



Weekly Precious Metals News Articles: January 28, 2022

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Below is a cross section of relevant news article to the world of Precious Metals:

Markets, Supply & Demand, Investment, and Industrial Applications.

Printable PDF version attached. Enjoy-

Gold

- **Gold futures fall to a 3-week low as dollar surges after Fed points to start of rate hikes in March**
 - Gold futures ended with a 2% loss on Thursday, as the U.S. dollar popped higher a day after the U.S. Federal Reserve signaled that it would soon be appropriate to raise interest rates as early as March.
 - Prices for the haven precious metal extended their decline after data Thursday revealed that the U.S. economy expanded at an annual 6.9% pace in the fourth quarter. Economists polled by The Wall Street Journal had forecast gross domestic product to rise by 5.5%. "Gold sank after the upside surprise on Q4 GDP, which implies that the Fed will have even more leeway in tightening monetary policy," Brien Lundin, editor of Gold Newsletter, told MarketWatch.
<https://www.msn.com/en-us/money/markets/gold-futures-head-1-25-lower-as-dollar-surges-after-fed-points-to-start-of-rate-hikes-in-march/ar-AATcn7v?>
- **China's net gold imports via Hong Kong surge in 2021**
 - Net imports for last year stood at 334.1 tonnes, their highest since 2018 and an over sevenfold leap from 40.9 tonnes in the prior year.
 - China's net gold imports via Hong Kong surged in 2021 despite a dip in December from the previous month, as consumers stocked up on bullion to shield against economic risks.
<https://www.nasdaq.com/articles/chinas-net-gold-imports-via-hong-kong-surge-in-2021>
- **Gold prices today suffer sharp fall, silver rates slump**
 - The dollar hit multi-week highs against other major currencies after Fed chairman Jerome Powell said there was "quite a bit of room to raise interest rates without threatening the labour market" and said the Fed was of a mind to begin lifting rates in March. U.S. Treasury yields also climbed.
 - "Gold has weakened as US dollar and bond yields edged up post Fed decision. Fed kept monetary policy unchanged as expected but Fed Chairman Powell indicated possibility of a rate hike at March meeting. Gold may remain under pressure on Fed's hawkish stance but we may not see a break below \$1800/oz as safe haven buying may lend some support," says Ravindra Rao, Head Commodity Research at Kotak Securities.
 - "Silver prices may correct further but chances for a recovery upticks are still open while it stays above \$22.60," the brokerage added.
<https://www.livemint.com/market/commodities/gold-prices-today-suffer-sharp-fall-silver-rates-slump-11643255688043.html>
- **Heraeus Precious Forecast 2022**
 - Gold is forecast to trade in a range between \$2,120/oz and \$1,700/oz this year.

- Silver is forecast to trade in a range between \$32/oz and \$20/oz, outperforming gold.
- Platinum is forecast to trade between \$850 - \$1,300/oz.
- The palladium price is forecast to trade between \$2,250/oz and \$1,400/oz.
- The rhodium price is estimated to range between \$22,000/oz and \$7,500/oz.
- The ruthenium price is forecast to trade between \$600/oz and \$250/oz this year.
- Iridium: With surplus market, the price is forecast to trade between \$5,000/oz and \$2,500/oz.
https://www.heraeus.com/media/media/hpm/doc_hpm/precious_metal_update/forecast_1/forecast_2022/22_HPM_PM_Forecast_EN_220124.pdf#
- **Gold price is fighting to breakout**
 - Gold, silver and platinum have rallied nicely since the trends have reversed. Silver and platinum have outperformed gold during that period. Gold continues to fight the major resistance level of \$1,840. Silver and platinum have broken out and should pull back to support. As we watch the equity sell-off, it proves our point that precious metals are not a hedge but a hard asset commodity.
<https://www.kitco.com/commentaries/2022-01-24/Gold-price-is-fighting-to-breakout.html>

Semiconductor Related Articles (impacting Precious Metals electronics):

- **Forecasters Foresee a \$600B Chip Industry**
 - This year, according to market forecasters, manufacturers shifting operations back to the U.S. are scrambling to meet demand driven by growing electronic content in vehicles and the networking of things. At the high end of this year's chip forecasts, Deloitte predicts the chip industry will grow 10% this year, with sales for the first time surpassing \$600 billion.
 - *Matt: Recall the overall precious metals spend in Semiconductor is approx. 2.1% of the overall revenue, or \$12.6 billion USD forecast on total PM Spend (Au, Ag, Pt, Pd, Ru, Ir).*
<https://www.eetimes.com/forecasters-foresee-a-600b-chip-industry/>
- **Intel Reveals Plans for Massive New Ohio Factory, Fighting the Chip Shortage Stateside**
 - Intel is committing \$20 billion to build a manufacturing mega-site in New Albany, on the outskirts of Columbus, Ohio. The chip maker says it will build at least two semiconductor fabrication plants, or fabs, where Intel will research, develop, and manufacture its most cutting-edge computer chips. Construction will begin this year and the plant should be operational by 2025, the company said.
<https://time.com/6140476/intel-building-factory-ohio/>
- **Apple reports record sales as demand surges in China**
 - Worldwide phone sales hit \$71.6bn – a 9% increase on sales in 2020
 - Apple on Thursday reported record sales in the holiday quarter, beating estimates as it benefited from high iPhone demand in China and withstanding supply chain constraints and Omicron variant disruptions. Tim Cook had warned in October that chip shortages were affecting manufacturing of Apple products & could lead to more than \$6 billion in lost sales.
<https://www.irishtimes.com/business/technology/apple-reports-record-sales-as-demand-surges-in-china-1.4787477>
- **Chip shortage to persist, US says**
 - US Secretary of Commerce Gina Raimondo told reporters that the department “in a few instances didn't really get what we needed and we're going to go company by company and do personal engagement and get what we need.”
<https://www.taipetimes.com/News/biz/archives/2022/01/27/2003772135>

Silver

- **Silver Markets Get Crushed (Monday)**
 - Silver markets have broken down significantly during the course of the trading session on Monday to kick off the markets on a decidedly “back foot attitude.” Because of this, silver is going to get dumped

out the US dollar strengthens in general. Keep in mind that the silver market of course is priced in US dollars, so it certainly makes a lot of sense that as the greenback rises, silver gets crushed.

<https://finance.yahoo.com/news/silver-markets-crushed-160136287.html>

- **This Day (Jan 21) In Market History: Silver Surges, Hits All-Time High In 1980**

- On Jan. 21, 1980, silver prices hit their inflation-adjusted all-time high. For ref: Jan 21, 1980 The S&P 500 traded at 112.10 (vs. today 4,326.51 or +3,860%) and the Dow Jones Industrial Average traded at 872.78 (vs. today 34,160.79 or +3,914%). In 1980, a gallon of gasoline cost \$1.19.
- Silver Prices Peak: On Jan. 21, 1980, U.S. silver prices reached \$52.50 per ounce. Adjusted for inflation, that price represents roughly \$165 in 2021 dollars, the highest silver price in history.
- In fact, the price of silver had gotten so out of control in the early 1980s that the commodity exchange market took extraordinary measures to remedy the situation, banning all silver orders other than liquidation orders. As a result, the price of silver plummeted back down to \$34. Silver prices continued to trend lower in the following weeks, falling back down to \$10 by late March.
<https://www.msn.com/en-us/money/savingandinvesting/this-day-in-market-history-silver-surges-hits-all-time-high-in-1980/ar-BB1cXQRz?ocid=BingNewsSearch>

- **Enel mulls building heterojunction solar module factory in the US**

- New Enel Green Power CEO Salvatore Bernabei said the company's heterojunction solar module factory in southern Italy will be scaled up from 200MW to 3GW by mid-2024. He also revealed that another factory may be built abroad, with the United States being a possible location.
- *Matt: This significance of the latest Solar PV technology, dubbed Heterojunction Solar (HJT) can not be understated. The electrical efficiency of this CAPEX intensive technology is some 50% higher than today's Solar PV baseline. And Silver loadings come along for the ride with both front side and back side silver. In comparison, the mainstay Solar technology today PERC Solar uses 16.94 mg/w, where the new technology SHJ 33.9 mg/w (+2x). Again, SHJ is a CAPEX intensive technology, but it's coming, and increased silver demand along with it. Some analysts expecting 30% SHJ mix by 2030.*
<https://www.pv-magazine.com/2022/01/25/enel-mulls-building-3gw-heterojunction-solar-module-factory-in-the-us/>

- **Silvers Sustainability**

- Video Demonstrating the Silver Industries Commitment to Sustainability.
<https://www.silverinstitute.org/sustainability/>

Precious Metals Mining:

- **SA PGM earnings to “underwhelm” as price retraction, cost inflation and capex hit home**

- According to JP Morgan, cost inflation which has been identified by mining companies across all markets would also crimp earnings and would be exacerbated in South Africa by power load shedding during the fourth quarter and possibly the current quarter.
<https://www.miningmx.com/news/platinum/48547-sa-pgm-earnings-to-underwhelm-as-price-retraction-cost-inflation-and-capex-hit-home/>

- **Nornickel Announces Consolidated Production Results for FH2021**

- 2021: Palladium and platinum output 2,616 koz & 641 koz, respectively, which was +8.6% and +0.1% above the production targets for Pd of 2,350-2,410 koz and Pt of 580-640 koz, respectively.
- In 2021, consolidated nickel production decreased -18% y/y to 193 kt.
<https://markets.businessinsider.com/news/stocks/nornickel-announces-consolidated-production-results-for-fy2021-1031121947>

- **Amplats records strong fourth-quarter performance, but safety a concern**

- In terms of production, Amplats reported a strong performance in the fourth quarter. Total PGMs production was up +3% year-on-year, at more than 1.1 Moz.

- At the company's own-managed mines, 634 600 oz of PGMs were produced in the fourth quarter, taking full-year output to more than 2.4-million ounces.
- Viljoen said this was partly attributed to stronger production from the company's own-operated Amandelbult and Unki mines, which increased production by +27% and +4% respectively for the full year, compared with 2020.
- Viljoen lauded the consistent performance of the Anglo Converter Plant in Rustenburg, which was brought online towards the end of 2020 after a rebuild. "Our full-year refined production increased by 89% compared to 2020, reaching a new record and meaning we largely reduced our work-in-progress inventory levels during the year, ahead of initial forecasts," Viljoen said.
- *Matt: As I have been reporting to my clients, AMPATS was way ahead of its scheduled catch up in mined WIP stuck behind the ACP plants failure incidents of 2020. Now catch up complete on minor PGMs and is reflected in their price declines from 2021 mid-year peak prices.*
https://www.miningweekly.com/article/amplats-records-strong-fourth-quarter-performance-but-safety-a-concern-2022-01-27/rep_id:3650

E-Waste & Precious Metals Recycle Related:

- **New solid-state drive tech could edge out HDDs**
 - Micron Technology has started offering a solid-state drive it says is significantly smaller and thinner than others, potentially leading to a decrease in the use of HDDs in future laptops. It also delivers significant improvements in data transfer speeds and lowers read latency and is energy efficient, reducing idle power consumption by half compared with Micron's previous generation of SSDs.
<https://resource-recycling.com/e-scrap/2022/01/27/new-solid-state-drive-tech-could-edge-out-hdds/>
- **Major circuit board buyer rolls out feedstock platform**
 - Mitsubishi Materials, a global e-scrap metals recovery company, has developed a software system to ease PCB shipments, assaying and purchasing. The Japanese company, which has mining and smelting/refining assets around the world, in December launched the Mitsubishi Materials E-Scrap Exchange (MEX), which allows suppliers of printed circuit boards to reserve deliveries, check the status of loads and sample assays, and more.
 - Mitsubishi Materials E-Scrap Exchange (Software): [MEX | Online E-Scrap trading system \(mex-mmc.com\)](https://mex.mmc.com)
<https://resource-recycling.com/e-scrap/2022/01/27/major-circuit-board-buyer-rolls-out-feedstock-platform/>
- **A look at e-scrap collection struggles in Latin America**
 - Despite most countries having at least some e-scrap-related legislation, recycling rates in 13 Latin American countries are very low, at just under 3%, a U.N. report found.
 - Overall generation of electronic waste in the region is also rising at a rate faster than the global average. Between 2010 and 2019, e-waste generation in the region increased by 49% to 1.3 million metric tons, with a collection rate of about 2.7%, according to the report.
<https://resource-recycling.com/e-scrap/2022/01/27/a-look-at-e-scrap-collection-struggles-in-latin-america/>
- **Another challenging year ahead for precious metals?**
 - After a challenging 2021, PM prices are not likely to stage a rebound in 2022.
<https://www.recyclingtoday.com/article/precious-metals-price-rebound-unlikely-2022/>

Platinum

- **Platinum flirts with two crucial resistances**
 - Platinum is currently in a place that's absolutely crucial for its future. The price is on the crossing of two resistances: a horizontal and a dynamic one. The horizontal is the area around \$1025, which has proved to be effective in 2018 and 2020. The dynamic one is the mid-term down trendline, connecting lower highs since the beginning of the 2021.

- A breakout of these two resistances, as in the price closing the day above them, would be an amazing long-term buy signal. That would be the first but very important step towards reaching highs from early 2021.
<https://www.fxstreet.com/analysis/platinum-flirts-with-two-crucial-resistances-202201261229>
- **Platinum mining supply will rise back to pre-COVID levels only in 2024 despite high PGM basket prices**
 - A significant spike in refined platinum supply in 2021 has given the superficial appearance of growth in mine output in response to higher PGM basket prices. However, most of the increase is a recovery in output post COVID disruptions in 2020, significantly supplemented by the unwinding of the ACP inventory backlog. With the last of the ACP material coming to market in the first half of 2022, annual refined mine supply is not expected to recover to pre-COVID levels until 2024.
[https://platinuminvestment.com/files/832395/WPIC Platinum Perspectives January 2022.pdf](https://platinuminvestment.com/files/832395/WPIC%20Platinum%20Perspectives%20January%202022.pdf)
- **Platinum Technical Analysis: Are the bulls out of the woods?**
 - Platinum has had an interesting price rally over the past couple of weeks and the price has managed an 8% rally leading into month-end. The precious metal has been hit very hard over the last year due to the semiconductor shortage and as it is an important component in the production of cars until that situation abates there could be a downward bias. Recently, there has been a bit of a squeeze in production due to the drop in value of the precious metal
<https://www.kitco.com/news/2022-01-21/Platinum-Technical-Analysis-Are-the-bulls-out-of-the-woods.html>
- **WPIC: ABC (Bullion) Platinum**
 - Janie Simpson, Managing Director, ABC Bullion, gives her view of the platinum investment market
 - Globally, investors are already discussing Pt's link to decarbonisation through its use in both electrolyzers to make green hydrogen as well as in fuel cells. Investors are seeing how these applications could create significant new markets, benefiting Pt demand.
[https://platinuminvestment.com/files/sixtysecs/WPIC 60seconds ABC Platinum QA 01262022.pdf](https://platinuminvestment.com/files/sixtysecs/WPIC%2060seconds%20ABC%20Platinum%20QA%2001262022.pdf)
- **Many seeing platinum as hard asset, potential inflation hedge – WPIC**
 - Raymond spoke in a Zoom interview of the high surplus forecast of 2021 potentially reducing quite significantly in 2022 owing to factors including: (1) Auto catalyst demand due to improving semiconductor chip situation, (2) miners revising production outlook, (3) metal availability in the market appearing to be tight, (4) Pt lease rates rising from 0.1% for the three years prior to the pandemic to 2+% towards the end of December (5) FCEV's could arriving sooner than expected (6) growing realisation of the very high CO₂ footprint required to produce LIBa's/BEV's, (7) Euro 7 and China 6 emission control standards will increase loadings, (8) recognition of Pt long-term demand.
<https://www.miningweekly.com/article/many-seeing-platinum-as-hard-asset-potential-inflation-hedge-wpic-2022-01-24>

Fuel Cells/Hydrogen Economy Related Articles:

- **Improving the Performance of Palladium in Electrocatalysts**
 - Researchers analyzed a palladium (Pd) composite-based electrocatalyst as an alternative to platinum (Pt) electrocatalyst-based anodes for application in methanol-based fuel cells.
<https://www.azom.com/news.aspx?newsID=57984>
- **212 hydrogen buses to be deployed at Beijing Olympics - H₂ News**
 - In all, there will be 11,000 new energy vehicles (NEVs) deployed in order to keep potential risks to a minimum. After the 2022 Winter Olympics are over, the 212 H₂-powered buses will be serving the public in the city. Back in December 2021, the spotlight was placed on Zhangjiakou, the city co-hosting the events, where there were already 444 fuel cell buses in operation, covering nine of the city's routes. They had already carried 62 million passengers and had travelled 21 million kilometers by the time of that announcement. Zhangjiakou boasts two H₂ production plants and eight refueling stations. Those ensure that the vehicles have the fuel they need for consistent and reliable operation.

<https://www.hydrogenfuelnews.com/hydrogen-buses-2022-olympics/8551008/>

- **Spanish consortium forms for \$4.4 billion green hydrogen investment**
 - Repsol will lead 33 company and organization multi-sector consortium that will be investing in the production and use of green hydrogen in Spain
 - The consortium, called the Spanish Hydrogen Network (Shyne) will be investing into a spectrum of green hydrogen technologies, including the installation of 500 MW of renewable H₂ capacity by 2025, increasing to 2 GW by 2030. This represents half of the Spanish government's goal for the entire country by that year, which is 4 GW of capacity.
https://www.hydrogenfuelnews.com/green-hydrogen-shyne/8551028/?awt_a=1jpsU&awt_l=LyQiC&awt_m=iyOujpKFdu5DIsU
- **US electrolysis process could simplify green hydrogen production**
 - The process currently relies on expensive noble metal components such as platinum and iridium for catalysts, and the high cost of these materials is thought to be a limiting factor in the uptake of green hydrogen production. In an effort to address this researchers at Georgia Institute of Technology and Georgia Tech Research Institute have designed /demonstrated a new class of hybrid catalysts that reduce the requirements for these expensive materials.
<https://www.theengineer.co.uk/us-electrolysis-green-hydrogen-production/>
- **GM wants to make hydrogen fuel cell generators to create mobile EV chargers and more**
 - The automaker thinks it can do a lot more with hydrogen fuel cells than power cars, including running military bases.
[x](#)
- **Shipping giant Maersk to become major green hydrogen consumer as it embraces methanol fuel**
 - Danish company has ordered 12 methanol-powered container vessels from shipbuilder Hyundai Heavy Industries
<https://www.rechargenews.com/energy-transition/shipping-giant-maersk-to-become-major-green-hydrogen-consumer-as-it-embraces-methanol-fuel/2-1-1143147>
- **Toyota's Hydrogen Combustion Plans 'Not Feasible' Says Honda CEO**
 - Toyota debuted its hydrogen burning engine in June of 2021 in a modified Corolla hatchback racing car that took part in an endurance race. The company is reportedly planning to equip its 2025 Prius with this power plant, so it will be used as part of a hybrid system. And the Prius is a small car, hinting at the fact that unlike Honda, Toyota doesn't have a problem putting a hydrogen burning engine in vehicles of all sizes.
<https://insideevs.com/news/562582/honda-ceo-toyota-hydrogen-combustion/>

Palladium

- **The Future of PGMs: Platinum Group Metals - CPM Group**
 - 70-minute video / 50-minutes presentation and then 20-minutes Q&A
<https://youtu.be/kYFxnAzKE1E>
- **Palladium Price Analysis: XPD/USD retreats from two-month top but not out of the woods**
 - Palladium (XPD/USD) pauses a four-day uptrend around \$2,135, down 0.30% intraday heading into Tuesday's European session. In doing so, the precious metal eases from a multi-day high, flashed the previous day, but stays on the bull's radar.
 - Bullish bias over the metal remains intact despite the latest pullback as the quote stays beyond the 100-DMA level of \$1,936, as well as December's high near \$1,998. Also supporting the trend are the bullish MACD signals.
<https://www.fxstreet.com/news/palladium-price-analysis-xpd-usd-retreats-from-two-month-top-but-not-out-of-the-woods-202201250628>
- **China's pickup truck sales up 14% in 2021**

- Sales of pickup trucks in China recorded a solid growth last year, data from the China Passenger Car Association showed. A total of some 550,000 units of pickup trucks were sold in the January-December period, up 14 percent from a year earlier, according to the association.
<https://global.chinadaily.com.cn/a/202201/24/WS61ee3033a310cdd39bc82d67.html>

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

- **Rhodium roars above \$20,000 in precious metals' biggest rally**
 - Rhodium's rally to record highs shows no sign of stopping, with prices up 19% this month as auto makers that need the metal to meet tightening emissions regulations run into limited supply.
 - Used in engine exhausts to neutralise harmful nitrous oxides, rhodium reached \$20,190 an ounce on Wednesday, up from \$16,990 on Dec. 31 and as low as \$615 in 2016.
<https://www.kitco.com/news/2021-01-13/Rhodium-roars-above-20-000-in-precious-metals-biggest-rally.html>
- **Cummins to build 1GW H₂ electrolyser factory in China with state-owned oil giant Sinopec**
 - The new plant, due to begin operation next year with 500MW of capacity, will be the first in the country to use Western electrolyser technology
<https://www.rechargenews.com/energy-transition/us-based-cummins-to-build-1gw-hydrogen-electrolyser-factory-in-china-with-state-owned-oil-giant-sinopec/2-1-1139138>
- **Metals needed for hydrogen production could get scarce, German authority warns**
 - "We see the greatest supply risks in Iridium (PEM Electrolyzers) and Scandium (SOFC Electrolyzers) due to the very high demand on the raw material markets from water electrolysis alone."
 - "These raw materials already have high supply risks today. The markets for scandium and iridium are very small," the report said, adding that supply is highly concentrated and limited to only a few countries, while the market lacks transparency.
<https://www.euractiv.com/section/energy/news/metals-needed-for-hydrogen-production-could-get-scarce-german-authority-warns/>

Clean Energy General News

- **Record number of wind installation vessel orders placed in 2021**
 - The wind turbine installation vessel (WTIV) orderbook stood at around \$2.5bn. This included over 17, plus nine options, WTIV newbuild contracts placed, the highest yearly total on record. Meanwhile, 15 service operation vessels (SOVs) were ordered for approximately \$0.8bn, also the highest number on record, and 39 crew transfer vessel contracts were placed.
 - According to Clarkson Research, the wind vessel market reached nearly 1,100 vessels by year's end. Global WTIV utilisation averaged 83% in the year, while exceptional demand for vessels off China consistently kept utilisation over 90% in the second half of the year.
<https://splash247.com/record-number-of-wind-installation-vessel-orders-placed-in-2021/>
- **U.S. Offshore Wind Forecast: 45 Projects, \$136B CapEx**
 - As of the end of January 2022, there were over 45 projects in development representing a \$136 billion capital expenditure and \$4.4 billion annual OPEX opportunity that are forecast to be brought on stream within this and early in the next decade.
<https://www.marinetechologynews.com/news/offshore-forecast-projects-capex-616871>
- **We Can Store Our Excess Renewable Energy In An Energy Vault**
 - The Energy Vault stores excess electrical energy by efficiently transforming it into gravitational potential energy using 35-ton bricks that can be raised and lowered at will, and that can sit still storing the energy for any amount of time, before transforming the energy back to electrical energy when needed.
 - According to the U.S. Department of Energy's Energy Storage Grand Challenge Market Report 2020, the World Energy Council, the U.S. Energy Info Admin., Bloomberg NEF and Lazard, the projected

grid-related storage deployments between now and 2030 needs to be ~830 GWh. The cumulative investment in this grid-related storage required over this time period is about \$270 billion.

<https://www.forbes.com/sites/jamesconca/2022/01/27/we-can-store-our-excess-renewable-energy-in-an-energy-vault/?sh=18b44f063334>

- **Visualizing China's dominance in clean energy metals**
<https://www.mining.com/web/visualizing-chinas-dominance-in-clean-energy-metals/>
- **Chart: How metals prices performed in 2021**
 - Lithium +497%, Magnesium +208%, Cobalt +115%, Tin +94%, Moly +90%, Neodymium +78%, Aluminum +38%, Indium +32%, Germanium +32%, Gallium +32%, Nickel +29%, Zinc +28%, Copper 27%, Lead +15%, Steel +8%, Manganese +7%, Gold -3.5%, Platinum -10%, Silver -11.5%, Rhodium -20.5%, Palladium -22%, Iron Ore -24%<https://www.mining.com/web/chart-how-metals-prices-performed-in-2021/>

BEV / LiB Mineral & Battery Market News

- **Idaho is Sitting on One of the Most Important Elements On Earth**
 - The clean-energy revolution is unleashing a rush on cobalt, reviving old mines in a remote forest. Jervois estimates that its mine in the Idaho Cobalt Belt will produce 1,915 mt of cobalt annually, enough for about 160,000 electric-vehicle batteries. That's a drop in the bucket compared with the output of mines in the Democratic Republic of the Congo, which, home to more than half of the world's known cobalt reserves, produced 95,000mt of cobalt in 2020, about 70% of the global supply.
<https://www.theatlantic.com/science/archive/2022/01/cobalt-clean-energy-climate-change-idaho/621321/>
- **Nickel prices are at 11-year highs as EV demand heats up. Can we find enough of the battery metal to feed the beast?**
 - Nickel expert Jim Lennon from Red Door Research in London, the former chairman of Macquarie Bank's commodities team, says the world will need 1.3Mt of nickel for batteries by 2030.
 - "The nickel market in 2020 was about 2.6 Mt. By 2030, it's going to be close to 4.5 Mt. "So you need a couple of Mt more supply. So where is that coming from? You know, that's the issue."
 - *Matt: My model shows 2020 Ni demand of 2.4 Mt and 2030 4.3 Mt (Base Case) to 6.3 Mt (Zero Emission Mandate High Case). Models are fairly close. Look for additional Nickel-less LFP chemistry propagation to keep the Ni demand closer to my Base Case.*
<https://stockhead.com.au/resources/nickel-prices-are-at-11-year-highs-as-ev-demand-heats-up-can-we-find-enough-of-the-battery-metal-to-feed-the-beast/>
- **Why sodium is Mukesh Ambani's big battery bet in the EV race**
 - Asia's richest man tacks away from Li to the more plentiful and potentially more versatile element
<https://www.livemint.com/opinion/why-sodium-is-mukesh-ambani-s-big-battery-bet-in-the-ev-race-11642989547989.html>
- **CHARTS: Tesla v Volkswagen v BYD – battery power, lithium, nickel, cobalt use**
<https://www.mining.com/charts-tesla-v-volkswagen-v-byd-battery-power-lithium-nickel-cobalt-use/>
- **Lithium Prices Surge on EV Demand from China**
<https://elements.visualcapitalist.com/lithium-prices-surge-on-ev-demand-from-china/>
- **Industry heavyweights look to solid-state battery cells, resources, and recycling**
 - Mercedes-Benz has teamed up with ProLogium to integrate solid-state battery technology into a range of passenger vehicles
 - Panasonic and Toyota have launched an industrial-academic collaborative research program concerned with battery resources and recycling
 - LG Energy Solution plans to spend \$2.1 billion with GM to build another US EV LiB plant.
[Industry heavyweights look to solid-state battery cells, resources, and recycling – pv magazine International \(pv-magazine.com\)](https://www.pv-magazine.com/industry-heavyweights-look-to-solid-state-battery-cells-resources-and-recycling-pv-magazine-international-pv-magazine-com/)
- **Sibanye seeks to scrap \$1bn nickel deal**

- Sibanye-Stillwater, one of South Africa’s biggest miners, said it had terminated the \$1bn acquisition of Atlantic Nickel from Appian Capital Advisory because of a “geotechnical event” at the Santa Rita mine in Bahia, north-eastern Brazil. “The company has assessed the event and its effect and has concluded that it is and is reasonably expected to be material and adverse to the business, financial condition, results of operations, the properties, assets, liabilities or operations of Santa Rita.”
<https://www.ft.com/content/fee12ffe-378b-49ab-b11d-d0283513605a>

Regards –