Weekly Precious Metals News Articles: March 26, 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 Continues To Face Off With Treasury Yields**
  - Many factors affect the gold price, but Treasury yields have been the one factor that's been weighing more heavily than the others of late. Last week, the Federal Open Market Committee doubled down on its dovish stance, boosting gold prices as a result.
  - The FOMC said it would allow inflation to run above its 2% target for an extended period, which weighed on the U.S. dollar. The dollar is generally negatively correlated with gold prices, so at first, the news was good for the yellow metal. However, Treasury yields have continued to rise in the days since the FOMC meeting last week, bringing the gold price back down again. https://www.entrepreneur.com/article/368087
- **India: Rural demand for gold shoots up as farmers obtain good price for crops**
  - Surendra Mehta, national secretary of India Bullion & Jewellers Association said demand has gone up sequentially, by close to 25 percent since January compared to October -December quarter mainly Because farmers are getting good prices for their crops and secondly, gold price has fallen from Rs 57,000 per 10 gm in August last year to less than 47,000 per 10 gm from beginning of January. And now the prices have fallen below Rs 45,000 per 10 gm which has further spurred demand." https://economictimes.indiatimes.com/industry/cons-products/fashion-/-cosmetics-/-jewellery/rural-demand-for-gold-shoots-up-as-farmers-obtain-good-price-for-crops/articleshow/81535076.cms?

Semiconductor Related Articles (impacting Precious Metals electronics):

- **TSMC plans to now spend $35B in Arizona fab**
  - Upping its commitment to its state-of-the-art wafer fab in Arizona, TSMC is reported to now be investing $35 billion in the U.S. manufacturing facility, almost tripling the original $12 billion it originally committed. https://electronics360.globalspec.com/article/16465/report-tsmc-plans-to-now-spend-35b-in-arizona-fab
- **Intel (INTC) Announces $20B Investment to Rev Up (Chandler Arizona) Manufacturing**
  - Intel's (new) CEO Pat Gelsinger announced a $20-billion investment to set up two factories (fabs) at its Ocotillo campus in Chandler, AZ. The planning and construction of the fabs are expected to begin with immediate effect. https://finance.yahoo.com/news/intel-intc-announces-20b-investment-150803825.html
- **Why the world is facing a shortage of computer chips**

- Hundreds of billions will be spent by governments and corporations in coming years on a 'chip race' with geopolitical as well as economic implications
- The stay-at-home era caused by Covid-19 pushed demand beyond levels projected by chipmakers. Lockdowns spurred growth in sales of laptops to its highest in a decade https://www.livemint.com/technology/tech-news/why-the-world-is-facing-a-shortage-of-computer-chips-11616148897421.html

- **Fire Destroys Part of Renesas Fab**
  - More woes for the global automotive manufacturing industry. A serious fire at Renesas' chip making plant in Ibaraki Prefecture will, according to the company, have "a very large impact" on its ability to supply devices to the sector, as well as some other sectors.
  - The fire destroyed a significant portion of the huge facility, including the 300mm line at the Naka Factory. Renesas said it was looking at the feasibility of increasing production at other facilities in order to make up for the loss of substantial volumes, and warned the stricken plant will not be operational for at least a month. https://www.eetimes.com/fire-destroys-part-of-renesas-fab/#
- **Semiconductor CapEx To Grow 13.0% In 2021**
  - Semiconductor CapEx grew +9.2% in 2020 to US$112.1 billion. This is $14.1 billion higher than our spring 2020 forecast, and $3.2 billion higher than our fall 2020 forecast. Semico is forecasting 2021 CapEx to reach $127 billion, an increase of +13.0% https://semiengineering.com/semiconductor-capex-to-grow-13-0-in-2021/

Silver

- **IRENA: World Energy Transitions Outlook – 1.5° C Pathway**
  - The International Renewable Energy Association (IRENA) just published its latest plan for the global power grid and renewable energy needs through 2050 in order to maintain a maximum 1.5°C temperature climb. In this plan, the target total renewables grow dramatically. Originally targeting 24% of the global grid being renewables, now they are target a full 74% renewable sources by 2050. This means 90% of the new capacity installations need to be renewables going forward. Today's renewables are 2,500 GW today, but need to climb to 27,500 GW by 2050, a 10x fold increase.
  - Solar PV and wind (onshore and offshore) would lead the way; solar PV power installed capacity would reach over 14,000 GW and wind (onshore and offshore) over 8,100 GW by 2050. Hydropower, biomass, geothermal, concentrated solar power and ocean technologies account for the remaining renewable energy expansion.
  - Matt: The planned 2021 through 2050 Solar PV expansion would require 8.3 billion Toz of silver at present rates of design thrifting to accomplish, achieving 14 TW of active installations by 2050. https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/March/IRENA_World_Energy_Transitions_Outlook_2021.pdf
- **US government wants to cut solar costs by 60% in 10 years**
  - The US Energy Department set a goal of achieving 2 cents/kWh by 2030, and announced an initial $128 million in funding to support technology development.
  - DOE set a new goal of cutting the current cost of 4.6 cents per kilowatt-hour (kWh) to 3 cents/kWh by 2025 and 2 cents/kWh by 2030. DOE said that by 2035, solar PV could represent between 30% and 50% of electricity supply. https://www.pv-magazine.com/2021/03/26/us-government-wants-to-cut-solar-costs-by-60-in-10-years/
- **Physical silver bullion squeeze could lead to large gains, and so can Biden's giant green plans**
  - Allegations of ongoing physical supply issues are reaching a crescendo this week as individual investors report difficulty in redemptions of unallocated silver positions from some major mints. In fact, even COMEX is significant demand for delivery with over 30 million ounces of silver having been withdrawn from their depository warehouse in the early part of 2021.

https://www.fxstreet.com/analysis/physical-silver-bullion-squeeze-could-lead-to-large-gains-202103220235

Precious Metals Mining:

- **Launching Boliden Green Copper**
  - As the first company in the world, Boliden now offer two separate green copper products, produced with drastically lower carbon footprint than the global average. One product, Low-Carbon Copper, is produced from concentrate from Boliden's own copper mines. The other product, Recycled Copper, has the same emission standards as Low-Carbon Copper, but is produced from secondary raw material such as used electronics and other applications.
  - Matt: Obviously this article about copper mining, regardless about the future trend of greening up our mining, smelting, and processing of extraction, one of the major sources of CO^2 emissions globally. This is a great marketing strategy. PGM example below.
    https://www.boliden.com/operations/products/copper/green-copper
- **NORNICKEL CUTS EMISSIONS AT KOLA PENINSULA BY 85% IN 2021**
  - Norilsk Nickel, the world's largest producer of palladium and high grade nickel and a major producer of platinum and copper, has shut down its metallurgical shop at Kola MMC in Monchegorsk. The shop was shut down on March 20th 2021. It was previously a major source of sulphur dioxide emissions at Kola MMC's Monchegorsk site.
    https://www.nornickel.com/news-and-media/press-releases-and-news/nornickel-cuts-emissions-at-kola-peninsula-by-85-in-2021/
- **Northam Platinum building 10 MW solar power plant at Zondereinde smelter**
  - Northam Platinum CEO Paul Dunne said "Of course, there's much more to it than that. We're an energy-intensive user. We are very, very reliant on Eskom, and that's unlikely to change. But what we can do is supplement Eskom with PV at quite an attractive cost. If you again put the capital in there, it's about a four-year payback by our calculations for a 10 MW unit," he said.
    https://www.miningweekly.com/article/northam-platinum-building-10-mw-solar-power-plant-at-zondereinde-smelter-2021-03-19

E-Waste & Precious Metals Recycle Related:

- **OEMs and processors join global e-scrap partnership**
  - Dell, Glencore, Microsoft and Sims are among the founding collaborators of the Circular Electronics Partnership, a new initiative focused on boosting recovery and reuse of electronics.
  - "We aim to reimagine the value of electrical products and materials using a lifecycle approach, reducing waste from the design stage through to product use and recycling," the organization stated on its website. The group is focusing on the following product categories: temperature exchange equipment, screens and monitors, lamps, large equipment, and small IT."
    https://resource-recycling.com/e-scrap/2021/03/25/oems-and-processors-join-global-e-scrap-partnership/
- **OEM and repair firm begin e-scrap outreach effort**
  - Shortly after establishing an e-scrap collection partnership, Samsung and the repair-focused franchise uBreakiFix have launched a recycling awareness campaign. The partners kicked-off the six-week Erase E-Waste Challenge in the run-up to Earth Day, April 22.
  - In December, the companies announced the partnership through which Samsung supports collection of e-scrap of any brand at uBreakiFix U.S. locations, of which there are now 570. The devices are sent to a Samsung recycling partner certified to the e-Stewards standard.
    https://resource-recycling.com/e-scrap/2021/03/18/oem-and-repair-firm-begin-e-scrap-outreach-effort/

Platinum

- **Palladium and platinum to top $3,000/oz and $1,350/oz respectively over the next 12 months**
    - Platinum and palladium have surged in recent weeks. As the global economic recovery continues and global pollution standards tighten, the recent mine site disruptions suggest hefty deficits and a path toward $3,000/oz for palladium and $1,350/oz for platinum over the next twelve months, strategists at TD Securities report.
      https://www.fxstreet.com/news/palladium-and-platinum-to-top-3-000-oz-and-1-350-oz-respectively-over-the-next-12-months-tds-202103191608
- **(New Marine) Catalytic convertor (with Pt Catalyst) ensures fuel cells really are emissions-free**
    - Matt: Serious funding and research going into developing technologies needed to run Green Ammonia (with high Hydrogen content) as fuel source to power ships.
    - Scientists are developing a catalytic convertor that will treat waste gas from a new type of fuel cell that runs on ammonia. The technology will ensure that residual hydrogen and ammonia from the process are treated and that the only end products from the ground-breaking fuel cell are water and nitrogen. The catalytic convertor will also optimise the process, ensuring it does not produce environmentally harmful nitrogen oxides.
    - In the fuel cell being developed in the ShipFC project, the process of generating electricity from ammonia starts with it being fed into a fission reactor, where it is split into nitrogen (N2) and hydrogen (H2); 75% of the gas produced consists of hydrogen. A small amount of ammonia (100 ppm) is not converted and left over in the gas stream.
    - The second step sees the nitrogen and hydrogen fed into the fuel cell. Air is introduced, allowing the hydrogen to burn and form water. This produces the electrical energy a ship needs. However, the hydrogen isn't fully converted in the fuel cell and around 12% of it, plus some residual ammonia, leave the fuel cell un-combusted. It is this remaining hydrogen and residual ammonia that needs to be treated by the catalytic convertor Fraunhofer IMM is developing.
    - Air is introduced into the catalytic convertor, and the residue comes into contact with a corrugated metal foil coated with a powdered layer of catalytic particles that contain platinum. This triggers a chemical reaction such that, ultimately, the only end products are water and nitrogen and no nitrogen oxides result.
      https://www.spglobal.com/platts/en/market-insights/latest-news/metals/031921-iridium-hits-all-time-high-of-6000oz-on-supply-issues-strong-demand
- **Nickel-platinum nanoparticles give boost to detection of cancer and disease**
    - Early screening can mean the difference between life and death in a cancer and disease diagnosis. That's why University of Central Florida researchers are working to develop a new screening technique that's more than 300 times as effective at detecting a biomarker for diseases like cancer than current methods.
    - The technique, which was detailed recently in the Journal of the American Chemical Society ("Nickel–Platinum Nanoparticles as Peroxidase Mimics with a Record High Catalytic Efficiency"), uses nanoparticles with nickel-rich cores and platinum-rich shells to increase the sensitivity of an enzyme-linked immunosorbent assay (ELISA).
      https://www.nanowerk.com/nanotechnology-news2/newsid=57627.php
- **Aberdeen Standard Physical Platinum ETF (PPLT) - Platinum Momentum Gaining Strength**
    - Platinum buying patterns continue to look quite robust in March 2021.
    - Aberdeen Platinum is the main choice for brokerage accounts wanting exposure.
    - This year's supply/demand balance is increasingly tilted toward platinum bulls, and higher pricing seems logical from a relative undervaluation setting in the precious metals complex.
      https://seekingalpha.com/article/4415204-pplt-etf-platinum-momentum-gaining-strength
- **Nornickel to cut emissions in Russia's border region with Norway, Finland**

- Nornickel said on Monday it has shut down a metallurgical processing facility in Russia's border region with Norway and Finland which had been the area's main source of sulphur dioxide emissions.
- The shutdown, along with the recent closure of a nearby Nornickel smelting unit, will cut sulphur dioxide emissions in the area by 85% from 2015 levels to less than 30,000 tonnes this year, the company said.
  https://www.mining.com/web/nornickel-to-cut-emissions-in-russias-border-region-with-norway-finland/

Fuel Cells/Hydrogen Economy Related Articles:

- **E4tech produced its annual Fuel Cell Industry Review, now in its 9th year**
  - 2020 recorded a 10% increase in fuel cell shipments to 1.3 GW capacity despite COVID. This is lower growth than anticipated before the outbreak, but the shipments attest to the resilience of the technology. Shipments of PEM fuel cells for transportation continue to dominate, at two thirds of the capacity. Hyundai alone, with its NEXO, represents nearly half of all shipments by capacity.
    https://www.e4tech.com/resources/246-e4tech-produced-its-annual-fuel-cell-industry-review-now-in-its-9th-year.php
- **New breakthroughs in solid-state hydrogen storage**
  - Researchers from Fraunhofer IFAM, Germany, developed this paste that looks like toothpaste. They reacted hydrogen and magnesium at a high temperature of about 350 °C and five to six times the atmospheric pressure to form magnesium hydride. Then add esters and metal salts, and finally synthesize a viscous gray paste, which is POWERPASTE.
  - The main function of this substance is to store hydrogen, which can store hydrogen at room temperature and pressure. And can react with water to release hydrogen. Its hydrogen storage capacity is quite strong, and the mass density of hydrogen storage is much higher than the 700Bar high-pressure gaseous hydrogen storage tank. Compared with lithium batteries, under the same quality, the hydrogen energy stored by POWERPASTE is equivalent to 10 times the energy density of current lithium batteries.
    https://www.linkedin.com/pulse/new-breakthroughs-solid-state-hydrogen-storage-ye-he/?trackingId=B4zwk%2B6%2BEuh9Cp%2BU6kkaEQ%3D%3D
- **Researchers have developed a catalyst to produce H2 while destroying wastewater compounds like medications**
  - A research team fused titanium dioxide and cobalt oxide to create this type of catalyst with dual reaction capability. This made it possible for the catalyst to break down common drugs found in wastewater instead of requiring the additives such as alcohol or sugar. As the reactions were separated by the fused conductors, it also remained efficient in electrolysing the water into H_2.
  - Though initial tests of the new green H_2 fuel production method suggested that the catalyst wouldn't produce much H_2. They gave the Green H_2 fuel production method prescription pillscatalyst a 1% weight boost with platinum nanoparticles. This substantially improved the function, though also made the catalyst quite expensive.
    https://www.hydrogenfuelnews.com/green-hydrogen-fuel-production-method/8543815/?mc_cid=bac6f8911e&mc_eid=70c1246d58
- **The Hydrogen Stream: Siemens targets $1.50/kg by 2025, BP and Saudi Aramco bet on blue hydrogen**
  - The German company expects to roll out its in-house proton exchange membrane (PEM) electrolysis technology to implement a gigawatt production of electrolyzers. BP partners with UK gas distributor Northern Gas Networks (NGN) to develop blue hydrogen and Saudi

Aramco teams up with Hyundai Heavy Industries to do the same. Italy's Snam wants to build hydrogen projects in the United Arab Emirates.
https://www.pv-magazine.com/2021/03/26/the-hydrogen-stream-siemens-targets-1-50-kg-by-2025-bp-and-saudi-aramco-bet-on-blue-hydrogen/

- **Op-ed: What's the verdict on ammonia as fuel or as hydrogen carrier?**
  - What is the better fuel – ammonia as a stand-alone fuel or hydrogen from cracked ammonia? At the moment, there is not a clear-cut answer to the question. Rather, the best fuel choice is a function of the intended use, quantity, and technology maturity of the fuel user.
    https://www.power-eng.com/gas/op-ed-whats-the-verdict-on-ammonia-as-fuel-or-as-hydrogen-carrier/
- **ACME Solar plans to invest $2.5 billion in Oman green ammonia unit**
  - Gurugram-based ACME will set up a large-scale facility for production of green hydrogen and green ammonia in Oman.
  - This will be in collaboration with the Oman Company for the Development of Special Economic Zone (SEZ) at Al-Duqm SAOC. The facility will be set up with an initial investment of $2.5 billion and will produce 2,200 tonnes of green ammonia a day.
    https://www.business-standard.com/article/companies/acme-solar-plans-to-invest-2-5-billion-in-oman-green-ammonia-unit-121032301509_1.html
- **Japan's Toyota speeds up fuel cell truck development**
  - Japanese auto producer Toyota is aiming to accelerate development of commercial fuel cell electric vehicles (FCEVs), particularly small-size commercial trucks, with a capital tie-up with domestic truck manufacturer Isuzu.
    https://www.argusmedia.com/en/news/2199213-japans-toyota-speeds-up-fuel-cell-truck-development

Palladium

- **US Auto Sales Expected To See Substantial Rise In March Despite Chip Shortage**
  - Retail sales of new vehicles are estimated to reach 1,288,100 units, a 70.7% increase compared with March 2020, and a 9.2% increase compared with March 2019, when adjusted for selling days, the consultancies said. On a sequential basis, that is compared to the previous month, the retail sales of new vehicles are expected to rise about 32%.
    https://finance.yahoo.com/news/us-auto-sales-expected-see-090108003.html
- **TrueCar Forecasts Total New Vehicle Sales Up 42% Year-Over-Year for March 2021 in First Year-Over-Year Compare Since Covid-19 Impact on Industry**
  - TrueCar forecasts total new vehicle sales will reach 1,460,820 units in March 2021, up 42% from a year ago and up 13% from February 2021, when adjusted for the same number of selling days. This month's seasonally adjusted annualized rate (SAAR) for total light vehicle sales is an estimated 16.4 million units. Excluding fleet sales, TrueCar expects U.S. retail deliveries of new cars and light trucks to be 1,260,416 units, an increase of 53% from a year ago and an increase of 10% from February 2021, when adjusted for the same number of selling days.
    https://markets.businessinsider.com/news/stocks/truecar-forecasts-total-new-vehicle-sales-up-42-year-over-year-for-march-2021-in-first-year-over-year-compare-since-covid-19-impact-on-industry-1030245825
- **Palladium market deficit to narrow significantly in 2020**
  - The global palladium market deficit is expected to "narrow significantly" this year, says Heraeus Precious Metals, one of the world's largest platinum group metals (PGM) refiners.
    https://www.mining.com/palladium-market-deficit-to-narrow-significantly-in-2020-report/

- **Atomize: Modernizing Investing In Commodities**
  - Get exposure to commodities, such as palladium and other metals (Pd, Pt Au, Ag, Ni, Cu, Li Battery Metals) in the form of digital assets that provide immediate settlement and title to the assets. The digital assets can be traded and transferred instantly. A simple, secure, and transparent way to invest in physical commodities.
  - Atomyze is building a platform using blockchain technology that will modernize the marketplace for commodities. Our solution will connect investors, financial services professionals, and commercial users of metals and other commodities.
    https://atomyze.us/about/

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

- **Ruthenium & Iridium: Scientists find a cheaper, greener way to produce hydrogen gas**
  - Researchers are particularly focused right now on catalysts that use platinum and iridium oxide to create hydrogen and oxygen, respectively, since those materials are commercially available.
  - But the new metal catalyst developed by this team of researchers uses an alloy made of ruthenium and iridium, so that both hydrogen and oxygen can be generated at the same time through accelerating chemical reactions.
  - The alloy comprises of microscopic crystal sheets measuring just 3 nanometers thick. One nanometer is one-millionth of a millimeter.
    http://www.asahi.com/ajw/articles/14269826
- **Iridium hits all-time high of $6,000/oz on supply issues, strong demand | S&P Global Platts**
  - Heraeus Precious Metals, one of the world's largest platinum group metals refiners, said in a research note that iridium demand is expected to be boosted further by the development of the 5G smartphone market, with premium products propping up demand for organic light-emitting diode (OLED) displays.
    https://www.spglobal.com/platts/en/market-insights/latest-news/metals/031921-iridium-hits-all-time-high-of-6000oz-on-supply-issues-strong-demand
- **Iridium, an ultra-rare metal, is surging ahead of Bitcoin this year**
  - Iridium has surged 131% since the start of January, far beating Bitcoin's 85% gain.
  - It has rallied on supply disruptions in the past year and rising demand for use in electronic screens, refiner Heraeus Group said. With a market much smaller than its more famous sister metals, production issues can have a big impact on prices. Betting on it is difficult too, as demand is dominated by industrial users.
    https://www.hindustantimes.com/business/iridium-an-ultra-rare-metal-is-surging-ahead-of-bitcoin-this-year-101616751505506.html

BEV / LiB Battery Market News

- **Chinese EV sales to soar 15-fold by 2035, WoodMac**
  - In research published Tuesday analysing China's car sales, Wood Mackenzie forecast the combination of new energy vehicles (NEV) – referring to battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), and fuel cell vehicles (FCEVs) – and hybrid electric vehicles (HEV) would rise by 15-fold by 2035, driven in large part by China's "Energy-saving and New Energy Vehicle Technology Roadmap 2.0", which aims to phase out conventional internal combustion engine (ICE) car sales by 2035.
    https://thedriven.io/2021/03/25/chinese-ev-sales-to-soar-15-fold-by-2035-woodmac/
- **Tesla Co-Founder's Battery Recycling Company Ties Up With E-Waste Firm ERI**

- Tesla co-founder JB Straubel's recycling startup Redwood Materials is partnering with North American electronic waste processing company ERI to recycle batteries and solar panels. https://www.msn.com/en-us/money/news/tesla-co-founders-battery-recycling-company-ties-up-with-e-waste-firm-eri/ar-BB1eZaSH?ocid=BingNewsSearch

- **Indonesian state companies set up EV battery developer**
  - Pertamina, PLN and two miners will hold stakes of 25% each in new venture https://asia.nikkei.com/Business/Automobiles/Indonesian-state-companies-set-up-EV-battery-developer.
- **Design could enable longer lasting, more powerful lithium batteries**
  - Use of a novel electrolyte could allow advanced metal electrodes and higher voltages, boosting capacity and cycle life. https://news.mit.edu/2021/lithium-metal-batteries-nickel-oxide-0325
- **California Senators Pushing Biden for a Nationwide End Date for Gas-Car Sales**
  - California's two US senators, Dianne Feinstein and Alex Padilla, both Democrats, have sent a letter to President Biden urging him to set a date for when gasoline-powered vehicles will no longer be sold in the US.
  - Last fall, California said that after 2035, no new gas-powered vehicles will be sold in the state. The senators asked Biden to follow California's lead. https://news.yahoo.com/california-senators-pushing-biden-nationwide-120000878.html
- **New battery recycling facility will recover precious metals**
  - New Tuas facility which opened yesterday capable of recycling 14 tonnes of lithium-ion batteries a day. Mr Steele said the hydrometallurgical process the company developed was a first for the region. Besides reducing the need for mining new precious metals, the battery recycling facility also reduces energy consumption in the battery production process. "Recycled metals - much of which are from smartphones and laptops - can be reused at a level that is five to 10 times more energy-efficient than metals smelted from virgin ore," said Mr Steele. https://www.tnp.sg/news/singapore/new-battery-recycling-facility-will-recover-precious-metals

Regards –