)
 - Chile's mining sector is sanguine about a raft of possible regulatory changes facing the sector with 2022 representing the biggest upheaval in mining regulation in a generation.

BEV / LiB Mineral & Battery Market News

- [EV battery report: South Korean companies plan aggressive expansion](#)
 - LG Energy this week announced over \$5 billion of investment into two battery production plants in North America, including its first Canadian gigafactory, as the South Korean company cements its position as a leading supplier to the US automotive industry.
 - \$4.1B joint venture with Stellantis will build Canada's first large-scale battery facility in Windsor, Ontario. Due to be operational by 2024, the plant has a planned production capacity of 45 GWh.
- [Daimler trucks chief warns cost of electric will 'forever be higher'](#)
 - World's largest truckmaker more than tripled the sales of zero-emission trucks and buses last year
 - The cost of building a battery-powered truck will "forever be higher" than a combustion engine equivalent, the boss of the world's largest truckmaker has warned, as the war in Ukraine accelerates an already rapid rise in the price of crucial commodities.
 - All in ICE HDV Cost: engine, transmission, axle, tank system, cooling ... we have a max €25,000
 - "How much LiB do you get for €25,000? Even if [battery costs fall to] €60 per kilowatt hour, and I need 400 kWh, then I need €24,000 alone for the battery cells [in a single truck]".
- [Batteries fully charged - cobalt and lithium demand on the rise](#)
 - Electric vehicle sales in China and the U.S. saw triple digit growth in 2021, placing higher demands on cobalt and lithium production. Cobalt and lithium futures prices have more than doubled since launching in December 2020 and May 2021, respectively.
- [Nickel paralysis deepens as battered LME market barely trades](#)
 - The trend isn't limited to nickel either. Trading volumes have dropped significantly in the larger copper and aluminum markets since the LME's controversial intervention earlier this month and the crisis has raised questions about the bourse's status as the world's benchmark futures market.
- [Tesla inks secret multi-year nickel supply deal with Vale](#)
 - EV giant Tesla is said to have secured a multi-year deal with Vale for the supply of nickel. The yet to be disclosed agreement will see the Brazilian miner supply nickel produced in Canada to the EV maker, which has spent the past year signing pacts with several producers of battery metals.
 - CEO Elon Musk promised in 2020 "giant contracts" to companies able to produce nickel in an "environmentally sensitive way" amid concerns of an imminent deficit. Since Musk's pledge to

miners, Tesla has inked nickel supply deals with the world’s largest miner, BHP, in Australia, with Prony Resources in New Caledonia and with Talon Metals for its Tamarack project in Minnesota.

- **Nickel Miners News For The Month Of March 2022**

- Nickel spot prices skyrocketed higher in March on supply disruption fears from Russia and LME trading dramas. LME inventory was significantly lower.
- Nickel market news - The Intercept reported: "Biden administration drafting order to invoke Defense Production Act for green energy storage technology."
- Nickel company news - Nornickel hit hard amid Western sanctions, LSE trade suspended. Mincor Resources drills 9.9m @3.4% Ni and 1.2m @ 8.2%Ni, production to begin in June 2022 quarter.
- Large Structural Deficits Start: 2021: Ni 2022: RRE’s 2023: Co 2024: Li, Cu, Natural Graphite

Figure 11: 2030 market balance projections

	Deficit Emerges	Size of Deficit in 2030e	Deficit as a % of Market
Cobalt	2023	170kt	42%
Copper	2024	10.9Mt	31%
Lithium	2024	2.1Mt	50%
Natural Graphite	2024	3.7Mt	37%
Nickel	2021	2.2Mt	37%
Rare Earths	2022	48kt	47%

Source: UBS.

UBS forecasts Year battery metals go into deficit (2021 chart)

- **Beyond Li-ion batteries: performance, materials diversification, and sustainability**

- Although LIBs will still be necessary for certain applications, the future energy landscape requires greater diversification of storage chemistries that can deliver higher energy, longer lifetimes, faster charging, and greater safety in an economical and sustainable manner.
- Extensive research has focused on alternatives to traditional cathode materials: for example, Li-S (Lithium-Sulphur) and Li-O2 (Lithium Oxygen); all-solid-state configurations; substitution of Li for other alkali metals, Na (sodium) and K (potassium); and multivalent-ion batteries (MVIBs) based on Mg, Ca, Al, or Zn.
- Progress across these chemistries varies: MVIBs and Li-O2 are in the early stage of development, whereas the most advanced sodium-ion batteries (NIBs) are the focus of several manufacturers; indeed, CATL, Tesla’s primary battery supplier, intends to begin industrializing its technology on a large scale by 2023. However, mainstream rollout of new batteries is hindered by both challenges specific to individual chemistry and wider universal factors.

Regards –