



## Weekly Precious Metals News Articles: September 24, 2021

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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 at lowest in more than 6 weeks**
  - Gold futures fell on Thursday, with prices marking their lowest finish in more than six weeks, as investors gravitated toward equities and away from assets perceived as havens.  
<https://www.msn.com/en-us/money/markets/gold-futures-eye-lowest-finish-in-6-weeks-as-metals-market-weighs-fed-policy/ar-AAOJUnm?>
- **Gold Price Forecast: XAU/USD plunges below \$1,750 on soaring yields**
  - After climbing above \$1,770 during the European trading hours, the XAU/USD pair came under strong bearish pressure in the second half of the day and dropped to a daily low of \$1,749.60. As of writing, gold was losing 1.03% on the day at \$1,750. The sharp upsurge witnessed in the US Treasury bond yields in the American session seems to be weighing heavily on gold. At the moment, the benchmark 10-year US T-bond yield is at its highest level since mid-July at 1.4%, gaining 7.2% on a daily basis. Meanwhile, the greenback is struggling to find demand in the risk-positive market environment and helping gold limit its losses for the time being.  
<https://www.fxstreet.com/news/gold-price-forecast-xau-usd-drops-to-three-day-lows-amid-surgings-bond-yields-rate-hike-bets-202109231327>
- **LBMA suspends Kyrgyz gold refinery over responsible sourcing failures**
  - The London Bullion Market Association (LBMA) said on Friday it had suspended its accreditation of a gold refinery in Kyrgyzstan for failing to meet its responsible sourcing standards. The LBMA said in June it had begun a review of the refiner, Kyrgyzaltyn JSC, “in response to issues concerning delivery and the potential for fraud.”  
<https://www.mining.com/web/lbma-suspends-kyrgyz-gold-refinery-over-responsible-sourcing-failures/>

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

- **SMIC and TSMC respond to the semiconductor shortage**
  - Semiconductor Manufacturing International Corp (SMIC), China’s largest integrated circuits foundry, has announced plans to build a new \$8.9 billion factory in Shanghai to produce semiconductors at the 28-nanometer node.
  - That level of technology is suitable for automotive ICs and other semiconductor products that are currently in short supply. It is several generations behind the leading edge, which is now at 5-nanometer and moving to 3-nanometer at Taiwan Semiconductor Manufacturing Company (TSMC).  
<https://asiatimes.com/2021/09/smic-and-tsmc-respond-to-the-semiconductor-shortage/>

- **Semiconductor Market to Grow By 17.3% in 2021 and Reach Potential Overcapacity by 2023**
  - IDC expects the semiconductor market to grow by 17.3% in 2021 versus 10.8% in 2020. According to IDC, the industry will see normalization and balance by the middle of 2022, with a potential for overcapacity in 2023 as larger scale capacity expansions begin to come online towards the end of 2022.  
<https://www.idc.com/getdoc.jsp?containerId=prAP48247621>
- **More Shortages Seen For Silicon Wafers**
  - Silicon wafer shipments have been on a torrid and record-breaking pace in the first half of 2021, where demand continues to outstrip supply. So what's in store for buyers of wafers for the remainder of 2021 and beyond? "Right now, the overall wafer pricing environment is becoming more favorable to wafer suppliers due to demand increase. Supply is getting tight and the average selling price is rising compared to 1H21," said Sungho Yoon, Sr. Research Mgr. at SEMI.
  - Shin-Etsu is the world's largest silicon wafer maker with 29.4% share, followed by Japan's Sumco (21.9%), GlobalWafers (15.2%), Siltronic (11.5%), SK Siltron (11.4%) and Soitec (5.5%), according to GlobalWafers. Several players from China also compete in the silicon wafer business.  
<https://semiengineering.com/more-shortages-seen-for-silicon-wafers/>
- **Foundry Market Tracking Toward Record-tying 23% Growth in 2021**
  - Robust demand for advanced processors used in networking and data center computers, new 5G smartphones, and ICs used in other high-growth market applications such as robotics, self-driving vehicles and driver-assist automation, artificial intelligence, machine-learning and image recognition systems, is forecast to lift total foundry sales to \$107.2 billion in 2021, a 23% increase that would match the record growth rate set in 2017 (Figure 1). It is worth noting that the strong growth rate in 2017 was primarily due to Samsung re-classifying its System LSI internal transfers as foundry sales, rather than strong organic market growth.
  - Matt: Think of semiconductor foundries as the Front-End process of fabricating the IC's/chips and Back-End Packaging occurs later.  
<https://www.icinsights.com/news/bulletins/Foundry-Market-Tracking-Toward-Recordtying-23-Growth-In-2021/>
- **Global Fab Equipment Spending Projected to Reach New High of Nearly \$100 Billion in 2022, SEMI Reports | SEMI**
  - Powered by digital transformation and other secular technology trends, global semiconductor equipment investments for front end fabs in 2022 are expected to reach nearly US\$100 billion to meet soaring demand for electronics after topping a projected \$90 billion this year, both new records, SEMI highlighted today in its World Fab Forecast report.
  - Matt: OEM semi equipment fab (deposition and etch equipment on front end, packaging equipment on back end) are dictating pace of semi-industry chip recovery far more hat building brick and mortar is. LAM and AMAT setting all time revenue and build records y/y.  
<https://www.semi.org/en/news-media-press/semi-press-releases/global-fab-equipment-spending-to-reach-new-high-of-nearly-%24100-billion-semi-reports>
- **The computer chip industry has a dirty climate secret**
  - As demand for chips surges, the semiconductor industry is trying to grapple with its huge carbon footprint  
<https://www.theguardian.com/environment/2021/sep/18/semiconductor-silicon-chips-carbon-footprint-climate>
- **Shortage of defense and aerospace grade FPGA devices**
  - "Supply chain market disruptions could result in warfighters not flying," warns Martin Hart, CEO of TopLine Corporation caused by constrained capabilities of a sole-source subcontractor

designated on the Qualified Manufacturer List. This could potentially hamper deliveries by Microchip, Xilinx and other major semiconductor device makers.

<https://www.topline.tv/MEPTEC1.html>

- **Materion Corporation - Materion to Acquire H.C. Starck's Electronic Materials Portfolio, Creating a Global Leader in Premium Thin Film Materials for the Semiconductor Market**
  - Materion Corporation (NYSE: MTRN), a world leader in high performing advanced materials, today announced that it has entered into an agreement to acquire H.C. Starck Solutions' industry-leading, electronic materials business, located in Newton, Massachusetts (HCS-Electronic Materials). HCS-Electronic Materials utilizes proprietary technology and extensive material science know-how to deliver tantalum- and niobium-based premium products and services for the semiconductor, industrial, and aerospace & defense markets.
  - HCS-Electronic Materials is a leading provider of high-quality, high-purity tantalum sputtering targets, important in the manufacture of today's leading-edge semiconductor chips. Building on Materion's existing portfolio of electronic materials and premium thin film target solutions, the acquisition will significantly enhance the company's position as a leading supplier to the high-growth semiconductor industry. HCS-Electronic Materials adds advanced manufacturing processes and technical capabilities necessary to meet the rapidly evolving technology challenges involved in delivering today's most advanced chip architectures and important applications for the industrial and aerospace & defense markets.  
<https://investor.materion.com/press-releases/press-release-details/2021/Materion-to-Acquire-H.C.-Starcks-Electronic-Materials-Portfolio-Creating-a-Global-Leader-in-Premium-Thin-Film-Materials-for-the-Semiconductor-Market/default.aspx>

## Silver

- **Silver Institute via CRU: Silver and Global Connectivity**
  - CRU estimates that silver consumption in electronics and electrical applications, excluding solar PV cells, was 224 Moz in 2020, and forecasts a 10% increase in demand to reach 246 Moz in 2025. A significant portion of this increase will come from a variety of different connectivity-related applications  
[https://www.silverinstitute.org/wp-content/uploads/2021/09/SilverGlobalConnectivity\\_MmktTR2021.pdf](https://www.silverinstitute.org/wp-content/uploads/2021/09/SilverGlobalConnectivity_MmktTR2021.pdf)
- **Silver in Solar PV: Chinese PV Industry Brief: Zhonghuan Semiconductor raises wafer prices**
  - Xinyi is planning to deploy 5 GW of solar in Heilongjiang province and the China Electricity Council has reported the nation added 22 GW of solar in the first eight months of the year.
  - Solar manufacturer Zhonghuan Semiconductor has increased the prices of all its 170um-thick solar wafers +2%, to +3.19%.
  - China Electricity Council states the nation added 22.05 GW of solar generation capacity in the first eight months of the year, with 14.63 GW of new wind capacity installed during the same period.  
<https://www.pv-magazine.com/2021/09/22/chinese-pv-industry-brief-zhonghuan-semiconductor-raises-wafer-prices/>
- **Silver-infused bacteria improves power efficiency in microbial fuel cells**
  - A UCLA-led team of engineers and chemists has taken a major step forward in the development of microbial fuel cells – a technology that utilizes natural bacteria to extract electrons from organic matter in wastewater to generate electrical currents. This environmentally-friendly process produces electricity without the combustion of fossil fuels while helping clean up wastewater.
  - Researchers added silver nanoparticles to electrodes composed of a type of graphene oxide. The nanoparticles release silver ions, which bacteria reduce to silver nanoparticles using electrons generated from their metabolic process and then incorporated into their cells. Once inside the bacteria, the silver particles act as microscopic transmission wires, capturing more electrons produced by the bacteria. “Adding the silver nanoparticles into the bacteria is like creating a

dedicated express lane for electrons, which enabled us to extract more electrons and at faster speeds,” said Xiangfeng Duan, corresponding author of the study.

<https://www.inceptivemind.com/silver-infused-bacteria-improves-power-efficiency-microbial-fuel-cells/21235/>

## **Precious Metals Mining:**

- **The future of platinum group metals in the context of the SA economy**
  - With PGMs contributing close to 50% of SA’s current resource basket, this group of metals is very relevant to the future of the SA economy.  
<https://www.moneyweb.co.za/financial-advisor-views/the-future-of-platinum-group-metals-in-the-context-of-the-sa-economy/>
- **U.S. miners decry mineral royalty plan floated in Congress**
  - U.S. mining companies are blasting proposals in Congress that would set royalties for copper, lithium and other minerals extracted from federal land, with executives saying the measures would hurt domestic production of the building blocks for solar panels, electric vehicles and other green technologies.
  - The House of Representatives Natural Resources Committee added language to the proposed \$3.5 trillion reconciliation spending measure last week that would set an 8% gross royalty on existing mines and 4% on new ones. There would also be a 7 cent fee for every ton of rock moved.  
<https://www.reuters.com/business/sustainable-business/us-miners-decry-mineral-royalty-plan-floated-congress-2021-09-16/>
- **Sibanye-Stillwater increases ownership of Finland-focused lithium business**
  - Sibanye Stillwater increased its share of ownership in Keliber Oy by subscribing for 250,000 shares at EUR 10 million (US\$11.73 million). It is Sibanye-Stillwater's second tranche of the EUR 40 million bridge financing arrangement the companies announced in February 2021.
  - Keliber said that Sibanye-Stillwater now owns 27 percent of Keliber's shares, which makes it the biggest shareholder.  
<https://www.kitco.com/news/2021-09-20/Sibanye-Stillwater-increases-ownership-of-Finland-focused-lithium-business.html>
- **Long-term supply contracts shielding Sibanye-Stillwater from PGM price swing**
  - Platinum group metals (PGMs) mining and marketing company Sibanye-Stillwater has emphasised its strong long-term supply contract positions in the face of the current price pendulum swinging away from the sky-high pricing of earlier this year.  
<https://www.miningweekly.com/article/long-term-supply-contracts-shielding-sibanye-stillwater-from-pgm-price-swing-2021-09-23>

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

- **As Bitcoin continues to rise, so does its e-scrap impact**
  - Bitcoin mining generates 67.7 million pounds of end-of-life electronics worldwide per year, according to a recent analysis. That’s substantially higher than estimates from just a year ago.
  - The journal Resources, Conservation and Recycling this month published “Bitcoin’s growing e-waste problem.” The paper was authored by Alex de Vries, founder of Bitcoin research firm Digiconomist, and Christian Stoll, a researcher with the Massachusetts Institute of Technology (MIT) Center for Energy and Environmental Policy Research.
  - The study focused on the e-scrap impact from Bitcoin mining, the energy- and hardware-intensive process of creating new Bitcoins.  
[https://resource-recycling.com/e-scrap/2021/09/23/as-bitcoin-continues-to-rise-so-does-its-e-scrap-impact/?utm\\_medium=email&utm\\_source=internal&utm\\_campaign=Sept+23+ESN](https://resource-recycling.com/e-scrap/2021/09/23/as-bitcoin-continues-to-rise-so-does-its-e-scrap-impact/?utm_medium=email&utm_source=internal&utm_campaign=Sept+23+ESN)
- **Overcoming the rare earths shortage with the circular economy**

- The complicated recycling process and environmental impacts of these materials is one of the reasons why rare earth minerals are in short supply. Some minerals like gold can be extracted from legacy technology through recycling. However, it's more difficult to recycle rare earth minerals because the process, known as smelting, is very energy-intensive, may produce harmful emissions, and requires further downstream separation processes.  
<https://www.altenergymag.com/story/2021/09/overcoming-the-rare-earths-shortage-with-the-circular-economy-/35855/>
- **Feds eye industry partners for e-scrap sorting tech**
  - Scientists at a U.S. Department of Energy lab have developed unique tools that can be used to clean up shredded e-scrap, and they want to demonstrate them to e-scrap processors. Argonne National Laboratory officials developed techniques that can be used to separate e-plastics polymers and clean up e-scrap metals streams. The wet-based separation processes allow materials to be sorted by density in float-sink tanks without using salts.
  - In an interview with E-Scrap News, Spangenberg explained the processes were developed years ago as a way to recover materials from auto shredder residue. But the researchers also wanted to see if the separation techniques work with e-scrap and other streams.  
<https://resource-recycling.com/e-scrap/2021/09/16/feds-eye-industry-partners-for-e-scrap-sorting-tech/>
- **European e-scrap processor acquires US metals company**
  - Elemental Holding, which operates in 15 countries on three continents, recently announced the acquisition of Legend Smelting and Recycling (LSR), which has facilities in Ohio, California, Illinois, Indiana and Texas. LSR specializes in recycling catalytic converters and non-ferrous metals.
  - Elemental Holding Group owns companies that recycle consumer electronics, appliances, printed circuit boards, catalyst converters and non-ferrous metals. A company spokesman said the company's electronics recycling activities occur across Europe, not North America.
  - Elemental has acquired three U.S. companies since 2019: PGM of Texas, Maryland Core, and LSR, all of which focus on recycling spent automotive catalysts. The holding company's U.S. investments now total nearly \$100 million, according to a press release.  
[https://resource-recycling.com/e-scrap/2021/09/23/european-e-scrap-processor-acquires-us-metals-company/?utm\\_medium=email&utm\\_source=internal&utm\\_campaign=Sept+23+ESN](https://resource-recycling.com/e-scrap/2021/09/23/european-e-scrap-processor-acquires-us-metals-company/?utm_medium=email&utm_source=internal&utm_campaign=Sept+23+ESN)
- **Morgan Stanley names vendor in data security case**
  - In court papers filed this month, Morgan Stanley revealed that the 2016 data center decommissioning project was outsourced to a company called Triple Crown, which in turn sold the devices to ITAD firm AnythingIT. Retired devices were ultimately sold to a used device marketplace, where they were resold to consumers.
  - The data mismanagement only came to light when a buyer discovered Morgan Stanley data on storage drives he had purchased, and he emailed the company to communicate that fact.  
[https://resource-recycling.com/e-scrap/2021/08/19/morgan-stanley-names-vendor-in-data-security-case/?utm\\_medium=email&utm\\_source=internal&utm\\_campaign=Sept+TIF+ESN](https://resource-recycling.com/e-scrap/2021/08/19/morgan-stanley-names-vendor-in-data-security-case/?utm_medium=email&utm_source=internal&utm_campaign=Sept+TIF+ESN)

## Platinum

- **Platinum And Palladium Shorting Grows To Extremes**
  - Most recent COT report shows massive 405,000-ounce speculative short build in platinum over the past week. This is extremely large and makes up almost one month of worldwide platinum production.
  - Palladium speculative shorts doubled their own positions.
  - Historically large short position has led to large price reversals and we could see the same in PGMs.
  - While we are long-term platinum buyers, we could see a short spike in price with no news or even a small nugget of good PGM news.

<https://seekingalpha.com/article/4456012-platinum-palladium-shorting-grows-extremes>

- **A \$1 Trillion Platinum Coin Could Be a Way Around the Debt Ceiling**

- The GOP is standing firm on its resolution to not help Democrats raise the debt ceiling.
- The Treasury Department technically has the ability to issue platinum coins of any denomination.
- In theory, Janet Yellen could mint a \$1 trillion platinum coin and deposit it at the Federal Reserve.

<https://www.businessinsider.com/mint-1-trillion-platinum-coin-debt-ceiling-2021-9>

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

- **Ballard reveals new fuel cell module for trucks**

- Ballard Power Systems is introducing a new generation of its FCmove fuel cell module for buses and medium- and heavy-duty trucks. The new 100 kW module is called FCmove-HD+.
- According to Ballard, the new 100 kW module is more than 40 per cent more compact and over 30 per cent lighter than the predecessor module. It also uses half as many individual parts and has a lower cost.

<https://www.electrive.com/2021/09/18/ballard-reveals-new-fuel-cell-module-for-trucks/>

- **Germany's BMVI awarding Fraunhofer €80M for fuel cell production efforts - Green Car Congress**

- Germany's Federal Ministry of Transport and Digital Infrastructure (BMVI) is awarding €80 million to the Fraunhofer-Gesellschaft's National Action Plan for Fuel Cell Production. Financing is provided by the future fund of the "Concerted Action Mobility" and is intended to promote the transformation of the auto industry, in particular the supplier industry.
- The alliance with the Fraunhofer-Gesellschaft is a new dimension for advancing fuel cell production. With the nationwide establishment of a research network specifically for fuel cells, we want to reduce significantly the costs of hydrogen vehicles on the one hand and to position the German supplier industry well for the future with a fuel cell made in Germany on the other. I am firmly convinced that we will make Germany a hydrogen country.

<https://www.greencarcongress.com/2021/09/20210919-bmvi.html>

- **Airbus forges ahead with zero-emission aviation**

- Airbus has just unveiled concrete plans for zero-emission aviation with a new generation of the battery-electric CityAirbus. Meanwhile, the aircraft manufacturer has signed an MoU with Air New Zealand to research hydrogen-fuelled aircraft, while in Europe Airbus will focus on hydrogen aviation infrastructure with Air Liquide and airport operator Vinci by 2030.
- Meanwhile, over in Europe, Airbus has just now joined forces with the gas manufacturer Air Liquide and the airport operator Vinci to create the necessary infrastructure for the refuelling of future hydrogen aircraft by 2030.
- The first step will be taken at Lyon-Saint Exupéry Airport, where a hydrogen station for trucks and buses is to be built from 2023. In the years thereafter, the partners want to develop the infrastructure for refuelling aircraft with liquid hydrogen.
- In the second main phase, between 2023 and 2030, Airbus, Air Liquide and the airport operator Vinci will be working on the deployment of liquid hydrogen infrastructures. Airbus says that this will allow hydrogen to be provisioned into the tanks of future aircraft.
- In the last phase, beyond 2030 the partners will focus on the deployment of hydrogen infrastructure from production to mass distribution of liquid hydrogen at the airport.

<https://www.electrive.com/2021/09/22/airbus-forges-ahead-with-zero-emission-aviation/>

- **WPIC: Decarbonizing Aviation**

- Platinum-based proton exchange membrane technology will help airports and airlines transition to net zero from the ground to the sky

[https://platinuminvestment.com/files/sixtysecs/WPIC\\_60seconds\\_Decarbonising\\_aviation\\_09222021.pdf](https://platinuminvestment.com/files/sixtysecs/WPIC_60seconds_Decarbonising_aviation_09222021.pdf)



- **Hyundai Motor Group unveils its hydrogen strategy, plans to offer fuel cell versions of commercial cars by 2028 – TechCrunch**
  - Hyundai Motor Group supports hydrogen as a top energy solution for sustainability. Korean automakers have announced that they will offer a hydrogen FCEV version to all commercial vehicles by 2028 with a new fuel cell system that will be launched in coming years.
  - The company shared details of Vision FK, a high-performance rear-wheel drive H<sub>2</sub> sports car. It is equipped with a 500kW fuel cell system and can travel from 0km / h to 100km in less than 4 seconds. (Miles) range. Hyundai did not share when the vehicle will be produced.  
<https://californianewstimes.com/hyundai-motor-group-unveils-its-hydrogen-strategy-plans-to-offer-fuel-cell-versions-of-commercial-cars-by-2028-techcrunch/513922/>

## **Palladium**

- **Platinum-Group Metals Are Being Hammered by the Chip Shortage**
  - The shortage of semiconductors is clobbering the price of platinum-group metals as investors brace for a long-lasting hit to car production.
  - Platinum and its sister metals palladium and rhodium -- used in pollution-cutting catalytic converters -- have all suffered sharp drops in recent weeks as carmakers shutter plants and trim output guidance. The price slump is a big contrast with the booming performance earlier in the pandemic, which was driven by supply shortages and hopes of a stimulus-led economic recovery.  
<https://www.bloomberg.com/news/articles/2021-09-15/platinum-group-metals-are-being-hammered-by-the-chip-shortage>
- **Palladium Prices Hit by Car Production Slowdown**
  - Hedge funds and other speculative investors have started turning cautious on the metal used in gasoline engine filters  
[https://www.wsj.com/articles/palladium-prices-hit-by-car-production-slowdown-11632348053?mod=markets\\_lead\\_pos4](https://www.wsj.com/articles/palladium-prices-hit-by-car-production-slowdown-11632348053?mod=markets_lead_pos4)
- **Car Industry Accused Of ‘Dirty Tricks’ To Derail New EU Emission Standards**
  - In a new report, the Transport & Environment group (T&E) has claimed the industry is trying to water down the proposed new Euro 7 emission standards that will set legal limits for nearly 100 million cars sold in the EU in the next 15 years. The EU is currently revising its main law to cut pollution from cars, vans and trucks, known as the Euro 6 emission standards, and developing new (Euro7) standards to be implemented from 2025 onwards.
  - CLOVE has proposed deep cuts from Euro 6 standards across a range of emissions harmful to health, nitrogen oxide (NOx) would fall from 80mg/km to 20mg/km and particle emissions by more than 80%. The European Commission has itself estimated that adopting cleaner emissions technology to meet Euro 7 standards would add between €100 and €500 to the price of a car.  
<https://www.forbes.com/sites/jamiehailstone/2021/09/23/car-industry-accused-of-dirty-tricks-to-derail-new-eu-emission-standards/?sh=5e4909e0598c>
- **(China) Passenger vehicle sales slump 17% in Sept., industry group predicts**
  - Chinese retail sales of new passenger vehicles -- sedans, crossovers, SUVs and multipurpose vehicles -- are expected to contract for the fourth straight month, slipping 17 percent to 1.58 million in September, the China Passenger Car Association said this week.
  - The latest decline is steeper than the 15 percent drop in August, as well as a 6.1 percent decrease in July and June's 4.8 percent dip.  
<https://www.autonews.com/china/passenger-vehicle-sales-slump-17-sept-industry-group-predicts>

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

- **Ruthenium and Platinum PVD Mtrls: Embedded-MRAM, what the future holds**

- Embedded MRAM solutions are now entering the market, as leading foundries Samsung, TSMC and GlobalFoundries are scaling-up and ramping up their solutions.
- Most (77%) people seem to believe that the embedded MRAM will grow in the next 3-5 years, some think it will enjoy high demand and explosive growth, while others are more conservative, thinking the rise in adoption will be more moderate.
- Matt: Recall there are two forms of MRAM devices, both standalone and embedded (or eMRAM). Embedded has benefits of being placed in immediate proximity to the IC accelerating overall system package performance. That's why Global Foundries, Samsung, and the front end foundries have adopted and started to integrate into their designs.  
<https://www.mram-info.com/embedded-mram-what-future-holds>
- **Rhodium: PGM prices face headwinds amid ongoing semiconductor shortage**
  - Platts New York Dealer rhodium price range down to \$9,500-\$15,000/oz
  - Chip shortages potentially extending to Q2 2022: Heraeus  
<https://www.spglobal.com/platts/en/market-insights/latest-news/metals/092021-pgm-prices-face-headwinds-amid-ongoing-semiconductor-shortage>

## **Clean Energy General News (New Section)**

- **Commonwealth Fusion Systems creates viable path to commercial fusion power with world's strongest magnet**
  - Commonwealth Fusion Systems (CFS) and MIT's Plasma Science and Fusion Center (PSFC) today announced the successful test of the world's strongest high temperature superconducting (HTS) magnet, the key technology for a device that will unlock the path to clean commercial fusion energy for the world.  
<https://cfs.energy/news-and-media/cfs-commercial-fusion-power-with-hts-magnet>
- **Uranium demand will double in 10 years, here's why**
  - With the move to decarbonize and to use cleaner energy accelerates, nuclear power faces rising demand from not just domestic U.S. consumers, but also increased energy demand from the Far East, said Amir Adnani, CEO of UEC.
  - "China, by 2030, will have more nuclear generation than the United States. It is almost going to double the profile of nuclear generation and demand for uranium by the end of the decade," Adnani told Michelle Makori, editor-in-chief of Kitco News on the sidelines of the Denver Gold Forum. Makori, editor-in-chief of Kitco News on the sidelines of the Denver Gold Forum.  
<https://www.kitco.com/news/2021-09-20/Uranium-demand-will-double-in-10-years-here-s-why.html>
- **The Promise of Carbon-Neutral Steel**
  - Steel production accounts for around seven per cent of humanity's greenhouse-gas emissions. There are two reasons for this startling fact. According to some estimates, global demand for steel will nearly double by 2050. Green steel, therefore, is urgently needed if we're to confront climate change.
  - Instead of using carbon to remove the oxygen from ore, creating CO2, we can use hydrogen, creating H2O—that is, water. Many companies are working on this approach; this summer, a Swedish venture used it to make steel at a pilot plant. If the technique were widely employed, it could cut the steel industry's emissions by ninety per cent, and our global emissions by nearly six per cent. That's a big step toward saving the world.  
<https://www.newyorker-com.cdn.ampproject.org/c/s/www.newyorker.com/news/annals-of-a-warming-planet/the-promise-of-carbon-neutral-steel/amp>

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

- **No More Teslas For Anyone Until 2022: Popular Models Almost Sold Out Online**



- Due to a persistent global shortage of semiconductors, automakers large and small are struggling to keep production up with demand. It's only September, and Tesla, the world's largest electric vehicle maker, is almost selling out for the year.
- On the company's website, model vehicle models have a wait time of three months or longer. The estimated delivery date for Model 3 is December. Those who want a Model Y SUV have to wait till February next year. The higher-end Model S and Model X have an even longer wait time till March or April 2022.  
<https://observer.com/2021/09/tesla-new-used-short-supply-soldout-online-chip-shortage/>
- **Lithium-ion Batteries: NIO to launch hybrid LFP/NCM battery pack**
  - Lithium iron phosphate (LFP) and lithium nickel manganese cobalt oxides (NCM) have been the two most popular cathode materials in electric vehicles (EV) applications to date. Both LFP and NCM have their own advantages and disadvantages, and the industry has been attempting to find an effective solution to use these two different kinds of batteries simultaneously. Roskill believes that the launch of the hybrid LFP/NCM battery pack represents a breakthrough in achieving the mixed LFP/NCM cathode pack.  
<https://roskill.com/news/lithium-ion-batteries-nio-to-launch-hybrid-lfp-ncm-battery-pack/>
- **World's first battery-electric (7MW) freight train debuts in U.S. amid push for lower rail emissions**
  - Housed in a traditional locomotive body, the new battery system drives the axles of the train and uses the kinetic energy of the train's braking to partially recharge the battery. The newest version will be a seven-megawatt battery locomotive, which is "100 times the power and energy within a Tesla — it's dramatically more powerful," said Eric Gebhardt, Wabtec's chief technology officer.
  - Matt: 7MW is likely in the 110,000 pound LiB range size.  
<https://www.nationalobserver.com/2021/09/21/news/worlds-first-battery-electric-freight-train-us-push-lower-rail-emissions>
- **Lithium's price rally accelerates in September; Chinese carbonate up over 200% in 2021 | Benchmark Mineral Intelligence**
  - Lithium price rises accelerated in the first two weeks of September as surging demand and raw material supply concerns combined to push Chinese domestic prices up to their highest levels since mid-2018 according to data from Benchmark's Lithium Price Assessment.  
<https://www.benchmarkminerals.com/membership/lithiums-price-rally-accelerates-in-september-chinese-carbonate-up-over-200-in-2021/>
- **Partnership to pursue battery recycling standards**
  - A U.S. Department of Energy laboratory and an industry association that represents battery manufacturers will collaborate to draft the first recycling standards for lithium-ion batteries.
  - Argonne National Laboratory signed a memorandum of understanding with the National Electrical Manufacturers Association (NEMA). Under the agreement, they'll jointly develop the first recycling standards for lithium-ion batteries based on their design.  
[https://resource-recycling.com/e-scrap/2021/09/23/partnership-to-pursue-battery-recycling-standards/?utm\\_medium=email&utm\\_source=internal&utm\\_campaign=Sept+23+ESN](https://resource-recycling.com/e-scrap/2021/09/23/partnership-to-pursue-battery-recycling-standards/?utm_medium=email&utm_source=internal&utm_campaign=Sept+23+ESN)

Regards –