

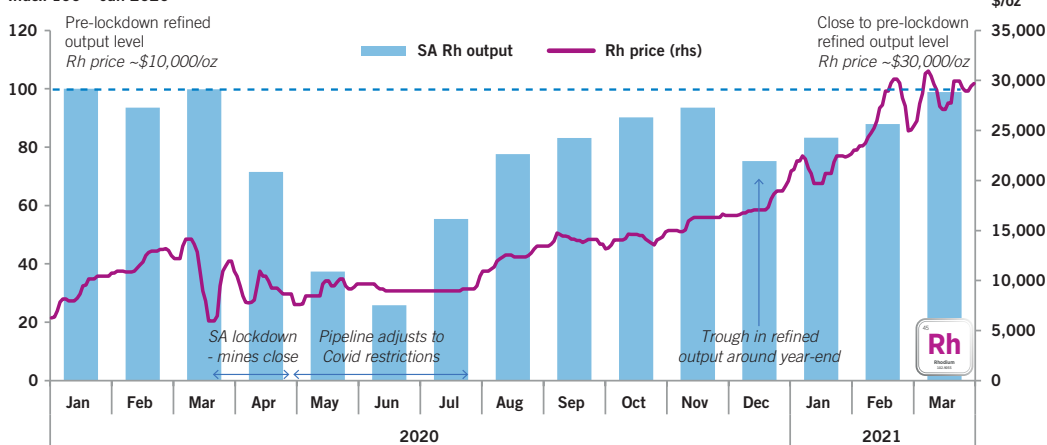


MARKET SPOTLIGHT

Output recovered but why are rhodium prices still so high?

Refined rhodium output from South Africa is close to pre-lockdown levels. Refined production was affected by mine closures and disruption to smelting operations last year. Once Covid restrictions were eased, platinum and palladium production returned to pre-pandemic levels relatively quickly, but rhodium has lagged. This reflects the high proportion of rhodium production derived from non-mechanised mines that were more affected by social distancing measures. Compounding the delay is rhodium's long metallurgical pipeline, meaning refined rhodium output is only now returning to pre-Covid levels despite mined ore tonnages recovering in Q4'20.

South African refined Rh production
Index 100 = Jan 2020



Source: SFA (Oxford), Bloomberg

The build-up of work-in-progress inventory in South Africa last year was around 1 moz of PGMs, including an estimated 60-70 koz of rhodium, which is expected to be drawn down over the next 18 months. **Importantly, this additional metal is likely to start arriving at a time when lower refined production is forecast from Russia (Q3'21), due to the concentrator and mine flooding issues currently restricting supply at Nornickel.**

As metal liquidity improves in H2'21, prices are predicted to ease. However, the rhodium market remains very tight and is forecast to be in a deficit of more than 50 koz this year. Looking forward, additional yield from the restart of Sibanye-Stillwater's K4 shaft and the Impala Platinum & African Rainbow Minerals' Two Rivers JV project is estimated to account for around 20 koz of rhodium at steady state, which is on track to reach the market within a couple of years. Other rhodium-rich projects, including Anglo American Platinum's Der Brochen & Mogalakwena and Impala's Zimplats, are also in the final stages of approval and will collectively account for a further 45-50 koz. However, with automotive demand rising comfortably year-on-year in the near term (driven by tightening emissions legislation and vehicle production recovery), the base case outlook sees the rhodium market remaining in deficit despite additional supply. On this basis, there is potential for price retracement as liquidity improves, **but a fundamentally imbalanced market is expected to keep prices at >\$10,000/oz.**



PRECIOUS METALS REVIEW

79 Au Gold

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,779	1.95%	1,784	16/04/2021	1,724	13/04/2021
€/oz	1,485	1.25%	1,489	16/04/2021	1,448	14/04/2021

Gold demand is rebounding in China. Gold withdrawals from the Shanghai Gold Exchange in March were more than double the volume reported in the same period last year. While not a completely fair like-for-like comparison as China was still under a partial lockdown for a period of time last March, the 2021 figure is a reassuring sign that demand is improving. Withdrawals totalled 168 tonnes last month, +104% year-on-year but -23% compared to 2019. However, if consumption continues to improve

throughout 2021 then SGE gold demand may come close to the full-year figure of 2019 (1,642 tonnes). Another indicator of recovery in the world's largest gold market is the local gold price, which has been consistently trading at a premium to the international spot price (US\$) since mid-February (compared to a discount for most of 2020). A weaker dollar and falling bond yields helped gold rally for a second week.

47 Ag Silver

	Close	Weekly change	High	Date	Low	Date
\$/oz	26.05	3.19%	26.30	16/04/2021	24.69	13/04/2021
€/oz	21.75	2.50%	21.95	16/04/2021	20.75	13/04/2021

Global silver ETF holdings have been moving higher and a considerable amount is stored in London. As of the end of March 2021, there was a record stock of silver held in London vaults. Holdings totalled 1,249 moz, +11% from the previous month (source: LBMA). London is a historical centre of silver trading and has always been an important location for storing physical silver for ETFs, and

its share has grown over the past year. Of the total 1,249 moz held in London vaults in March, ETFs accounted for 58%, compared to 35% at the end of 2019. ETF demand is expected to remain robust as the price remains supported by industrial end-users and a global economic recovery. The silver price ended the week higher and should continue to outperform gold.

78 Pt Platinum

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,206	0.10%	1,212	16/04/2021	1,156	13/04/2021
€/oz	1,007	-0.60%	1,012	16/04/2021	968	13/04/2021

The platinum market is well supplied, but prospects of improving fundamentals could support prices in the near term. The industrial surplus is set to remain in excess of 1 moz this year, but growing demand from the substitution of palladium in gasoline catalysts (mainly in the US and China) indicates a narrowing industrial surplus market over the next few years. However, the risk of oversupply remains. Incentivised by a high basket price and a structural deficit in the rhodium market, new projects and mine expansions are very attractive to producers, and several key projects have already been

given the green light. Significant additional volumes of platinum entering the market risks keeping the market in an industrial surplus for longer. Including coins and bars and 500 koz in ETF holdings, total investment demand last year was over 900 koz and absorbed most of the industrial surplus. In the year-to-date, platinum ETF activity has been relatively flat. Record investment demand will be needed in the remainder of the year to balance the market in 2021. The platinum price peaked in February after a strong rally and further sideways price action is expected in the near term.



PRECIOUS METALS REVIEW

⁴⁶ Pd **Palladium**

	Close	Weekly change	High	Date	Low	Date
\$/oz	2,767	4.90%	2,788	16/04/2021	2,619	12/04/2021
€/oz	2,310	4.21%	2,326	16/04/2021	2,200	12/04/2021

Nornickel has resumed operation at its Oktyabrsky mine ahead of schedule (by roughly two weeks) after successfully stopping water inflow. The mine, accounting for 5.0 million tonnes per annum (mtpa) of ore, is now expected to resume full production by the end of April and is currently operating at 60% of the target level. Taimyrsky mine (4.3 mtpa) is on track for restart in early June. The disseminated ore processing circuit (approximately 5.3 mtpa throughput), which was idled after the collapse of the ore reloading facility in February, will gradually restore operations and is expected to return to full capacity by October 2021. The Norilsk

concentrator is currently undergoing inspection and Nornickel will announce an updated metal output guidance for 2021 once ramp-up plans have been finalised. Nornickel estimates that the combined impact of the mine flooding and concentrator incident could remove an estimated 22 tonnes (approximately 710 koz) PGMs from production this year. Under the influence of recovering auto demand and potential drop in supply from Nornickel, palladium made a record closing price high last week. With some production curtailed, the price is likely to remain elevated.

⁴⁵ Rh ⁴⁴ Ru ⁷⁷ Ir **Rhodium, Ruthenium, Iridium**

	Rhodium	Ruthenium	Iridium
Reporting week	\$30,200/oz	\$465/oz	\$6,750/oz
Previous week	\$29,250/oz	\$455/oz	\$6,450/oz

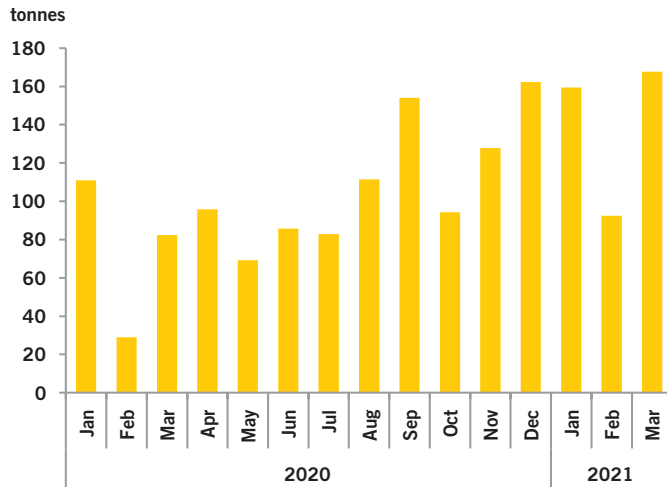
High iridium prices are motivating preliminary research into its substitution in hydrogen applications. For example, a team of scientists from Kyoto University has developed a new catalyst using an alloy of iridium and ruthenium. Ruthenium accounts for 94% of the novel catalyst's composition, so the total cost is reduced to a fraction of the cost of using the existing combination of platinum and iridium. Ruthenium is currently trading close to one-third of the cost of platinum and is nearly 15 times cheaper than iridium. Proton exchange membrane

electrolysis (PEM EL) is one of the best technologies for the mass production of green hydrogen and currently uses platinum- and iridium-coated electrodes. While it is early days, the team has already reportedly started talks with a company to put the catalyst into practical use. The iridium price has rallied 285% over the last four months and moved higher again last week to another record high (+4.6%). Ruthenium and rhodium also moved higher, by 2.2% and 3.2% respectively.



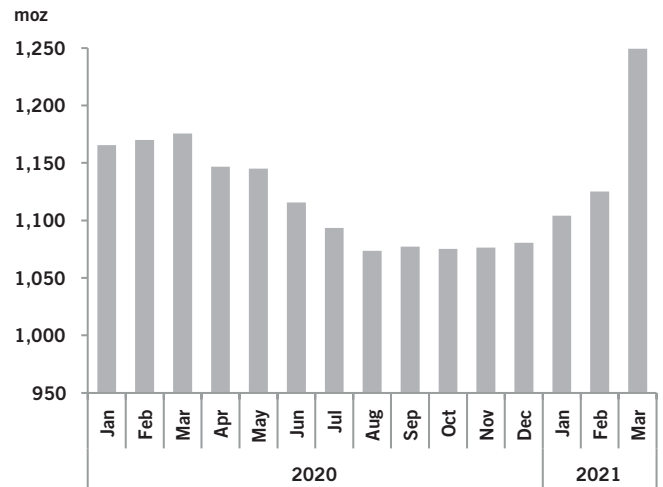
TRENDS AND INVESTMENTS

SGE gold withdrawals



Source: Shanghai Gold Exchange

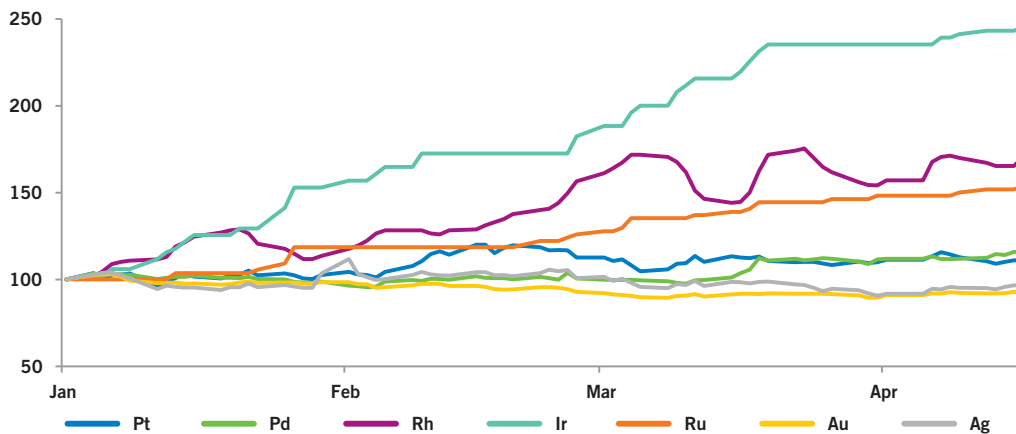
London silver stocks



Source: LBMA

Metal price performance YTD

Indexed to 100 = 1 Jan 2021



Source: SFA (Oxford), Bloomberg

Heraeus Precious Metals

Europe, Middle East, Africa & other regions

Phone: +49 6181 35 2750
edelmetallhandel@heraeus.com

South East Asia

Phone: +852 2773 1733
tradinghk@heraeus.com

www.herae.us/trading-market-report

United States of America

Phone: +1 212 752 2180
tradingny@heraeus.com

China

Phone: +86 21 3357 5658
tradingsh@heraeus.com

The HERAEUS PRECIOUS APPRAISAL produced in collaboration with:

SFA (Oxford) Ltd

United Kingdom
Phone: +44 1865 784366
www.sfa-oxford.com



The Oxford Science Park, Oxford,
United Kingdom, OX4 4GA

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