



## Weekly Precious Metals News Articles: January 5, 2024

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**Below is a cross section of relevant news article to the world of Precious & Critical Metals:** This markets, supply & demand shifts, investment, mining, recycle and industrial applications.

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

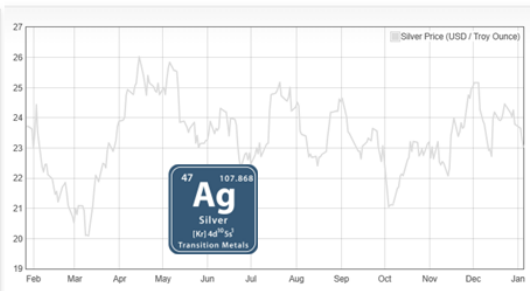
### Gold

Gold Prices for the Last Year



Gold – Friday pm ↓ 2,041.80/toz

Silver Prices for the Last Year



Silver – Friday pm ↓ \$23.25/toz

- [Gold among top 2023 performers](#)
  - Gold finished the year on a high, literally and metaphorically, as the LBMA Gold Price PM reached a new historical record of US\$2,078.40/oz on 28 December – the final afternoon auction of 2023.1
  - Gold rose 14.6% on the year, defying expectations amid a high interest rate environment and outpacing commodities, bonds and emerging market stocks.
- [Royal Mint Precious Metals division achieves record investor numbers as ‘flight to safety’ among investors maintains momentum](#)
  - The Royal Mint has seen a 7% year-on-year increase in customers purchasing bullion, as many global investors continue to move into precious metals investments to weather volatile financial markets.
- [Gold, Silver, Platinum Forecasts – Strong Dollar Triggers A Sell-Off](#)
  - Gold pulled back towards the \$2030 level as U.S. dollar rallied against a broad basket of currencies.
  - Silver dived 3% as gold/silver ratio tested new highs.
  - Platinum pulled back towards the \$975 level.
- [Gold Investing Sinks to Bear-Market Lows as Price Hits New Highs](#)
  - 2024 BEGINS with record-high gold prices meeting the weakest level of private investing since the precious metal's deep bear market of a decade ago, writes Adrian Ash at BullionVault, while silver sentiment just fell to the lowest on record.

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

- **[Semiconductor Capacity Projected to Reach Record High 30 Million Wafers Per Month](#)**
  - “Resurgent market demand and increased government incentives worldwide are powering an upsurge in fab investments in key chipmaking regions and the projected +6.4% in global capacity for 2024,” said Ajit Manocha, SEMI President and CEO. “The heightened global attention on the strategic importance of semiconductor manufacturing to national and economic security is a key catalyst of these trends.”
- **[Money Pours Into New Fabs And Facilities](#)**
  - Investments boom as countries and companies vie for supply chain security and technology leadership.
- **[Samsung to announce new phones ‘powered by AI’ on Jan. 17](#)**
  - Samsung will show off the features of its new AI-powered phones at its Unpacked event on Jan. 17.
  - The company is likely set to unveil the Galaxy S24, Galaxy S24+ and Galaxy S24 Ultra.
  - Recent announcements from Qualcomm and Google may provide some insight into what to expect from Samsung’s latest phones.
- **[Taiwan considers joining ICC to deter potential China invasion](#)**
  - Taiwan joining the ICC would allow investigation and warrants against Chinese leader Xi Jinping under international law if he ordered or oversaw acts of war or war crimes against Taiwan on its territory. Supporters have said this could help deter Xi from acting on his intention to annex Taiwan, a self-ruled democracy whose people overwhelmingly reject the prospect of Chinese subjugation.
- **[Taiwan considers joining ICC to deter potential China invasion](#)**
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- **[South Korea chip output rises as demand improves](#)**
  - South Korea’s trade-reliant economy has muddled through this year with suppressed demand for semiconductors and is forecast by the central bank to have expanded 1.4%, less than 2.6% last year, under higher interest rates, an economic slowdown in China and geopolitical risks.
  - The latest chip data suggest the nation’s technology manufacturers might help support growth. The strength of semiconductor makers drove a 5.3% expansion in the nation’s industrial output from a year earlier last month, suggesting that the economy is gathering steam in the fourth quarter.

## **Silver**

- **[Silver Prices Forecast: Sentiment Turns Bearish Following Fed Minutes](#)**
  - Silver’s modest rise overshadowed by bearish market trend
  - Fed’s ambiguity fuels uncertainty in silver markets
  - Economic data dampens silver trading sentiment
- **[Silver Outlook 2024: Constrained supply, rising demand, and USD weakness could see silver overshoot forecasts](#)**
  - “Physical investment was off the charts last year, 333 million ounces,” he said. “And if you look at jewelry last year, also off the charts, 235 million ounces. These two categories were just so outsized compared to where they’ve been, so it’s just not all that surprising that we’re seeing things come back down to earth a little bit.”
- **[Solar Revolution: How the Industry Achieved 1 TW of Capacity and What's Next](#)**
  - Longi Solar, the world’s largest solar module maker, anticipates an deployment of 1 TW/yr. of solar by 2030.

- Christian Breyer, a Solar Economy Professor at the Lappeenranta University of Technology in Finland, and his team have demonstrated the economic feasibility of a global energy market entirely reliant on renewable energy. Their research suggests that with an expected global installed capacity of around **63.38 TW**, solar energy could make up as much as 69% of the world's primary energy supply by the midpoint of this century.
- *Matt: How much solar do we need? My previous High Case was 14TW of solar operational by 2050. My new high is 28TW. Here they are advocating for 64TW. Lack of a known storage solution puts pressure on the H2 and ammonia economy, and therefore pressure on PGMs (Pt, Ir, Ru)*
- [\*\*Worldwide PV growth set to slow in 2024\*\*](#)
  - However, on average, the current pace will be maintained and there will be no annual growth from 2024 to 2028, which will include some years with contractions. Wood Mackenzie is forecasting 270 GW of new solar installations worldwide this year, while the IEA expects additions of 349 GW for 2023.
- [\*\*Silver's Shine: Versatile Metal Anticipated to Witness Significant Growth\*\*](#)
  - With an increasing demand across various sectors, silver is set to shine in the global market. From jewelry and silverware to industrial fabrication and technological applications, the versatile metal is gaining favor. The Silver Institute recently reported an 8% growth to a record 632 Moz last year in silver industrial demand, a new annual high.

## **Precious Metals Mining:**

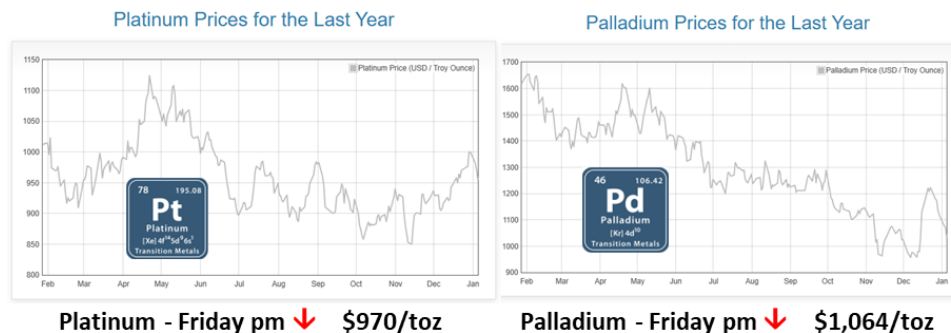
- [\*\*The Hottest Property in Gold Mining Is Copper\*\*](#)
  - From central Mexico to the Australian Outback, gold producers led by Newmont and Barrick Gold are raising bets on copper through deals and other investments that will give them more influence over a commodity vital to the global energy transition. Copper is essential for building electric vehicles, wind turbines and solar-power systems.
- [\*\*Gold mine collapse in Zimbabwe leaves 11 miners trapped\*\*](#)
  - Redwing Mine's owner, Metallon Corporation, has informed that a dedicated rescue team has been deployed to bring the trapped miners back to the surface
- [\*\*Gold Mining Boss Ousted Over \\$5.9 Million Payment\*\*](#)
  - Endeavour, which operates mines in Western Africa, said de Montessus was terminated as president and CEO following an investigation into an irregular payment instruction issued by him in relation to the sale of an asset. It said its board recently became aware of the \$5.9 million payment instruction.
- [\*\*Endeavour Mining chief dismissed over allegations of 'serious misconduct'\*\*](#)
  - Endeavour Mining, one of the world's top gold producers, has fired boss Sébastien de Montessus for "serious misconduct" after discovering an allegedly irregular multimillion-dollar payment and receiving allegations regarding his personal conduct with colleagues.

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

- [\*\*Material Shortages Could Propel E-waste Recycling - Supply Chain Management Review\*\*](#)
  - Interest in e-waste recycling will grow as a solution to material shortages
  - The supply chain sector is predicted to face significant raw material shortages, with gallium and possibly germanium running short in multiple regions as soon as 2024. These shortages will have the biggest impact on chipmakers and the production of lithium-ion batteries for electric vehicles (EVs).
- [\*\*Microsoft Ending Support for Windows 10 Could Create a Stack of E-Waste Taller than the Moon\*\*](#)
  - A new report estimates that 240 million PCs could head to landfill by October, 2025, because Microsoft has decided to end support for Windows 10.
  - If these PCs were all laptops, then stacking them up would make a pile of e-waste about 372 miles taller than the moon, or more than 2,400 miles high, according to Canalis Research, which wrote the report.

- [BASF launches greener option for recycled PGMs](#)
  - BASF Environmental Catalyst and Metal Solutions has launched Verdium, described as a 'new approach' to recycling platinum group metals based on mass balance.
- [Comstock to commission first solar panel recycling facility](#)
  - Though the company is still finalizing permits, it says clients are ready to begin supplying decommissioned panels to its demonstration-scale facility on a continuous basis.
  - Today, Segal is president of eForce Recycling, a company that manages electronic waste.
  - "We do anywhere from three to five million pounds a year," he says. "We're really a service business."
- [Comstock to commission first solar panel recycling facility](#)
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- [Canadian facility scales up rare earth magnet recycling](#)
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  - Ontario-headquartered Cyclic Materials is actively sourcing hard disks from ITAD firms for its magnet extraction and rare earth processing operations. The company is planning to expand with multiple facilities in the U.S. and Canada in the coming years.
  - Cyclic's first facility is capable of processing about 2,200 pounds /hour, or nearly 18 million pounds/year, using the magnet removal process the company calls Mag-Xtract. The company's separate hydrometallurgical process, which completed a trial run in 2022, has an early capacity of 22,000 pounds per year.

## Platinum



- [Gold, Silver, Platinum Forecasts – Gold Rebounds Despite Rising Treasury Yields](#)
  - Platinum tested new lows as the strong pullback continued. Rising Treasury yields and the pullback in palladium markets served as bearish catalysts for platinum.
  - If platinum settles below the \$900 level, it will head towards the next support at \$925 – \$935.
- [How Can Nanopores Enhance Catalysis?](#)
  - Researchers reported a new template-based method for encapsulating Platinum clusters in zeolite. The uniform distribution can be observed due to the electrostatic interaction between negatively charged metal ions and positively charged templates. Enhanced hydrodeoxygenation performance of phenolics and sustained catalytic stability result from a facilitated transfer of hydrogen from platinum to zeolite.

## Fuel Cells/H<sub>2</sub> Economy Related Articles:

- [Heraeus Precious Metals commits to the hydrogen economy](#)
  - Heraeus Precious Metals' Hydrogen Systems business provides a range of precious metal-based products for electrolyzers and fuel cells, in particular electrocatalyst solutions for next-generation applications, according to the company. In addition to precious metals, it will supply an array of

technologies and the respective production capacities for the recovery of precious metals from production scrap and end-of-life materials, such as catalyst-coated membranes.

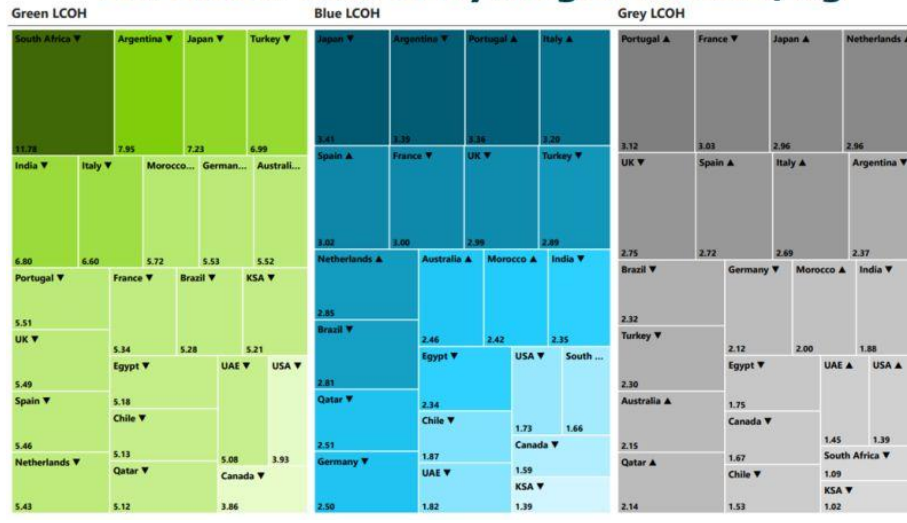
- “Our global R&D and testing as well as production facilities enable us to fulfill our customer needs on a technical and overall business level,” says Philipp Walter, head of the new business line. “We are strong innovators and support our customers’ business end-to-end.”
- **[Hyundai Motor & Kia to Develop Polymer Electrolyte Membrane w/Gore for H<sub>2</sub> Fuel Cell Systems](#)**
  - Hyundai Motor and Kia sign an agreement with Gore to co-develop polymer electrolyte membrane (PEM) for hydrogen fuel cell systems. Collaboration to encompass test protocol and key aspects of PEM development. Partnership aims to develop advanced fuel cell system for commercial vehicles, increasing durability and performance.
- **[Troubled Nikola boasts first revenue from H<sub>2</sub> vehicles, but will it be enough to revive its fortunes?](#)**
  - Hydrogen truck manufacturer Nikola has today (Thursday) announced that it has sold 35 hydrogen trucks wholesale since serial production started in September, with the revenue from its fuel-cell electric vehicles (FCEVs) to be recognised for the first time in its end of year results.
- **[Ballard Averaging \\$55 Million Annual Losses While Pushing Hydrogen Rock Uphill With Grants](#)**
  - There are three long running supporting cast members in stagings of the sad farce that is trials of hydrogen for fleets, FuelCell Energy, Plug Power and Ballard Power Systems. All of their market capitalizations peaked roughly 99% above their current stock valuations in 2000. They’ve all participated in innumerable hydrogen fleet trials, yet none of the trials has resulted in hundreds or thousands of vehicles operating on hydrogen.
- **[Expensive green hydrogen-based fuels might not lead to skyrocketing plane ticket prices in the short term: IEA](#)**
  - Generous cost estimates put e-kerosene at double or triple the price of conventional jet fuel by 2030, but a 10% blend might only increase overall flight costs by 5%
  - The IEA, in its recent report entitled The Role of E-fuels in Decarbonising Transport, calculates that even an optimised, large-scale plant drawing on the best renewable resource and lowest-cost biogenic CO<sub>2</sub> feedstock would currently produce e-kerosene at a cost of \$80 per gigajoule of energy content, or \$3,500 per tonne. This is between four and five times the price of conventional jet fuel today, which ranges from \$750-1,000 per tonne.
- **[Why shipping is opting for green H<sub>2</sub>-based methanol over ammonia, despite much higher costs](#)**
  - But although methanol has had a headstart over ammonia in maritime over the past year, with major orders for dual-fuel engine vessels placed by Maersk, the International Energy Agency (IEA) warns in a recent report, entitled The Role of E-fuels in Decarbonising Transport, that this fuel (methanol) could be 25-100% more expensive than ammonia (NH<sub>3</sub>).
- **[Capacity® Trucks Introduces First North American Hydrogen Fuel Cell Electric Hybrid Truck Built From the Ground Up](#)**
  - Amazon is building renewable energy powered hydrogen electrolyzers at each of their 80 major US fulfillment centers.
  - The first electrolyzer was just completed in Colorado.
  - Enables Amazon to power hydrogen forklifts, trucks, and vans locally and sustainably.
  - The electrolyzers will complement Amazon’s enormous forklift fleet, which is currently entirely hydrogen fuel cell powered.
  - Amazon will begin adding hydrogen fuel cell yard dogs this year, manufactured by Capacity Trucks.
- **[Breakthrough achieved in solid oxide green hydrogen production by Elcogen and Convion](#)**
  - Elcogen and its partner Convion have announced a successful breakthrough in green hydrogen production via its solid oxide electrolyser technology.

- The system can deliver hydrogen at superior efficiency compared to incumbent technologies, and the two companies have now concluded a test period of 2,000 hours. Convion's solid oxide electrolyser was equipped with Elcogen's cell technology, validating good performance and operability.
- Completed at steady state operation and 1,000 rapid power cycles, the test campaign saw the system perform with efficiencies of over 85%, equating to 39kWh of electrical energy per kilogramme of green hydrogen produced.
- **[Plug 1MW Electrolyser, Which Uses Electricity And Water To Produce Hydrogen, Is Able To Support Up To 400 Hydrogen Fuel Cell-Powered Trucks](#)**
  - Amazon has announced plans to produce hydrogen fuel at its fulfillment centres and has partnered with hydrogen company Plug Power to install the first electrolyser (equipment that can split water molecules to produce hydrogen) at a fulfillment centre in the state of Colorado in the US.
  - The 1 MW proton exchange membrane electrolyser is the first for Amazon and is producing low-carbon hydrogen to fuel more than 225 hydrogen fuel cell-powered forklift trucks at the site.
  - The Plug 1MW electrolyser, which uses electricity and water to produce hydrogen, is able to support up to 400 hydrogen fuel cell-powered forklift trucks.
  - The hydrogen produced by the electrolyser will be compressed on site and stored in a gaseous hydrogen storage tank for use by the forklift trucks.
- **[Isuzu and Honda begin testing fuel cell-powered heavy-duty truck in Japan](#)**
  - The two automakers' logistics arms – Isuzu Logistics Co and Honda Logistics – are carrying out the demonstration testing of the Giga Fuel Cell on public roads in Japan to verify the potential of the utilization of hydrogen fuel and the practicality of heavy-duty fuel cell trucks in cargo handling and public road driving, vehicle operation management including hydrogen refueling and market compatibility of heavy-duty trucks
- **[Chinese scientists develop high-performance hydrogen fuel cells](#)**
  - Jiao Kui, a professor at Tianjin University's School of Mechanical Engineering, and his team redesigned the proton exchange membrane fuel cell's architecture, incorporating new components and optimizing the gas-water-electric-heat transfer routes.
  - The team created an ultra-thin and ultra-high power density fuel cell. They eliminated traditional gas diffusion layers and flow channels by using ultra-thin carbon nanofiber film produced by electrospinning technology and metal foam.
  - This progress has contributed to a 90 percent reduction in the thickness of the membrane electrode assembly and a 80 percent reduction in mass transfer losses caused by reactant diffusion, nearly doubling the volumetric power density of the fuel cell.
  - The research team estimates that the peak volumetric power density of the fuel cell stack using the new structure will reach 9.8 kilowatts per liter.
- **[Hydrogen export | 'Big wave' of orders for huge ammonia tankers underway — but will any of them ever carry NH3?](#)**
  - Orders are flying in for massive ships that can carry vast quantities of ammonia — the hydrogen derivative that enables the production and intercontinental export of low-carbon H<sub>2</sub> — suggesting that shipping companies are betting big on ammonia-capable carriers to future proof their cargo businesses.
- **[Levelized Cost of Hydrogen – Green Vs. Blue Vs. Grey, by region](#)**
  - I'm pleased to share insights from Worley Consulting's report, showing latest trends in the H<sub>2</sub> market. Over the past month, we've seen a significant decline in production cost for H<sub>2</sub> driven by various factors.
  - From our results we can infer that, the reduction in natural gas prices has played a major role in lowering production expenses for grey and blue hydrogen pathways. Grey hydrogen now averages USD 1.8/kg globally, resulting in a 5% month-over-month drop, while blue hydrogen remains at USD 2.3/kg. Notably,

green hydrogen costs have also decreased thanks to falling capital costs for electrolyzers and the increasing scale of renewable energy development to meet market demands.

- Despite these positive shifts, green H<sub>2</sub>, still costs between USD 3.5-7.2/kg maintaining a premium compared to fossil-fueled production routes. However, the long-term trend indicates a promising future for green H<sub>2</sub> costs as they are expected to fall further on both capital expenditures and operating costs.

## Levelised cost of hydrogen in USD/kg



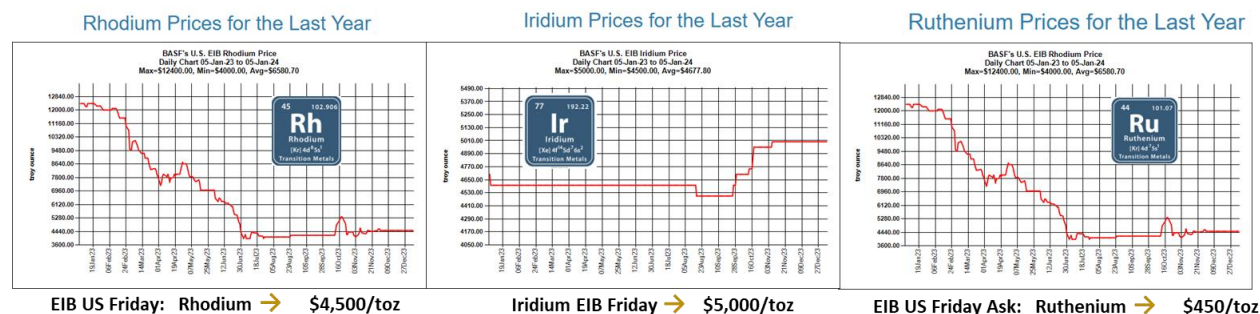
## Palladium

- [Palladium price falls as concern EVs will destroy demand returns to the fore](#)
  - Palladium prices fell 3% on Thursday as concern the take-up of EVs will destroy long-term demand unraveled some of the December gains that followed Britain's expansion of sanctions on other Russian metal trade.
- [Which Commodities are Undervalued Going into 2024?](#)
  - Precious and base metals: PGMs and industrial metals offer value. As of Dec. 27, while COMEX gold and silver futures were higher, NYMEX platinum group metals were significantly lower than at the end of 2022.
  - Platinum and palladium were the worst-performing precious metals in 2023, and the losers during one period often become winners during subsequent ones. Platinum and palladium prices have declined to levels that could offer value, with significant upside potential and limited downside risk in 2024.
- [Palladium Joins Fidelity's Precious Metals Portfolio: A New Era of Investment Opportunities](#)
  - In conclusion, investing in gold through an alternative option is highly recommended if the American Eagle Palladium Bullion Coins are not yet available at Fidelity. Gold offers numerous advantages, including wealth preservation, hedge against inflation, global recognition and diversification benefits. With the value of gold on the rise and the dollar falling, now is the best time to switch to a gold IRA account. Stay safe and make your money like this country. Great again.
- [Global Auto Sales Forecasted At 88.3 Million In 2024 Amid Supply Chain Risks](#)
  - Closing 2023 on a positive note, Western/Central European markets are projected to deliver 14.7 million units, reflecting a 12.8 per cent year-over-year increase.
- [U.S. sales of new vehicles rise 12% in 2023, as buyers shake off higher prices](#)
  - Undeterred by high prices, rising interest rates, autoworker strikes and a computer-chip shortage that slowed assembly lines, American consumers still bought 15.6M new vehicles last year, +12% more than in 2022, the biggest increase in more than a decade. Yet sales still haven't returned to the 17M rate in the years before

the pandemic, and there are signs of a cooling market as buyers aren't as willing to pay astronomical prices that dealers and manufacturers were charging just months ago.

- **[Australia: New car sales hit an all-time high in Australia last year. These were the most popular](#)**
  - Australians bought 1,216,780 new vehicles last year. The Ford Ranger was Australia's top-selling vehicle in 2023. It outstripped the Toyota HiLux, knocking it off its perch for the first time in eight years
  - Utes and SUVs dominated the market, with the Ford Ranger being Australia's top-selling vehicle in 2023. But cost-of-living pressures have automakers preparing for a slowdown.
- **Emerging Markets: [India 1st, car sales top 4 million mark in 2023](#)**
  - New Delhi: Powered by SUVs, the car industry crossed the psychological 4-million mark for the first time in 2023, +8% during the year. Companies, however, expect "flat to moderate" growth curve in the new year as concerns around interest rates and the end of pent-up demand are likely to slow down new purchases.
- **[Global Auto Sales Forecasted At 88.3 Million In 2024 Amid Supply Chain Risks](#)**
  - As the automotive industry braces for 2024, S&P Global Mobility predicts worldwide new vehicle sales to reach 88.3 million, marking a 2.8 per cent increase year-over-year.
  - *Matt: Per all my previous presentations, 2023's 88M vs 2018 pre Covid of 93M or 2017's nearly 94M. It's not the EV penetration rate that's hurting Pd and Rh, electrification is below my Base Case level. Recall PGM loadings +17% with real world testing post 2018. It's the dramatic reduction in LDV sales post pandemic (2017/18) that are most responsible for the Pd/Rh market softness.*

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



- **[A novel avenue for engineering 2D MXene family via precious metals atomic layer deposition techniques](#)**
  - A team of researchers, led by Prof. Kim in the Graduate School of Semiconductors Materials and Devices Engineering and the Department of Materials Science and Engineering at UNIST has made significant progress in precisely controlling precious metals (Ru, Ir, Pt, Pd) incorporation by atomic layer deposition (ALD).
- **[Machine learning identifies promising antibacterial ruthenium-based drug candidates](#)**
  - Although ruthenium is relatively expensive and scarce, the syntheses are only between one and three steps, which is very economical compared with commercially available drugs. 'Moreover, the cost of drug discovery and development is not dictated by the cost of the synthesis, but rather by the huge cost of clinical trials,' Metzler-Nolte points out.
- **[A stable rhodium-coordinated carbene with a  \$\sigma\pi\_2\$  electronic configuration](#)**
  - Carbenes contain a carbon atom in which only two of the four valence electrons are bonded to other atoms. In general, at least one of the two remaining electrons resides in the same plane as those bonds. Hu et al. report an unusual carbene with flanking phosphorus centers in which both of the nonbonding electrons occupy the  $\pi$  orbital perpendicular to the bonding plane. The carbene, isolated and characterized in a complex with each phosphorus coordinated to rhodium, reacted as a Lewis acid in the plane but as a Lewis base above or below it. —JSY



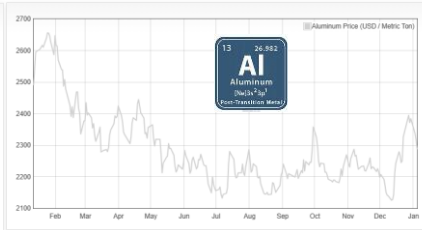
# Clean Energy Market News

Copper Prices for the Last Year



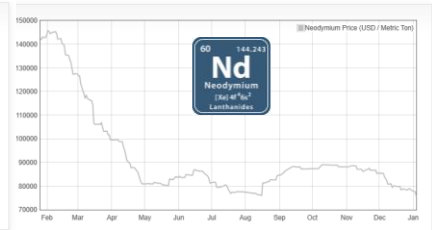
Copper ↓ \$ 8,305/mt

Aluminum Prices for the Last Year



Aluminum ↑ \$ 2,221/mt

Neodymium Prices for the Last Year



Neodymium: ↓ \$74,900/mt

Molybdenum Prices for the Last Year



Molybdenum (Wind/Geothermal): → \$43,000/mt

Tin Prices for the Last Year



Tin: ↓ \$ 25,294/mt

Uranium Prices for the Last Year



Uranium: ↑↑ \$200,546/mt

- [Copper could skyrocket over 75% to record highs by 2025 — brace for deficits, analysts say](#)**

  - Copper is headed for a price spurt over the next two years, as mining supply disruptions coincide with higher demand for the metal. Rising demand driven by the green energy transition and a decline in the U.S. dollar strength come the second half of 2024 will fuel support for copper prices. Copper prices on the London Metal Exchange last saw an all-time record high of \$10,730 per ton in March last year.
- [New hub starts commercial production of recycled rare earths in the UK](#)**

  - A rare earths hub set up by the University of Birmingham, HyProMag Ltd and Mkango in Tyseley, central England, has started the production of recycled rare earths for the magnets used in electric vehicles, wind turbines and other clean technology industries.
  - The Tyseley Energy Park is employing a mechanism dubbed H<sub>2</sub> Processing of Magnet Scrap (HPMS), which is a short-loop recycling method delivering materials that need only a few process steps to produce recycled 'sintered' rare earth permanent magnets that are made to recognized industrial grades.
- [BP and Equinor scrap New York offshore wind contract as costs rise](#)**

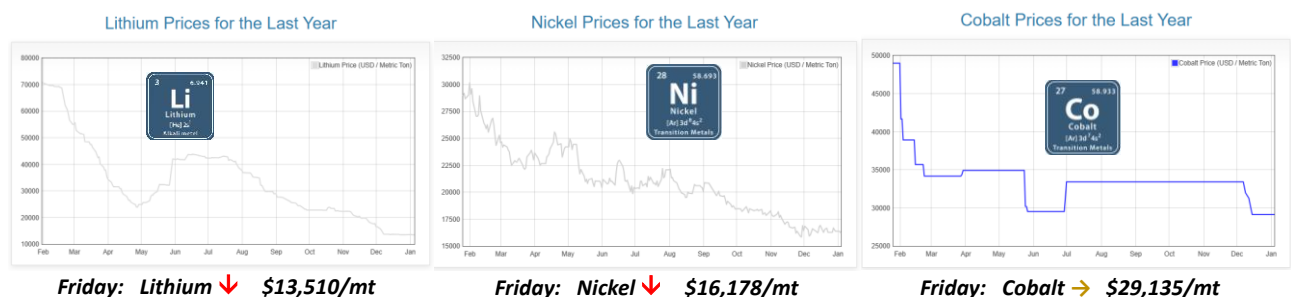
  - Plan to reset deal follows inflation, higher interest rates and supply chain problems
  - The deal terminated on Wednesday was signed in 2022. BP and Equinor had agreed to sell renewable energy credits from the 1,260MW Empire Wind 2 phase of the project at a strike price of \$107.50 a megawatt-hour.
  - "Commercial viability is fundamental for ambitious projects of this size and scale," said Molly Morris, president of Equinor Renewables Americas. "The Empire Wind 2 decision provides the opportunity to reset and develop a stronger and more robust project going forward."
- [Japan's Largest Offshore Wind Farm Now Online](#)**

  - Ishikari Bay is now Japan's largest offshore wind park. The site features 14 SG turbines manufactured by Siemens Gamesa Renewable Energy, and is the first wind power facility in Japan to use turbines of that 8-MW size. The turbines are certified to withstand both typhoon-force winds and seismic activity, a common occurrence in Japan. The wind farm is located off the west coast of the northern Japanese island of Hokkaido.
- [Two large offshore wind sites are sending power to the US grid for the first time](#)**

  - The joint owners of the Vineyard Wind project, Avangrid and Copenhagen Infrastructure Partners, announced the first electricity from one turbine at what will be a 62-turbine wind farm 15 miles off the coast of Massachusetts.

- [Nuclear-powered rally: Soaring uranium prices 'hit another inflection point'](#)
  - With the spot prices of uranium reaching US\$90 per pound, we believe we have hit another inflection point in this bull market," John Ciampaglia, CEO of Sprott Asset Management, which runs the Sprott Physical Uranium Trust, wrote in a blog post on Wednesday. "While 2023 was a momentous and rewarding year for nuclear energy, uranium and the miners, we remain bullish on the long-term prospects for the sector."
- [Experts bullish as global uranium squeeze builds. But keep an eye on Sprott](#)
  - Uranium supply faces a huge squeeze and even leading contrarian investors tip the bull market will charge on – until this doomsday scenario arises.
- [Maximizing circular economy strategies for rare earth elements supply](#)
  - REE are, by definition, rare and finite. Researchers have presented a novel integrated model that quantifies how circular economy strategies can reshape global supply chains of critical rare earth elements, such as neodymium, dysprosium and terbium. Their analysis shows that circular economy strategies can lead to an increase of 701 kt secondary supply and a decrease of 2,306 kt demand within the next three decades.
- [Ucore Comments on China's Ban on the Export of Rare Earth Technology](#)
  - Ucore recently announced the completion of its planned commissioning procedures for the Company's RapidSX™ Commercial Demonstration Plant ("Demo Plant") for the separation of heavy and light REEs in Kingston, Ontario, and the commencement of its US DoD demonstration program.
  - "Recent events in China are a remarkable development," stated Pat Ryan, Ucore Chairman & Chief Executive Officer. "Ucore's focus on the separation and refining of these critical materials is of increasing strategic importance to the burgeoning North American rare earth supply chain. Our recently commenced US DoD Demonstration Program could not come at a more important time."
- [Gas prices expected to fall in 2024 as domestic production grows](#)
  - Gasoline prices are expected to fall further in 2024 as domestic production continues to grow, according to two new reports, giving drivers and their wallets relief after two years of above-average prices.
  - According to a new projection from gas price tracking company GasBuddy, United States gasoline prices could fall to an average of \$3.38 per gallon in 2024, a 13-cent decline from 2023 and a 57-cent drop compared to average prices in 2022.
- [Wind, solar production falls at 2023 end, but demand expected at 2024 beginning](#)
  - Danish energy leader Ørsted has officially announced its final investment decision (FID) for Hornsea 3, the globe's largest offshore wind farm, with a groundbreaking capacity of 2.9 GW.

## BEV / LiB Mineral & Battery Market News



- [Flat electric car sales lead to calls for tax cuts](#)
  - But EVs accounted for 16.5% of new vehicles sold in the UK last year, down slightly from the 16.6% purchased in 2022. Although the total number of electric vehicles sold rose to a record 315,000, helped by generous tax incentives for company car users, overall UK car sales increased by the same amount.
  - Last year was the first time electric vehicles failed to improve their market share since 2018, which has led to calls from the SMMT for the government to halve VAT on EVs in order to boost demand from private buyers.

- [Why Every Western Automaker Is Visiting This Remote Part of South Africa](#)
  - The region is home to the largest refiner outside China of manganese used in EV batteries
  - A great story by Alexandra Wexler of the The Wall Street Journal to tell the story of South Africa's Manganese Metal Company and the search to source battery minerals outside China or the Chinese owned supply chain.
  - "MMC's metal is far more expensive than China's, two to three times as much, largely because of high costs of production linked to stricter labor and environmental regulations and higher electricity costs in South Africa. But Nel says it is a premium its customers are willing to pay to avoid buying manganese from China and because of the consistent quality and bespoke solutions it offers, including extremely small quantities and specific-sized containers."
- [How the copper plant in the Arctic city of Norilsk operates](#)
  - Norilsk is one of the largest industrial centers in the Arctic. The area surrounding it contains more than one third of the world's reserves of platinumoids and nickel.
- [Nickel Is 2023's Biggest Metals Loser, Copper Manages Small Gain](#)
  - In a mostly lackluster year for metals trading, nickel emerged as the worst performer and might not see a reprieve anytime soon.
  - The metal used in stainless steel and electric vehicle batteries posted an annual drop of 45% on the London Metal Exchange, the biggest decline since 2008. That's by far the worst outcome among industrial metals and contrasts with a 2.2% gain for copper or with iron ore's advance of about 20% in Singapore.
- [CMOC takes Glencore's cobalt crown as output jumps 170%](#)
  - China's CMOC Group boosted its cobalt output by more than 170% last year, with surging production at a new mine in the Democratic Republic of Congo helping the company leapfrog Glencore Plc as the world's top producer of the key battery metal.
- [Cargo ship carrying burning lithium-ion batteries reaches Alaska, but kept offshore for safety](#)
  - Cargo ship carrying burning lithium-ion batteries reaches Alaska, but kept offshore for safety

Regards – Matt

44 Ru Ruthenium	45 Rh Rhodium	46 Pd Palladium	47 Ag Silver
76 Os Osmium	77 Ir Iridium	78 Pt Platinum	79 Au Gold

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