



Weekly Precious Metals News Articles: December 11, 2020

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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

- **Is the gold trade back on? The options market is betting on it**
 - Bullish options traders are diving back into the gold space after the metal closed its worst month since 2016 in November. One of the most popular ways to trade gold continues to be through mining stocks, and one name in particular stood out in Monday's trading session.
<https://www.cnbc.com/2020/12/08/is-the-gold-trade-back-on-the-options-market-is-betting-on-it.html>
- **New study turns gold into magnets | News | University of Calgary**
 - In its elemental form, gold is one of the least reactive chemical elements; it's always been considered to be non-magnetic. This year researchers applied the study of nanoscale materials to manipulate gold nanoparticles to become magnetic.
 - The gold nanoparticles this team studied are 2nm. The research team demonstrated how to tune (increase/decrease) the magnetism of gold nanoparticles by choosing the correct non-magnetic organic molecule attached to their surfaces. The study achieved the most tuneability ever demonstrated. We can increase the magnetization seven-fold, a control that had yet to be demonstrated before now."
<https://science.ucalgary.ca/news/new-study-turns-gold-magnets>
- **Bank of Mongolia purchased 1.7 tons of precious metals in November**
 - The Bank of Mongolia purchased 1.7 tons of precious metals in November.
 - Total amount of precious metal purchases has reached 21 tons since the beginning of this year growing by 6.5 tons. 19.3 tons were gold and 1.7 tons were silver.
https://akipress.com/news/651647:Bank_of_Mongolia_purchased_1_7_tons_of_precious_metals_in_November/

Semiconductor Related Articles (impacting Precious Metals electronics):

- **Global semiconductor market growth to accelerate in 2021, says WSTS**
 - The global semiconductor market is projected to grow by 8.4% in 2021 following a 5.1% increase this year, according to the autumn 2020 forecast of the World Semi Trade Statistics.
 - The 8.4% market rise next year will be driven by double-digit growth of the memory and optoelectronics segments, WSTS said. All other product categories are also expected to show positive growth rates in 2021, when all regions are also set to grow.
<https://www.digitimes.com/news/a20201204PR201.html>
- **Chip shortages could slow automotive production, VW and suppliers say**

- A shortage of chips used in auto manufacturing could disrupt automotive production in China well into next year, industry officials said Friday, with chip companies saying they are raising prices and expanding their production in response.
<https://www.reuters.com/article/volkswagen-china-production/chip-shortages-could-slow-automotive-production-vw-and-suppliers-say-idUSKBN28E1IN>
- **Global Semiconductor Sales Increase 6 Percent Year-to-Year in October; Annual Sales Projected to Increase 5.1% Percent in 2020**
 - Regionally, sales increased y/y Americas +14.2%, China +6.3% , Asia Pacific/All Other +5.3%, Japan -1.0%, Europe -4.8%.
<https://www.semiconductors.org/global-semiconductor-sales-increase-6-percent-year-to-year-in-october-annual-sales-projected-to-increase-5-1-percent-in-2020/>

Silver

- **Silver Institute: Global Silver Jewelry Market Impacted by Pandemic and Higher Silver Prices**
 - Silver's use in jewelry is an important demand source for the precious metal. In 2019, 200.2 million ounces (Moz) of silver were consumed in this sector, which was just shy of the record high of 201.9 Moz posted in 2018. Although silver jewelry consumption currently accounts for 20 percent of total silver demand, it is projected to rise to a quarter of global silver demand by the mid-2020s, further underscoring the popularity and desirability of silver jewelry among leading designers and fashion-conscious consumers.
<https://www.silverinstitute.org/global-silver-jewelry-market-impacted-pandemic-higher-silver-prices/>
- **Gold And Silver Base Building In Preparation Of Next Rally**
 - Summary: In my opinion, gold's fortunes are in part dependent on the value of the US dollar and the progress made by the S&P 500.
 - The advent of this terrible virus has caused Central Bankers across the world to borrow and/or print copious amounts of money.
 - Thus far, the US dollar has been drifting lower throughout 2020 and has recently slipped below the support level of '92' on the US Dollar Index.
 - Keep a close eye on the upcoming meeting of the FOMC as any changes to monetary policy will impact the strength of the US dollar, the financial markets, in general, and, in due course, gold.
<https://seekingalpha.com/article/4394259-gold-and-silver-base-building-in-preparation-of-next-rally>
- **A silver-oxide zinc battery — flexible, screen-printed and with 20 times the capacity of Li-ion**
 - A team comprising researchers from the University of California San Diego and micro battery developer ZPower have developed been busy in the lab. The result is a flexible battery with highly competitive electrochemical features and the option to manufacture at low cost with screen-printing.
<https://www.pv-magazine.com/2020/12/11/a-silver-oxide-zinc-battery-flexible-screen-printed-and-with-20-times-the-capacity-of-li-ion/>
- **Bullion coin sales by U.S. Mint outpacing 2019 levels**
 - Sales in 2020 by the U.S. Mint of American Eagle silver bullion coins through Dec. 9 are already more than double the number of the 1-ounce .999 fine silver dollars sold in 2019.
 - Sales of American Eagle gold bullion coins are more than five times 2019 totals.
 - 30,089,500 Silver American Eagles sold already, compared to 14,863,500 for 2019.
 - 817,000 ounces American Eagle gold bullion coins, compared to 152,000 in 2019.
 - 237,000 1-oz American Buffalo gold coin sales, compared to 61,500 coins for all of 2019.
 - 56,500 coins American Eagle Platinum \$100 coin sales reached compared to 40,000 coins in 2019.
<https://www.coinworld.com/news/us-coins/bullion-coin-sales-by-u-s-mint-outpacing-2019-levels>
- **Developing antimicrobial products with resistance to coronavirus**

- Silver antimicrobial technology punches holes in bacterial membranes, breaking down their structure and rendering them redundant. It is worth noting that antimicrobial technology is not new and exists in surgical environments to protect critical touchpoints.
- However, one outcome of this pandemic is that all public touchpoints are now critical touchpoints. This highly effective technology now has a much broader role in society which Veraco is leading. <https://www.news-medical.net/news/20201209/Developing-antimicrobial-products-with-resistance-to-coronavirus.aspx>
- **Chinese PV Industry Brief: Another 50 GW solar module factory in sight**
 - Matt: Wood Mackenzie forecasts 2020 115GW PV will grow to 210-230 GW by 2025. The capacity add has to come from somewhere ... looks like China. 50GW is equivalent of 41.1Moz of silver demand at today's loadings. <https://www.pv-magazine.com/2020/12/11/chinese-pv-industry-brief-another-50-gw-solar-module-factory-in-sight/>
- **Italy's 2050 decarbonization plan needs 6 GW of new PV capacity annually**
 - A recent forum held by Italian trade body Italia Solare has shown that Italy needs to streamline its large-scale PV sector if it wants to reach its energy and decarbonization targets. <https://www.pv-magazine.com/2020/12/10/italys-2050-decarbonization-plan-needs-6-gw-of-new-pv-capacity-annually/>

Precious Metals Mining:

- **Amplats completes ACP Phase A rebuild**
 - Anglo American Platinum has successfully completed the rebuild of its Anglo Converter Plant (ACP) Phase A unit, which will ramp up to full operating capacity by the end of the year. Both the ACP Phase A and Phase B units had been shut down initially in March, following an explosion at the plant.
 - Amplats upgraded refined PGM output guidance for 2020 to 2.6-2.7Moz, after completing the rebuild of its Phase A unit three months ahead of time. <https://www.miningweekly.com/article/amplats-completes-acp-phase-a-rebuild-2020-12-07>
- **Zimbabwe's Russian-Backed Platinum Venture Sells Stake to Fossil**
 - Fossil, owned by Zimbabwe's Obey Chimuka, will invest \$30 million in the Darwendale project, through a combination of cash and services, including for engineering, procurement and construction. That leaves tycoon Vitaliy Machitski's Vi Holding and Zimbabwe's Landela Mining Venture Ltd. each with a 47.8% stake. The sale values Great Dyke Investments at \$680 million. <https://www.bloomberg.com/news/articles/2020-12-07/zimbabwe-s-russian-backed-platinum-venture-sells-stake-to-fossil>
- **60Moz Sedibelo platinum expansion, construction of Kell beneficiation plant**
 - PGMs producer Sedibelo Platinum Mines Limited has announced the expansion of operations at Pilanesberg Pt Mines into contiguous deposits of Sedibelo Central, Magazynskraal and Kruidfontein, known as the Triple Crown properties, with an estimated resource base in excess of 60-million four-element (4E) PGM ounces, considered one of the world's largest undeveloped PGM deposits. https://www.engineeringnews.co.za/article/sedibelo-approves-60moz-platinum-expansion-construction-of-kell-beneficiation-plant-2020-12-11/rep_id:4136
- **Anglo American Platinum Sees Return to Normal Production in 2021**
 - Anglo American Platinum said Friday that it expects to return to normal production levels in 2021.
 - The South African miner, which is majority-owned by Anglo American PLC, said it expects production of platinum group metals to be between 4.6 million and 5.0 million ounces in 2021. <https://www.morningstar.com/news/dow-jones/202012114234/anglo-american-platinum-sees-return-to-normal-production-in-2021>
- **Hot Chili granted water permit in Chile**

- The Costa Fuego development includes the Cortadera, Productora and El Fuego assets, and is estimated to host some 2.9-million tonnes of copper, 2.7-million ounces of gold, 9.9-million ounces of silver and 64 000 t of molybdenum. The mining site is 62 km inland from the coast.
- Matt: Chili, Bolivia and other miners in arid regions are looking to Seawater to assist in the processing of mined materials. Lithium in particular requires water to harvest the minerals from salt flats. Look for more mining operations to look to seawater.
<https://www.miningweekly.com/article/hot-chili-granted-water-permit-in-chile-2020-12-07>

E-Waste & Precious Metals Recycle Related:

- **PV module recycling could harm US solar industry**
 - The PV industry can't claim to be a clean energy source if it leaves a trail of hazardous waste.
 - The EU holds PV module installers accountable for their electronic waste & requires solar producers to recycle, while Japan holds project developers and owners liable for waste disposal and requires payment into a decommissioning fund. However, no U.S. federal regulations on solar recycling.
<https://www.pv-magazine.com/2020/12/07/pv-module-recycling-could-harm-us-solar-industry/>
- **Recycling and e-Waste Export Control are the Best Ways to Curb Counterfeiting**
 - Recycling electronics reduces the energy spent in new product manufacturing, cuts the pollution that would be generated during manufacturing and also decreases the amount of valuable and limited raw materials that must be extracted for the creation of these products.
 - Scaling up recycling programs for e-waste would be beneficial for other reasons as well. Recently I came across an interesting article in National Defense Magazine ("Electronic Waste Rules Could Help Thwart Flow of Counterfeit Parts," Feb 2015) about how recycling could—one can argue should—be a major weapon in the fight against counterfeiting.
<https://www.tti.com/content/ttiinc/en/resources/marketeye/categories/passives/me-slovick-20150618.html>

Platinum

- **WPIC: Platinum Renaissance**
 - Recovery of platinum jewellery demand in the major China market is more than a result of pent-up, post-COVID demand
https://platinuminvestment.com/files/sixtysecs/WPIC_60seconds_Platinumrenaissance_12092020.pdf
- **Safe space: Improving 'clean' methanol fuel cells using a protective carbon shell**
 - They fabricated a catalyst made of Pt nanoparticles encapsulated within a carbon shell. This shell forms an almost impenetrable carbon network with small openings caused by nitrogen defects. While oxygen, one of the main reactants in DMFCs, can reach the Pt catalyst through these "holes," methanol molecules are too big to pass through. "The carbon shell."
<https://techxplore.com/news/2020-12-safe-space-methanol-fuel-cells.html>
- **Diesel Catalyst: FTR: Class 8 orders 'explode'**
 - Preliminary North American net total of 52,600 units in November is third-highest ever, best performance in two years, analyst says
<https://www.bulktransporter.com/equipment/trucks/article/21149344/ftr-class-8-orders-explode>



Source: FTR, Truck OEMs - Total N.A. Cl. 8 Orders (US/CAN/MEX/EXP)

Fuel Cells/Hydrogen Economy Related Articles:

- **Toyota's Mirai boasts new features but still breaks the bank**
 - Toyota put a new version of its Mirai fuel cell vehicle on the market Dec. 9, but it still comes with a major drawback: its hefty 7.1-million-yen (\$68,000) price tag, taxes included. It is the first full model revamp of the Mirai since the original hit the market in 2014. But the minimum price for the new Mirai is only about 300,000 yen cheaper than the original model. <http://www.asahi.com/ajw/articles/14003785>
- **New Mirai Press Information Kit**
 - https://global.toyota/pages/news/images/2020/12/09/1200/20201209_01_02_en.pdf
- **Now Implats joins high-flying PGMs-linked venture capital fund (AP Ventures)**
 - AP Ventures' investment strategy is focused on companies developing technologies which are capable of sustainably solving global challenges such as renewable energy integration and resource scarcity. A key area of focus is the decarbonisation of transport, mining and heavy industry, by the only fund of its kind offering investors access to these innovative, fast-growing companies built on the PGM properties. <https://www.miningweekly.com/article/now-implats-joins-high-flying-pgms-linked-venture-capital-fund-2020-12-07>
- **Clean hydrogen production gets investment boost from Mitsubishi Heavy**
 - Mitsubishi Heavy Industries America, Inc. has invested in Monolith Materials, Inc. for the development of its commercial-scale manufacturing technology for clean hydrogen production.
 - Monolith Materials' first commercial-scale emission-free production facility is Olive Creek 1, located in Hallam, Nebraska. That facility was designed for the production of about 14,000 metric tons of carbon black every year using clean hydrogen. Monolith is using innovative and proprietary commercial-scale methane pyrolysis development for manufacturing economically sustainable and emissions-free H₂ powered by 100 percent renewable energy. In this way, the resulting renewable energy is known as "turquoise hydrogen."
 - <https://www.hydrogenfuelnews.com/clean-hydrogen-production-gets-investment-boost-from-mitsubishi-heavy/8541143/>
- **Linde and Snam team up on new European hydrogen projects**
 - Beyond the EU H₂ projects, both Linde and Snam are also both ITM Power shareholders.
 - Matt: Snam has relationship with DeNora (Alkaline), and both Snam and Linde have a stake in PEM powerhouse ITM Power. Electrolyser direction not specified.
 - https://www.hydrogenfuelnews.com/linde-and-snam-team-up-on-new-european-hydrogen-projects/8541185/?mc_cid=a94f9ecd6a&mc_eid=70c1246d58
- **Green ammonia project central to Yara's hydrogen economy goals**

- Yara has announced new plans for a 500,000 tonne per year green ammonia project that it is launching in Norway. The goal is to produce emission-free shipping fuels in addition to food solutions that feature decarbonization.
https://www.hydrogenfuelnews.com/green-ammonia-project-central-to-yaras-hydrogen-economy-goals/8541180/?mc_cid=a94f9ecd6a&mc_eid=70c1246d58
- **World's Green Hydrogen Leaders Unite to Drive 50-Fold Scale-Up in Six Years**
 - Leading companies to scale green hydrogen 50-fold in the next six years with the support of Rocky Mountain Institute.
<https://markets.businessinsider.com/news/stocks/world-s-green-hydrogen-leaders-unite-to-drive-50-fold-scale-up-in-six-years-1029874159>
- **Companies Form Initiative to Scale up Green Hydrogen Production**
 - Seven companies, including developer ACWA Power and Spanish utility Iberdrola, have formed a joint initiative to scale up production of "green" hydrogen in the next six years and bring down costs, they said on Tuesday.
<https://money.usnews.com/investing/news/articles/2020-12-07/companies-form-initiative-to-scale-up-green-hydrogen-production>
- **Green Hydrogen Catapult coalition to halve hydrogen production cost by 2026**
 - The world's largest energy companies come together to bring down the cost of green hydrogen by 2026.
<https://www.industryleadersmagazine.com/green-hydrogen-catapult-coalition-to-halve-hydrogen-production-cost-by-2026/>
- **North China converting BEV's into platinum-linked hydrogen fuel cell vehicles**
 - "China already has a very well-established infrastructure to charge batteries and run battery electric trucks. But in the north, it's very cold and we know battery electric vehicles don't work well in the cold at all. The north also has a lot of solar and wind energy and if they use that solar and wind, it makes the fuel cells trucks and cars very appealing," World Platinum Investment Council (WPIC) director of research Trevor Raymond revealed in a Zoom interview with Mining Weekly.
 - Matt: See article on Tesla Model 3's with LFP not performing well in China cold weather. These articles relate to one another.
https://www.engineeringnews.co.za/article/n-china-converting-battery-electric-vehicles-into-platinum-linked-hydrogen-fuel-cell-vehicles-2020-12-08/rep_id:4136
- **HYZON Motors Continues US Expansion With New Top Tier Appointment**
 - Matt: I know Rob Del Core is a series Business Development executive, and this signals to me Hyzon is truly becoming a mainstream HDV Fuel Cell system provider.
<https://www.scoop.co.nz/stories/WO2012/S00062/hyzon-motors-continues-us-expansion-with-new-top-tier-appointment.htm>
- **Green hydrogen is gaining traction, but still has massive hurdles to overcome**
 - H₂ is a clean-burning molecule, meaning that it can help to decarbonize a range of sectors that have proved hard to clean up in the past
 - Today 99% of H₂ is still made using fossil fuels, usually through a pollution-heavy process
 - Green H₂, which is produced using electricity from renewable resources, could be the key to curb our carbon footprint
<https://www.cnbc.com/2020/12/04/green-hydrogen-is-gaining-traction-but-it-must-overcome-big-hurdles.html>

Palladium

- **Palladium Booms On, Heading For A Record \$3500 An Ounce**

- If you missed the palladium boom of the past two years don't panic because the seeds are being sown for a surge to an all-time price high of up to \$3500 an ounce, 175% up on where the metal was at the start of last year.
<https://www.forbes.com/sites/timreadgold/2020/12/10/palladium-booms-on-heading-for-a-record-3500-an-ounce/>

PGM Minor Metals (Rhodium, Iridium, Ruthenium)

- **How to Profit from Rising Rhodium Prices**
 - <https://www.wealthdaily.com/articles/how-to-profit-from-rising-rhodium-prices/97871>
- **Ruthenium: Color-changing glass could be coming to more smartphones in 2021**
 - Chinese brand Nubia Red Magic has teased a color-changing smartphone. The device seemingly makes use of electrochromic glass to switch its rear plate from opaque to transparent.
 - Similar technology is tipped to feature on more smartphones in 2021.
<https://www.androidauthority.com/color-changing-glass-phones-1184813/>
- **Iridium: LG's transparent OLED displays to be used in automatic sliding doors**
 - Folks entering shopping malls, airport lounges and office buildings could soon be welcomed by colorful greetings, important messages and of course adverts as they approach the sliding doors. LG and Assa Abloy are partnering to develop automatic doors incorporating transparent OLED displays.
<https://newatlas.com/electronics/lg-transparent-oled-displays-sliding-doors-assa-abloy/>
- **Ruthenium & Iridium: De Nora BALPURE Ballast Water Management System receives new IMO Type Approval**
 - All vessels requiring the installation of a BWMS must comply with the BWMS Code after 28 October 2020. The G8 standard for BWMS was tightened to increase the reliability of systems and provide shipowners with greater confidence. While the De Nora BALPURE system has always met these standards, this new certification enables shipowners to continue to use De Nora's BALPURE system in confidence.
<https://www.hellenicshippingnews.com/de-nora-balpure-ballast-water-management-system-receives-new-imo-type-approval/>

BEV / LiB Battery Market News

- **QuantumScape records breakthrough performance for solid-state batteries**
 - QuantumScape "anode-less" design and ceramic separator create a battery where an anode of metallic lithium is formed in situ when the finished cell is charged. "The best battery scientists have tested our batteries in their labs, and we're releasing test results for the first time," said CEO.
 - Performance data: Fast charge: Performance testing show QuantumScape's ceramic separators working at high rates of power that allow a 15-minute charge to 80% capacity and >400Wh/kg, with >800 cycles with greater than 80% capacity retention. The flexible ceramic separator operates down to -30 C, temperatures that make other battery designs fail.
<https://www.pv-magazine.com/2020/12/09/quantumscape-records-breakthrough-performance-for-solid-state-batteries/>
- **Rio Tinto reports maiden lithium reserve in Serbia**
 - A maiden ore reserve of **16.6-million tonnes**, grading 1.18% lithium oxide and 13.4% boron trioxide has been declared at mining major Rio Tinto's Jadar lithium/borate project, in Serbia (about 50 miles west of Belgrade). The deposit is located on the doorstep of the EU, one of the fastest growing electric vehicle (EV) markets in the world, and has the potential to provide lithium products into the EV value chain for decades.
 - Matt: I think this is very significant news since the USGS had the **2019 Li global reserves at 14M mt**. The sites access to water will be key in its outlook for successful mining expansion.

- <https://www.miningweekly.com/article/rio-reports-maiden-reserve-in-serbia-2020-12-10>
- **The curse of 'white oil': electric vehicles' dirty secret**
 - The race is on to find a steady source of lithium, a key component in rechargeable electric car batteries. But while the EU focuses on emissions, the lithium gold rush threatens environmental damage on an industrial scale.
<https://www.theguardian.com/news/2020/dec/08/the-curse-of-white-oil-electric-vehicles-dirty-secret-lithium>
 - **Roskill forecasts demand for cobalt to double by 2030**
 - “The cobalt market has been dogged by oversupply for three consecutive years,” Lu told The Northern Miner in an email. “The decrease in global production in 2020, however, has led to a relatively balanced market as surplus stocks of the metal have been depleted.”
<https://www.northernminer.com/analysis/roskill-forecasts-demand-for-cobalt-to-double-by-2030/1003825972/>
 - **Tesla's LFP cells don't hold up well in the cold - electrive.com**
 - In China, the Model 3 SR+ with LFP cells has been available to customers since October. The first experiences being made by new buyers show that the range of the model is considerably limited in the current cold temperatures and that in some cases the battery cannot be charged to 100%. Reports attributes the problems to the fact that the LFP project was hastily launched in twelve months, “some tests were dispensed with,” it says.
<https://www.electrive.com/2020/12/07/teslas-lfp-cells-dont-hold-up-well-in-the-cold/>
 - **Lithium-ion battery recycling plant opens in New York state**
 - The Rochester facility can process 5,000 tons of spent lithium-ion batteries per year, which brings Li-Cycle’s total recycling capacity to 10,000 tons per year through its two North American Spokes.
<https://www.recyclingtoday.com/article/li-cycle-opens-lithium-ion-battery-recycling-spoke-rochester-new-york/>
 - **Scaling up solid-state batteries**
 - U.S. battery developer Solid Power has begun pilot production of lithium metal all solid-state batteries at its Colorado facility. The company says it has also sent out prototype battery cells for independent evaluation, and expects to begin formal testing to qualify its batteries for integration into electric vehicles by early 2022.
<https://www.pv-magazine.com/2020/12/11/scaling-up-solid-state-batteries/>
 - **Australian PV plant tests 2 MW/8 MWh vanadium flow battery**
 - <https://www.pv-magazine.com/2020/12/11/australian-pv-plant-tests-2-mw-8-mwh-vanadium-flow-battery/>
 - **Mining supercycle talk back as copper, iron ore prices surge to 7-year highs**
 - The copper price was trading at its highest since March 2013 on Tuesday after Chinese data showed manufacturing and construction in the world’s second-largest economy was expanding at a pace not seen in a decade.
 - Investment bank Goldman Sachs as predicting a return to the “structural bull market” of the 2000s, a period of rapidly rising demand and chronic underinvestment in new supply.
 - Matt: Reminder 110 pounds of copper in Hybrid/PHEV, 165 pounds in a BEV. 3.6 mt per 1MW of Wind Turbines
<https://www.mining.com/mining-supercycle-talk-back-as-copper-iron-ore-prices-surge-to-7-year-highs/>

Regards –