



MARKET SPOTLIGHT

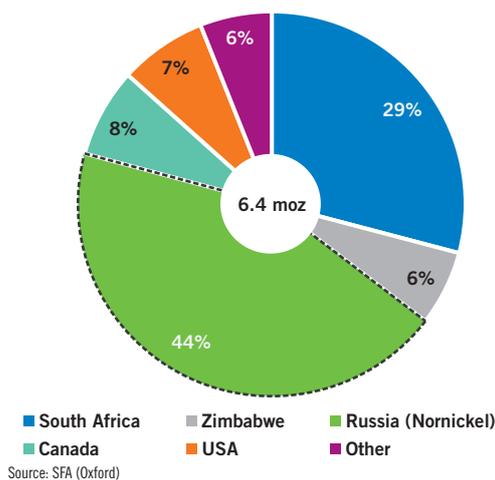
Nornickel's mining setbacks cause palladium prices to surge

The temporary closure of two of Nornickel's mines is expected to significantly impact palladium supply this year. At the end of February, Nornickel suspended operations at Oktyabrsky and Taimyrsky mines due to flooding from natural groundwater. Combined, the two mines account for ~62% of Nornickel's palladium output, with an estimated yield of around 1.76 moz of palladium. Nornickel is the single largest producer of palladium in the world, accounting for 2.83 moz last year, approximately 44% of global primary supply.

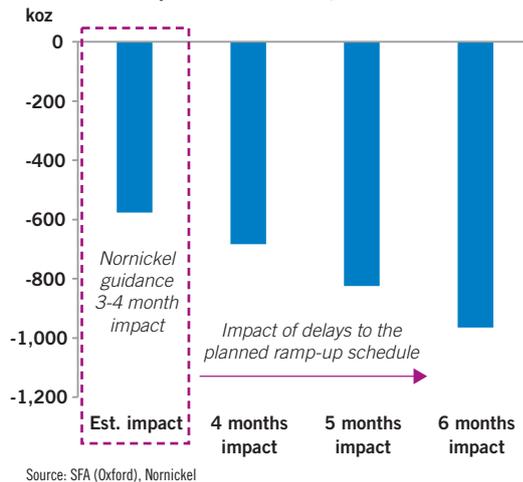
The impact on refined output is likely to manifest later in the year, not immediately, owing to the long processing time from mining to refined metal. Nornickel is planning to restore full capacity of its flooded Oktyabrsky and Taimyrsky mines within the next 3-4 months, although any delay to a return to normal mining rates could impact refined production.

Furthermore, the Norilsk concentrator is currently operating under temporary restrictions following the collapse of a walkway at the ore reloading facility during repairs in February. One circuit has resumed operation, while the other is scheduled for completion by mid-April. The combination of mine closures and concentrator restrictions has reduced Nornickel's 2021 PGM production guidance by 710 koz, including an estimated ~575 koz of palladium.

Pd mine supply 2020



Nornickel Pd production losses, 2021



Reduced mining output could be offset by a drawdown of inventory or from Nornickel's palladium fund which holds a strategic stockpile of metal. There are additional stocks elsewhere, with an estimated excess of 2.3 moz of palladium held in ETFs and Swiss vaults. Palladium recycling is also forecast to jump by 15% this year to ~2.7 moz. The impact of Nornickel's supply disruption on the market may be only temporary, as work-in-progress inventory from South Africa (~400 koz Pd) that built up last year is beginning to be processed. At present, the palladium market is relatively liquid; lease rates have remained low since July 2020 and moved only marginally higher on Nornickel's announcement last week.

However, the issues at Nornickel are expected to push the palladium market into a wider deficit this year which, combined with strong demand from tightening emissions standards, could keep prices elevated. A reduction of ~575 koz (base case scenario) is estimated to more than double the deficit for 2021, to almost 1 moz.



PRECIOUS METALS REVIEW

79 Au Gold

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,742	1.41%	1,756	18/03/2021	1,719	18/03/2021
€/oz	1,463	1.80%	1,466	18/03/2021	1,443	18/03/2021

A 'V'-shaped recovery for Indian gold demand? India Ratings and Research estimates demand for gold jewellery will increase by 30-35% year-on-year in FY2022 (year beginning 1 April 2021), and has revised its outlook for the country's jewellery sector to stable, from stable-to-negative. This is owing to rising demand and improving consumer sentiment with the roll-out of the Covid-19 vaccine, on the back of a strong recovery in Q3 FY2021 from festive demand and pent-up wedding demand. Local gold prices have also fallen by ~20% from the peak in August 2020 due to a combination of a lower spot gold price, the reduction in import duty and an appreciating rupee, which is incentivising purchases. Official Indian imports hit a 21-month high of 91 tonnes last month, as

jewellery manufacturers and retailers took the opportunity to restock when the price corrected. The Indian gold jewellery market is the second-largest in the world, accounting for 315.9 tonnes in CY2020 (source: World Gold Council).

The Federal Reserve made no change to its monetary policy (as expected) but did raise its GDP forecast and inflation outlook. Rising long-term yields are entirely normal for this stage in the recovery but are a headwind for gold as there has been a strong negative correlation between bond yields and the gold price. However, if inflation expectations continue to rise, that could prove supportive for the gold price.

47 Ag Silver

	Close	Weekly change	High	Date	Low	Date
\$/oz	26.25	1.97%	26.64	18/03/2021	25.76	17/03/2021
€/oz	22.05	2.39%	22.25	18/03/2021	21.65	17/03/2021

Silver supported as China's industrial production surges. China's industrial production grew more than anticipated during January and February, raising expectations of increased demand for industrial metals, including silver. Industrial production rose by 35.1% year-on-year (source: National Bureau of Statistics of China), highlighting the country's recovery from the pandemic, although this was largely a result of the low base from 2020. Industrial applications are the largest demand sector for silver (~466.5 moz last year) and China is the largest industrial

end-user, accounting for ~24% of global demand (source: The Silver Institute). The main industrial uses for silver are photovoltaics, electrical and electronics and brazing alloys & solders, among others. Global industrial demand is forecast to reach a four-year high of 510 moz this year, +9% year-on-year (source: The Silver Institute). The silver price has held its ground relative to gold, and at 66 the gold:silver ratio is close to its long-term average. If the price rallies further then silver is expected to outperform.

78 Pt Platinum

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,199	0.03%	1,238	16/03/2021	1,171	19/03/2021
€/oz	1,007	0.40%	1,035	16/03/2021	987	19/03/2021

Russian supply disruption has little impact on the platinum market. Nornickel has reduced its 2021 PGM production guidance by 710 koz, including an estimated ~130 koz of platinum, owing to a combination of mine closures and concentrator restrictions. Despite the downward revision to production, the platinum market (excluding investment) is predicted to remain in surplus

this year, and availability of metal is good. Russia accounted for roughly 14% of global platinum mine supply last year, at 705 koz. Platinum looks fully valued at around \$1,200/oz but also seems unlikely to head back below \$1,000/oz, so the average price this year should be significantly higher than last year.



PRECIOUS METALS REVIEW

⁴⁶ Pd **Palladium**

	Close	Weekly change	High	Date	Low	Date
\$/oz	2,642	11.11%	2,754	18/03/2021	2,353	15/03/2021
€/oz	2,217	11.55%	2,310	18/03/2021	1,974	15/03/2021

China is set to lead the recovery of car sales worldwide in 2021, boosting palladium demand and with limited impact from the growing EV market. The combined effect of increasing gasoline vehicle sales and the higher PGM loadings required to meet China 6 legislation is expected to continue driving autocatalyst palladium demand year-on-year in the medium term. Chinese vehicle sales are forecast to rise this year for the first time since 2017, to 27.2 million units (source: CAAM). Increasing support from the Chinese government is likely to drive growth in the country's new energy vehicle (NEV) market this year. However, while Government incentives such as extending

subsidies on NEV purchases and adding more charging facilities should boost uptake in some regions, gasoline is still predicted to remain the powertrain of choice across the country. China's demand for palladium in autocatalysts was 2.4 moz last year (+7% year-on-year) and is forecast to continue growing at an average rate of ~12.5% over the next few years.

The palladium price surged to a 13-month high last week, as the initial extent of disruption to Nornickel supply was announced, before pulling back slightly.

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

	Rhodium	Ruthenium	Iridium
Reporting week	\$30,700/oz	\$435/oz	\$6,600/oz
Previous week	\$25,050/oz	\$420/oz	\$6,100/oz

Already in significant deficit, the rhodium market is expected to be squeezed even tighter this year owing to supply disruption at Nornickel, and prices are likely to remain volatile. Although not rich in rhodium, Nornickel is still a significant producer, accounting for ~12% of global supply in 2020, and the impact of lost ounces will be magnified owing to the tightness of the market. After consolidating, the rhodium price followed palladium higher last week, exceeding \$30,000/oz and reaching another record high. Iridium and ruthenium continued their upward price movement as well, gaining 8.1% and 3.5% respectively.

Additional production could help alleviate market tightness. Northam Platinum is in the process of ramping up production and refined rhodium output has lagged mine production. In the six months to December 2020 mine production of rhodium totalled 33.7 koz (+22.5% year-on-year) plus 2.3 koz from third parties (-6.1% year-on-year). However, sales of 20.3 koz of refined metal leaves ~16 koz of rhodium in process. Northam is aiming to produce 685 koz 4E (platinum, palladium, rhodium and gold) in the current financial year to June 2021 and is aiming to reach 1 moz 4E over the next five years. Similarly, production of iridium and ruthenium is also trending higher.



TRENDS AND INVESTMENTS

Indian gold price



Source: SFA (Oxford), Bloomberg

China industrial production



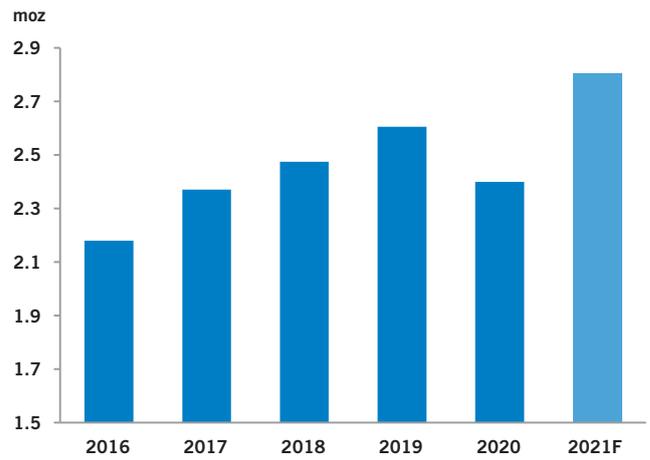
Source: SFA (Oxford), National Bureau of Statistics of China

Palladium price



Source: SFA (Oxford), Heraeus

Palladium recycling volumes



Source: SFA (Oxford)

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