



MARKET SPOTLIGHT

Is the rhodium price past its peak?

The rhodium price has fallen by a third over the last two months, down from a record \$30,950/oz to near \$20,000/oz. The price has been on an upward trajectory since its low point in 2016, as demand has risen and the market has tightened owing to greater light-vehicle production and stricter emissions legislation that has been introduced in China, the US and Europe. A confluence of supply problems and recovering demand in a market that was already in deficit resulted in record prices earlier this year. The extreme supply problems have been overcome so the price is unlikely to return to record highs.

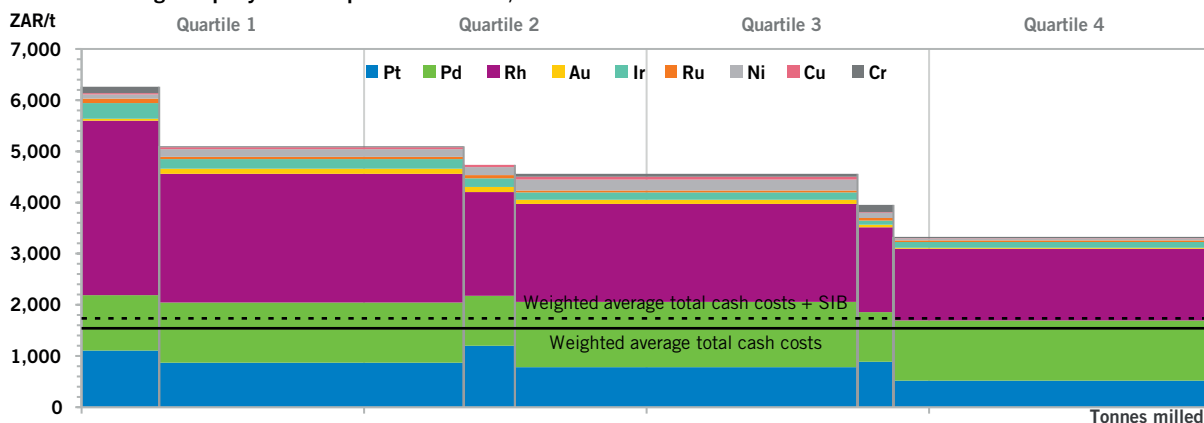
Rhodium is the market with clear demand growth compared to pre-pandemic levels. Global demand this year is forecast to be 1,185 koz, 2.6% higher than in 2019 owing to a combination of the recovery in light-vehicle sales, despite the semiconductor shortages, and higher loadings. Demand is set to expand further next year as constraints on car production are overcome.

koz	Platinum		Palladium		Rhodium	
	Refined production	Gross demand	Refined production	Gross demand	Refined production	Gross demand
2019	6,105	6,905	7,180	8,405	790	1,155
2021	6,100	6,960	6,740	8,480	775	1,185
% change	-0.1%	+0.8%	-6.1%*	+0.9%	-1.9%*	+2.6%

Source: SFA (Oxford). Note: *Reduction owing to lost Norinickel production.

The high rhodium price is an incentive to increase production. Supply should rise next year as Norinickel's output recovers and stock is processed in South Africa. South African producers are making good margins and this is predominantly owing to rhodium. Even rhodium prices substantially lower than the peak could incentivise more production. However, bringing on additional production requires time and investment.

SA PGM mining company revenue per tonne milled, CY2021



Source: SFA (Oxford)

Historically high prices look likely to persist for some time for rhodium as the market is forecast to remain in deficit next year. Some combination of additional supply and thrifting or substitution in end-uses will ultimately be needed to bring the market back to balance but options for both are limited in the short term. The glass industry has already reduced the amount of rhodium it uses and any changes to autocatalyst formulations would require a couple of years for the R&D, testing and certification before being used on vehicles.



PRECIOUS METALS REVIEW

79 Au Gold

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,803	-0.55%	1,825	20/07/2021	1,790	23/07/2021
€/oz	1,533	-0.13%	1,551	20/07/2021	1,519	22/07/2021

India's official gold imports remained well below the long-term average last month at 15.8 tonnes. This was a 45% increase year-on-year but significantly less than the 41.8 tonne average recorded for June over the past five years (source: World Gold Council). Retail demand improved modestly last month, as the daily number of coronavirus cases continues to fall and lockdown restrictions ease. Pent-up wedding demand and a correction in the gold price mid-June led to an uptick in gold jewellery purchasing, which is likely to have continued through the first half of July. However, with no

further favourable wedding dates and the onset of Aadi month, demand in the second half of July is expected to be subdued. Aadi month (17 July-16 August) is considered an inauspicious period for gold purchases in the Tamil Nadu region. India is the second-largest consumer gold market in the world, accounting for 446.4 tonnes of gold last year and 690.4 tonnes in 2019 (source: World Gold Council). Dollar strength could hold back gold in the near term, but the outlook remains positive in the medium term.

47 Ag Silver

	Close	Weekly change	High	Date	Low	Date
\$/oz	25.21	-1.89%	25.48	23/07/2021	24.76	21/07/2021
€/oz	21.43	-1.49%	21.63	22/07/2021	21.03	21/07/2021

The gold:silver ratio has risen back to over 71, the highest level since January, as silver continues to underperform gold. Silver suffered more than gold last week as precious metals recorded a sharp sell-off with the pullback in global stocks at the start of the week, fuelled by renewed concern around the economic impact of the global spread

of the highly transmissible Delta strain of Covid-19. This is despite silver's precious status, and its outlook could be tarnished by industrial demand which tends to be negatively impacted by a weak or uncertain economic environment. Near term, a stronger dollar could also hold back silver but ultimately it should follow gold higher.

78 Pt Platinum

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,061	-4.32%	1,102	23/07/2021	1,046	23/07/2021
€/oz	902	-3.97%	935	23/07/2021	890	23/07/2021

Anglo American Platinum's (AAP) refined production guidance for 2021 has been tightened, with lower guidance increasing from 4.6 moz to 4.8 moz PGMs, as the Anglo Converter Plant (ACP) Phase A unit performs ahead of plan (upper guidance remains at 5.0 moz). The Phase B unit rebuild is also on track for completion in the second half of the year and is expected to be recommissioned into production in Q1'22 when the Phase A unit is scheduled for maintenance. In H1'21, refined platinum production from AAP's own operations was 1.08 moz, a 170% increase compared to the same period last year, when mine production in South Africa was negatively impacted by a national lockdown. Platinum accounts for close to 50% of AAP's annual PGM supply.

An estimated 1.1 moz of PGMs was locked up in process during 2020 owing to ACP issues, which was the difference between refined production (2.7 moz) and metal-in-concentrate production (3.8 moz) last year. AAP refined ~250 koz of PGMs more than it produced at the concentrator during H1'21, meaning around 850 koz of PGMs remain as work-in-process (WIP) stock. Given AAP's full-year guidance, a further ~350 koz of PGMs is estimated to be refined in excess of concentrate production in H2'21, leaving a further 500 koz of PGMs to be processed next year. As anticipated, platinum lease rates have eased, and the price is not expected to have much upside from current levels.



PRECIOUS METALS REVIEW

⁴⁶ Pd **Palladium**

	Close	Weekly change	High	Date	Low	Date
\$/oz	2,681	1.88%	2,740	23/07/2021	2,570	20/07/2021
€/oz	2,275	2.07%	2,327	23/07/2021	2,187	20/07/2021

Nornickel's palladium output records year-on-year growth in H1'21 despite operational setbacks. Palladium output from the world's largest producer increased by 3% in H1'21 to 1,314 koz, compared to the same period last year, despite production losses owing to the temporary suspension of mining operations at its Oktyabrsky and Taimyrsky mines during Q2 when groundwater inflow was detected. The high base effect of Q1, when a new line for production of precious metals at Kola MMC was ramped up, compensated for the losses of Q2. The water inflow to the mines was stopped in late March and Oktyabrsky mine resumed full production in mid-May, but the recovery at Taimyrsky mine has been delayed.

Mining resumed at Taimyrsky at the beginning of June and was planned to reach full production by the end of that month, but Nornickel now expects the mine to reach full capacity in November this year. Taimyrsky is currently at 80% capacity. Despite this additional setback, Nornickel's production guidance for 2021 is unchanged at 2,350-2,410 koz of palladium. The Group has previously noted that it intends to supply metal to the market with no disruption this year, by utilising refined metal inventory and WIP material. **That said, the lowest refined volume of palladium is expected during Q3'21, so the price could remain volatile.**

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

	Rhodium	Ruthenium	Iridium
Reporting week	\$20,050/oz	\$795/oz	\$5,950/oz
Previous week	\$20,750/oz	\$795/oz	\$6,150/oz

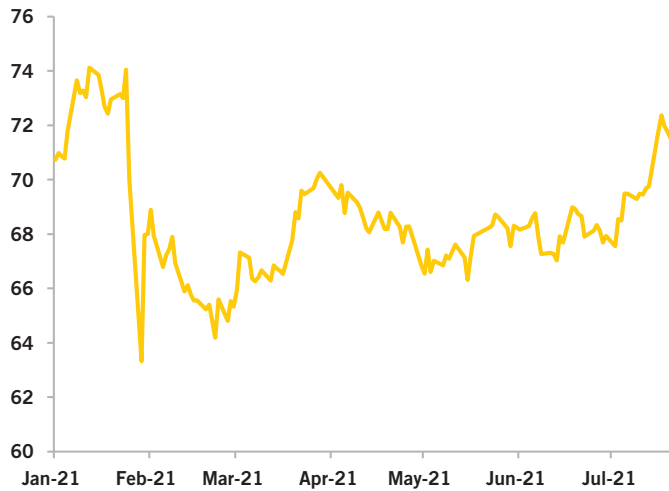
Refined rhodium production from AAP recorded a 102% increase in H1'21 at 157.3 koz, compared to the same period last year, following the rebuild and recommissioning of the ACP Phase A unit which is performing ahead of plan. The processing of WIP stock is also boosting refined metal volumes this year. For the small PGMs (+ gold), refined production grew by 74% year-on-year to 341.4 koz in H1'21. The high prices of rhodium, iridium and ruthenium helped to lift the South

African PGM producer revenues to record levels during the first half of the year, particularly for those mining rhodium-rich orebodies such as UG2. With prices still at historically high levels, the opportunity for producers to explore potential expansions or extensions is ripe. The rhodium price edged lower last week but held around \$20,000/oz. Iridium slipped by \$200/oz to \$5,950/oz, whereas ruthenium held steady.



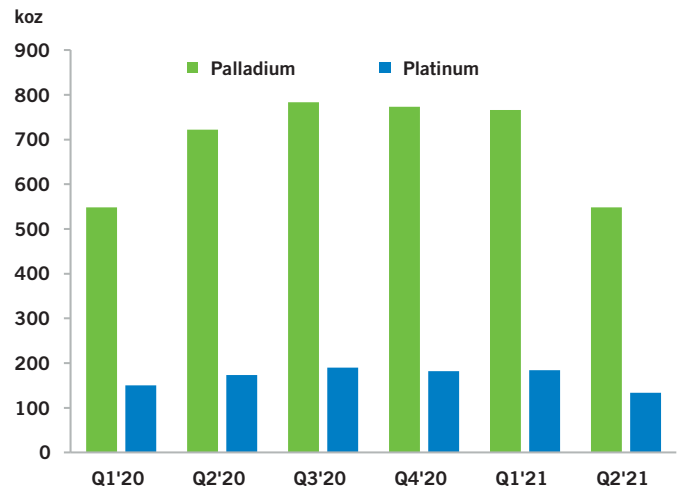
TRENDS AND INVESTMENTS

Gold:silver ratio



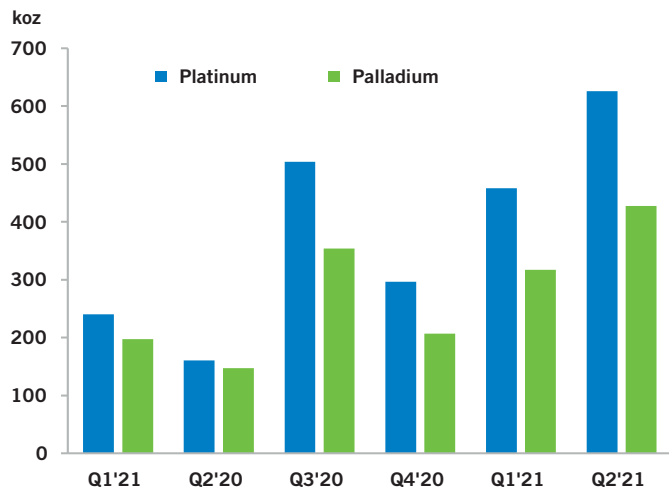
Source: SFA (Oxford), Heraeus

Nornickel PGM production

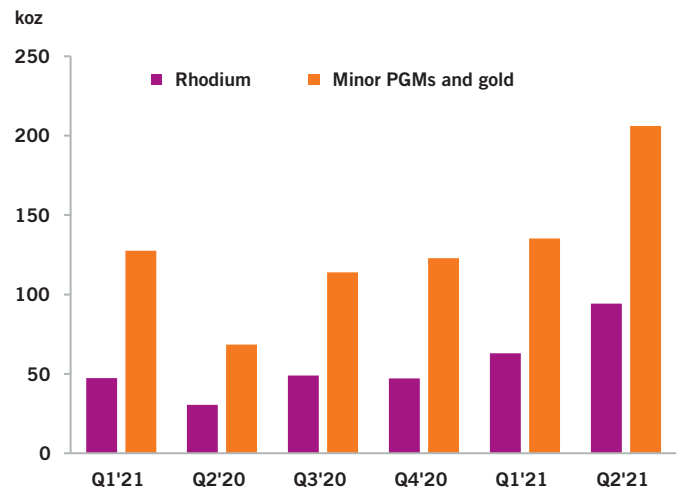


Source: Nornickel

Anglo American Platinum refined PGM production



Source: Anglo American Platinum. Note: volumes refer to own operations.



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