



## Weekly Precious Metals News Articles: March 12, 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 Markets: US inflation data, Treasury yields, dollar moves**
  - Gold prices gained for a third straight session on Thursday, hitting a one-week peak as softer inflation data in the United States pressured Treasury yields and the dollar index
  - Spot gold was up 0.5% at \$1,734 per ounce, after hitting its highest since March 3 at \$1,739.63 earlier. U.S. gold futures climbed 0.6% to \$1,731.60. “Real rates are falling again and the lower real rates are, the better it is for gold. The second element is the strength in dollar we have seen recently has ended again and this is also helping gold,” said UBS analyst Giovanni Staunovo.  
<https://www.cnbc.com/2021/03/11/gold-markets-us-inflation-data-treasury-yields-dollar-moves.html>
- **Gold under pressure as U.S. yields, dollar firm**
  - Gold eased on Wednesday after registering its biggest jump in two months in the last session, as higher U.S. Treasury yields and a stronger dollar remained a stumbling block for bullion.
  - Spot gold was down 0.2% at \$1,711.21 per ounce by 1207 GMT after rising more than 2% on Tuesday. U.S. gold futures fell 0.5% to \$1,709.20. U.S. yields regained momentum on Wednesday, raising the opportunity cost of holding bullion, while the dollar also gained.  
<https://www.reuters.com/article/global-precious-idUSL4N2L82BP>
- **Study shows simple blood test could detect liver injury earlier**
  - University of Texas at Dallas chemist Dr. Jie Zheng has spent much of his career investigating gold nanoparticles for their potential impact in the field of nanomedicine. In new research, he and his colleagues show how these nanoparticles could play a key role in a simple blood test to detect acute liver damage earlier than current methods.  
<http://7thspace.com/headlines/1480281/study-shows-simple-blood-test-could-detect-liver-injury-earlier.html>

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

- **China’s semiconductor imports surged year-on-year in January-February period amid global chip shortage**
  - The year-on-year increase could be partly due to a low comparison base from last year when the coronavirus wreaked havoc
  - China and the US are exploring ways to protect their supply-chain integrity by boosting spending on domestic chip making  
<https://www.scmp.com/tech/tech-trends/article/3124526/china-semiconductor-imports-surged-january-february-period>

- **TSMC's largest customer makes up 25% of revenue**
  - The world's largest contract chipmaker generated NT\$336.78 billion (US\$11.9 billion) in consolidated sales from its largest customer last year, accounting for about 25%.
  - With TSMC believed to be the sole processor supplier for Apple's iPhone 12, analysts said the largest customer is likely the US consumer electronics giant, which drove the chipmaker's sales growth.  
<https://www.taipeitimes.com/News/biz/archives/2021/03/09/2003753477>
- **IC Insights Raises Its 2021 IC Market Forecast from 12% to 19% Growth**
  - IC Insights will release its March Update which determine the "final" worldwide IC market figure for 2020, which was raised from +10% to +13% growth as compared to 2019.
  - IC Insights believes that the 1Q21/4Q20 IC market will show a 2% increase in 2020.
  - Forecast increases +3% 2Q21, +8% 3Q21, and +0% 4Q21, new global IC market +19% 2021.  
<https://www.icinsights.com/news/bulletins/IC-Insights-Raises-Its-2021-IC-Market-Forecast-From-12-To-19-Growth/%20>
- **Fabless IC firms facing quote hikes at backend partners**
  - Major backend houses including ASE Technology, Powertech Technology and King Yuan Electronics have all raised quotes, particularly for wire bonding process, amid widening capacity crunch, with backend delivery lead times already extending to 1-2 months from 1-2 weeks, the sources said.  
<https://www.digitimes.com/news/a20210309PD210.html>

## Silver

- **Solar module prices increasing in China as short-term hikes expected to extend overseas - PV Tech**
  - Module prices are expected to increase in the short term on the back of spiralling material and component costs. Having topped RMB1.9/Watt (US\$0.29/W) in early 2020 before falling to RMB1.4/Watt (US\$0.21/W), PV module prices in China have been on a rollercoaster of late. This continued into Q4 2020, when the price rebounded strongly to 1.8 – 1.9RMB/Watt.
  - <https://www.pv-tech.org/solar-module-prices-increasing-in-china-as-short-term-hikes-expected-to-extend-overseas/>
- **Novel electrocatalysis (using Silver Nanodots) system realizes ambient ammonia electrosynthesis**
  - Ag nanodots (AgNDs) catalyst on electrolyte and using metallic titanium (Ti) mesh as the current collector for electrocatalytic NRR (Nitrogen Reduction Reaction).  
<https://phys.org/news/2021-03-electrocatalysis-ambient-ammonia-electrosynthesis.html>
- **Be A "Silver Holder"**
  - Silver is an odd metal. The crowd loves to hate on it for decades. That's simply because they don't really understand it. But when sentiment flips, it becomes a rock star.
  - Silver is reacting to the raw demand that's filling its pipeline. That's why we've seen the Silver Institute forecast global silver demand to rise by 11% in 2021 to reach an eight-year high. They see industrial demand reaching a four-year high of 510 million ounces, increasing by 9% over 2020, with electrical and electronics contributing the most gains. The accelerating rollout of 5G technology is expected to lead the push.  
<https://www.fxempire.com/forecasts/article/be-a-silver-hodler-706196>

## Precious Metals Mining:

- **Nornickel's \$2 billion fine will be used to improve Arctic environment - Putin**

- Russian President Vladimir Putin said on Wednesday that a \$2 billion fine paid by metals miner Norrnickel after a fuel spill, the country's worst Arctic environmental disaster, will be used to improve ecology in the region.  
[http://www.reuters.com/article/us-norilsknickel-arctic-idUSKBN2B215S?utm\\_source=34553&utm\\_medium=partner](http://www.reuters.com/article/us-norilsknickel-arctic-idUSKBN2B215S?utm_source=34553&utm_medium=partner)
- **(S. African) Mining production down in January, but mineral sales up almost 25%**
  - Mining production decreased by 6.2% y/y in January, with the largest negative contributors being PGMs, coal and gold, according to the latest Stats SA report.
  - PGMs slumped by 14.5%, subtracting 3.5% points from the overall (S. African) average, while coal slipped by 13.5%, also subtracting 3.5% points from the overall average.  
[https://www.miningweekly.com/article/mining-production-down-in-january-but-mineral-sales-up-almost-25-2021-03-11/rep\\_id:3650](https://www.miningweekly.com/article/mining-production-down-in-january-but-mineral-sales-up-almost-25-2021-03-11/rep_id:3650)
- **Is Another Gold Mega-Merger Brewing?**
  - Although it's merely an idea for now, if Sibanye, AngloGold, and Gold Fields were to combine as is right now, their combined market capitalization of nearly \$31.5 billion would make it the third-largest listed gold company after Newmont Mining and Barrick Gold. It would also be one of the biggest deals in the gold industry after Barrick's merger with Randgold in 2018 and Newmont's acquisition of Goldcorp in 2019.  
<https://www.fool.com/investing/2021/03/09/is-another-gold-mega-merger-brewing/>
- **Implats seeks to increase Zimplats smelting capacity**
  - Platinum mining group, Implats, says it is undertaking feasibility studies to set up a fourth concentrator (+2.67 million tons) at Zimplats ahead of envisaged increased output from Bimha Mupani mine expansion projects.
  - Implats chief operating officer, Mr Potgieter, said for some time now, the Zimplats smelter has been operating at 6,5 million tonnes capacity a year from four mines and three concentrator plants.  
<https://nehandaradio.com/2021/03/02/implats-seeks-to-increase-zimplats-smelting-capacity/>

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

- **Researchers explore lower-temperature processing**
  - Iowa State University engineers have developed a method that uses oxidation technology to recover pure precious metals from e-scrap. According to a university press release, the team used controlled applications of oxygen and relatively low temperatures to dealloy a metal. The process slowly moves the most reactive components of the metal to the surface, where they form spikes of metal oxides. That leaves a core of purified molten metal.
  - The leader of the research project explained that the process demonstrates that traditional methods using temperatures above 1,832 degrees Fahrenheit may not be necessary in metals purification. His oxidation technology uses temperatures of between 500 and 700 degrees Fahrenheit.  
[https://resource-recycling.com/e-scrap/2021/03/11/researchers-explore-lower-temperature-processing/?utm\\_medium=email&utm\\_source=internal&utm\\_campaign=March+11+ESN](https://resource-recycling.com/e-scrap/2021/03/11/researchers-explore-lower-temperature-processing/?utm_medium=email&utm_source=internal&utm_campaign=March+11+ESN)  
Technical paper available for purchase: [Passivation-driven speciation, dealloying and purification - Materials Horizons \(RSC Publishing\)](#)

## **Platinum**

- **The Sustainable Importance of Platinum in Biomedical Applications**
  - Among the implications of this population growth trend is increased use of platinum in medical technology. Since the early 1970s, platinum has been used internationally in a variety of medical devices to treat ailments such as heart disease, stroke, neurological disorders, chronic pain, and other life-threatening conditions. The metal is used to make essential components for pacemakers, implantable defibrillators, catheters, stents, and neuromodulation devices among others. The

properties of platinum that make it attractive for such applications include its biocompatibility, inertness within the body, durability, electrical conductivity, and radiopacity.

<https://www.mddionline.com/ivd/sustainable-importance-platinum-biomedical-applications>

- **UV-Curing Silicone Rubbers Enable New Medical Concepts and Part Design**

- Typically, liquid silicone rubber (LSR) is cured by a platinum-catalyzed hydrosilation reaction, but Momentive Performance Materials has developed a new family of silicone rubbers can be cured by UV light where the crosslinking is initiated by a photochemical reaction rather than heat. This technology enables parts to be cured quickly and at low temperatures. It also allows silicone rubbers to be combined with many temperature-sensitive materials.

<https://www.mddionline.com/materials/uv-curing-silicone-rubbers-enable-new-medical-concepts-and-part-designs>

- **Strong investment demand sustained platinum in the fourth quarter of 2020**

- For the third consecutive quarter, platinum remained in a deficit, at 170 000 oz, in the fourth quarter of 2020 as strong demand in the automotive, industrial and jewellery sectors and sustained strong investment demand for platinum outstripped constrained supply, the World Platinum Investment Council (WPIC) says in its latest 'Platinum Quarterly'.

<https://www.miningweekly.com/article/strong-investment-demand-sustained-platinum-in-the-fourth-quarter-of-2020-2021-03-10>

- **PLATINUM QUARTERLY Q4 2020**

- 33-page report Platinum Quarterly considers platinum supply and demand developments for the fourth quarter of 2020 and for all of 2020; it also presents an updated forecast for 2021.

[https://platinuminvestment.com/files/521293/WPIC\\_Platinum\\_Quarterly\\_Q4\\_2020.pdf](https://platinuminvestment.com/files/521293/WPIC_Platinum_Quarterly_Q4_2020.pdf)

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

- **China looks to repeat EV success with fuel cell vehicles**

- Hydrogen is next on the agenda as China looks to cement its position as the industry's foremost market for zero emissions vehicles.

<https://www.automotiveworld.com/articles/china-looks-to-repeat-ev-success-with-fuel-cell-vehicles/>

- **TECO 2030 plans hydrogen-based fuel cell factory in Norway**

- Work on the new site is planned to start in 2021, and the first production is expected next year. Total investments of up to NOK1bn (\$118m) are expected over a ten-year period.

<https://splash247.com/teco-2030-plans-hydrogen-based-fuel-cell-factory-in-norway/>

- **The secret of catalysts that increase fuel cell efficiency**

- Fuel cells, which are attracting attention as an eco-friendly energy source, obtain electricity and heat simultaneously through the reverse reaction of water electrolysis. Therefore, the catalyst that enhances the reaction efficiency is directly connected to the performance of the fuel cell. To this, a POSTECH-UNIST joint research team has taken a step closer to developing high-performance catalysts by uncovering the ex-solution and phase transition phenomena at the atomic level for the first time.

[https://www.eurekalert.org/pub\\_releases/2021-03/puos-tso031021.php](https://www.eurekalert.org/pub_releases/2021-03/puos-tso031021.php)

- **Get Ready: The Hydrogen Economy Is On Its Way**

- The EU expects to build "40 gigawatts of electrolyzers installed within its borders by 2030, up from the 250 megawatts in place globally today."
- Japan, which boasts the world's most hydrogen refueling stations, wants to be the leader in hydrogen automobiles.
- South Korea's H<sub>2</sub> Economy Plan calls for 30% of its cities to be powered by H<sub>2</sub> by 2040.
- China is incorporating H<sub>2</sub> into its plan to be net neutral by 2060. Singapore is looking to do the same by 2050.

<https://www.forbes.com/sites/forbestechcouncil/2021/03/11/get-ready-the-hydrogen-economy-is-on-its-way/>

- **South Korean energy firms step up hydrogen investments**
  - South Korean firms are ramping up efforts to develop renewable hydrogen capacity as the country works towards its 2050 carbon neutrality goal.
  - Major energy firm SK is investing 18.5 trillion South Korean won (\$16bn) to construct a 280,000 t/yr hydrogen ecosystem in Incheon by 2025.  
<https://www.argusmedia.com/en/news/2194883-south-korean-energy-firms-step-up-hydrogen-investments>
- **Mitsubishi Power Commences Development of World's First Ammonia-fired 40MW Class Gas Turbine System**
  - Targets to Expand Lineup of Carbon-free Power Generation Options, with Commercialization around 2025. Utilizing technology that enables 100% direct combustion of ammonia will contribute to formation of ammonia fuel supply chain.
  - Commercialization will also support decarbonization systems for small to medium-scale power plants (40MW is fairly small) in industrial applications, on remote islands, etc.  
<https://power.mhi.com/news/20210301.html>

## Palladium

- **China's Car Sales More Than Quadrupled in February**
  - China's car sales surged in February from a year earlier when the country was at the height of the coronavirus pandemic and consumers were locked down in their homes.
  - Retail sales of passenger cars last month more than quadrupled to 1.18 million vehicles compared with the year before, the China Passenger Car Association said Tuesday. The jump reflects the low sales during the same period last year. Sales plummeted 79% in February 2020 as many cities were locked down and factories and dealerships were shut.  
<https://www.wsj.com/articles/chinas-car-sales-more-than-quadrupled-in-february-11615257342>

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

- **Ruthenium and Platinum: IBM Nears Breakthrough In New Memory Class**
  - IBM envisions four eventual markets for STT-MRAM. The first is what most of us think of as stand-alone memory. (1) STT-MRAM could one day even replace DRAM in applications requiring non-volatility. (2) The second market is for embedded non-volatile memory in chips, where Samsung is already fabricating STT-MRAM on 28-nm Silicon on Insulator (SOI) manufacturing lines. (3) Cache memory on slower low-power processors such as used in mobile phones is the third market opportunity. (4) The fourth and largest market opportunity is to replace some SRAM for high-performance computing and Artificial Intelligence as a last-level cache.  
<https://www.forbes.com/sites/karlfreund/2021/03/10/ibm-nears-breakthrough-in-new--memory-class/>
- **Ru & Pt: MRAM Evolves In Multiple Directions**
  - "MRAM device physics allows application-specific tuning by trading off retention for endurance and speed," said Cyrille Dray, Sr. Principal Engineer at Arm. "This leads to flash-like and SRAM-like forms."
  - Both the design of the critical magnetic tunnel junction & the surrounding circuitry will have an impact on device characteristics. Designers have knobs they can turn to balance the need for read and write speed, data retention, and endurance. How those choices are made will determine success in their targeted markets.  
<https://semiengineering.com/mram-evolves-in-multiple-directions/>
- **Ruthenium and Platinum: Seagate's Roadmap: The Path to 120 TB Hard Drives**

- Seagate recently published its long-term technology roadmap revealing plans to produce ~50 TB hard drives by 2026 and 120+ TB HDDs after 2030 (using HAMR). In the coming years, Seagate is set to leverage usage of heat-assisted magnetic recording (HAMR) which uses 1.7x the Pt and zero Ru, adopt bit patterned media (BPM) in the long term, and to expand usage of multi-actuator technology (MAT) for high-capacity drives.  
<https://www.anandtech.com/show/16544/seagates-roadmap-120-tb-hdds>
- **3 reasons why rhodium prices have zoomed over 70% since January 1**
  - One, the growing demand from the automotive industry to meet the rising stringent emission norms comes during a supply deficit that the market is facing.
  - According to JM the deficit in the rhodium market doubled last year as primary supplies contracted. The deficit was despite a drop in auto catalyst and industrial demand for rhodium.  
<https://www.thehindubusinessline.com/markets/commodities/3-reasons-why-rhodium-prices-have-zoomed-over-70-since-january-1/article34018038.ece>

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

- **To go electric, America needs more mines. Can it build them?**
  - "You can't have green energy without mining," Mark Senti, chief executive of Florida-based rare earth magnet company Advanced Magnet Lab Inc. "That's just the reality."  
<https://mobile-reuters-com.cdn.ampproject.org/c/s/mobile.reuters.com/article/amp/idUSKCN2AT39Z>
- **Nickel: Tsingshan to disrupt the nickel market again?**
  - Matt: This news had a huge impact on the Nickel market this week where prices dropped 10%. Historically, 60% of the nickel mined globally was not suitable for battery grade applications. The plan here changes that, but at a potentially huge emissions impact, and a severe production cost impact with the further processing required. Processing this matte material in China which is nearly 100% coal based just adds to the pain. Cries for Carbon Taxes for just such materials streams from EU regulators has started to rise.  
<https://roskill.com/news/nickel-tsingshan-to-disrupt-the-nickel-market-again/>
- **Nickel Price Falls By 16% But That Might Not Help EV Makers**
  - Until a few days ago Musk was lamenting the fact that nickel was overpriced and hitting the cost of his world-beating Tesla EVs and potentially forcing a change to battery chemistry. "Nickel is our biggest concern for scaling lithium-ion cell production," Musk said in a Tweet last week.
  - Most battery-grade nickel comes from nickel sulphide ores mined in Canada and Australia with a sudden surge in demand from battery makers the major reason why BHP did not sell its nickel division after years of trying to offload the operation.
  - The pyrometallurgical (intense heat) nature of the process which is said to require the addition of sulfur and produces significant carbon emissions. By some estimates, Morgan Stanley said, the carbon emissions are 10-times higher than hydrometallurgical (liquid) processes.  
<https://www.forbes.com/sites/timtreadgold/2021/03/08/nickel-price-falls-by-16-but-that-might-not-help-ev-makers/?sh=3ce1ee86bbb6>
- **Has China shattered battery nickel's supply chain bottleneck?**
  - In recent years, the Chinese have decided to make their own nickel from laterite ores to feed the stainless-steel beast, creating a huge supply of nickel in the form of NPI. One cannot use NPI or ferronickel directly for battery material since the high iron content is like a poison to batteries. By making nickel matte (which is essentially a nickel sulphide with some impurities), they can make a nickel-bearing material that can then be fed into cathode manufacturing for EVs.
  - The Chinese now propose to convert some of the lowest-grade forms of nickel (NPI) into nickel matte. NPI generally contains about 5-15% nickel as opposed to ferronickel, which clocks at anything from 15-50% nickel, and nickel matte at 65-75% nickel.

- The process of making nickel matte from NPI is not new. It involves a further pyrometallurgical step where one adds heat and sulphur, and the end-product is purer nickel (the matte) with less than 5% iron or impurities. This product can then be plugged into the same market segment as nickel sulphide mine concentrates or nickel matte made from traditional smelting of nickel concentrates.
- Chinese NPI production costs range between US\$3.50-\$4.50 per lb, and we estimate that making nickel matte could add an estimated US\$2 per lb, the sum still being less than the current nickel price. However with NPI and matte both receiving approximately 85% of LME price in sales, the additional cost of making matte from NPI translates into an LME price of US\$7.60 per lb as a break-even cost for production. One has to question why NPI producers would add cost to receive the same revenue and reduced profit?  
<https://www.northernminer.com/commentary/has-china-shattered-battery-nickels-supply-chain-bottleneck/1003828913/>
- **Tesla takes part in deal to take over controversial nickel mine in New Caledonia**
  - Tesla is listed as a “technical partner” in a deal to take over a very large and controversial nickel mine in New Caledonia. Lately, Tesla CEO Elon Musk has been pushing for nickel producers to boost production as he expects the resource could become a bottleneck for battery production.
  - New Caledonia is a small French territory in the southwest Pacific Ocean, and it is believed to own as much as 25% of the world’s nickel. It is home to the Goro mine owned and operated by mining giant Vale. Vale took over the mine in 2007 in a multibillion-dollar buyout in hopes to ramp up production to 40,000 tonnes of nickel per year. However, the project has been plagued with problems from conflicts with locals that led to sabotage to environmental spills due to the use of high-pressure acid leach (HPAL) technology.  
<https://electrek.co/2021/03/05/tesla-takes-parts-controversial-deal-to-take-over-nickel-mine-new-caledonia/>
- **Cambridge duo hit overdrive in fast car battery research**
  - Echion and JM are developing a high-performance cell design with Echion’s fast-charging Mixed Niobium Oxide (MNO) anode technology and JM’s eLNO® cathode materials. This novel design will be modelled to different configurations and closely mapped to mass market requirements.  
<https://www.businessweekly.co.uk/killer-50/50-insider/cambridge-duo-hit-overdrive-fast-car-battery-research>
- **China Will Dominate Rare Earth Supply for Decades**
  - While prices of rare earth elements soar, China is likely to dominate for decades production of these 17 minerals that are indispensable to the manufacture of smartphones, electric vehicles, military weapon systems and other advanced equipment.
  - Prices of rare earths are surging as news media report that China may again use the materials as a weapon in the trade war with the US. Shortages of the raw materials would further impact electronics supply chains already constrained by a dearth of chips that started last year.  
<https://www.eetimes.com/china-will-dominate-rare-earth-supply-for-decades/>
- **VW plans to scale up process to recover 95% of EV batteries' raw materials**
  - VW's method involves disassembling used battery packs, retaining any usable cells, and shredding the rest. This results in a sludge of metals and the liquid electrolyte, which is then drained away. The remaining dry granules of material are then sifted and sorted.
  - VW said the Salzgitter plant can handle up to 3,600 battery packs a year. The automaker has said before that it plans to establish such facilities around the world, and seeing that the release originated with VW of America, for the United States, too.  
[https://www.greencarreports.com/news/1131521\\_vw-to-recover-95-of-ev-batteries-raw-materials](https://www.greencarreports.com/news/1131521_vw-to-recover-95-of-ev-batteries-raw-materials)

Regards –