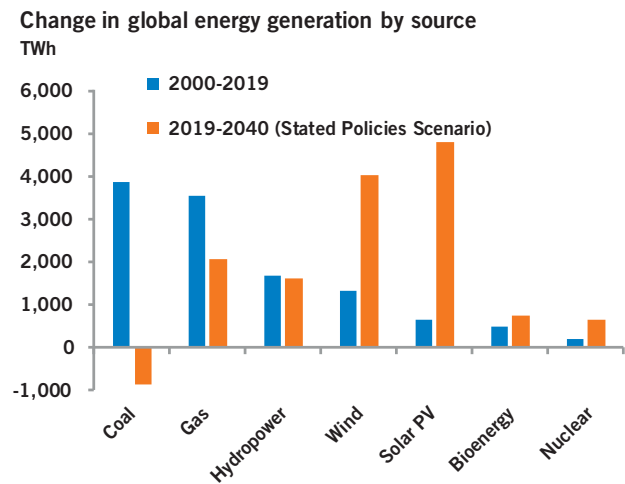
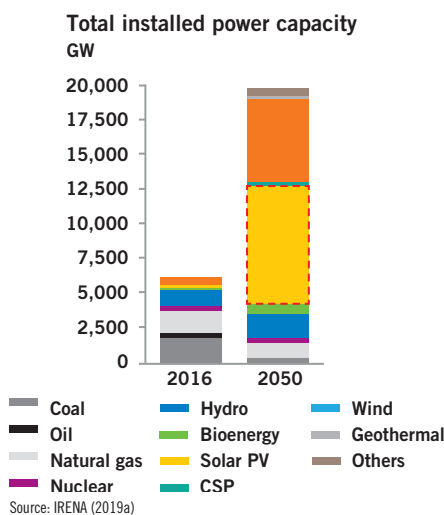


## MARKET SPOTLIGHT

### Will a solar-led renewable energy surge be the pandemic's silver lining?

**Silver stands to benefit from the global renewable energy drive in the wake of Covid-19, owing to its use in solar photovoltaic (PV) cells.** Solar energy is expected to lead the growth of renewable energy over the next decade, with PV installations increasing by an average of 13% a year and meeting almost one-third of electricity demand growth out to 2030 (source: IEA). Under the International Energy Agency's Stated Policies Scenario, global solar PV deployment is forecast to return to pre-pandemic levels by 2021 and continue to grow each year after that, owing to widely available resources, declining costs and policy support.

**Solar PV accounts for 10% of total silver demand, consuming 98.7 moz last year** (source: The Silver Institute). However, consumption of silver in energy technologies, which includes solar PV, concentrated solar and nuclear, could grow by more than 50% of current demand by 2050, the largest proportion for any non-battery metal. More than 95% of this growth is due to a rapid expansion of solar PV (source: World Bank).



**Thrifting could see silver demand rise slower than PV installation growth.** Ongoing innovation is likely to continue reducing the silver content of solar cells, halving from 111 mg/cell in 2019 to around 50 mg/cell by 2030 (source: Fraunhofer Institute). However, silver is difficult to replace entirely and there is a limit to how much can be thrifted before efficiency losses outweigh cost benefits. A high silver price is a key driver of thrifting in solar cells; when the price doubled between 2009 and 2011, silver loadings almost halved. In 2020, the silver price has already rallied more than 50% year-to-date, including a 142% gain from the low in March to the high in August. This is likely to accelerate the rate at which thrifting will take place this year and moving into 2021.

**The transition towards a 'greener' future brings considerable upside for the silver market over the longer term,** and solar PV is expected to remain a critical source of the metal's industrial demand. While thrifting remains an ever-present concern, silver's unique electroconductive properties are not readily overcome, which mitigates some of the risk.



# PRECIOUS METALS REVIEW

## 79 Au Gold

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,899	-0.13%	1,931	21/10/2020	1,894	23/10/2020
€/oz	1,603	-1.21%	1,632	19/10/2020	1,601	23/10/2020

**A Golden Week for gold jewellery in China.** Jewellery sales increased by 25% during the eight-day Golden Week public holiday at the beginning of October, compared to the same period last year (source: China's Ministry of Commerce). Typically, wealthy Chinese customers travel to Europe during the holiday to buy jewellery and luxury goods. However, it seems the domestic market has benefitted from global travel restrictions imposed because of the Covid-19 pandemic this year. In September, gold, silver and other jewellery sales rebounded 13.7% year-

on-year. Between January and September, sales were still down 12.5% compared to 2019 (source: National Bureau of Statistics of China), but this decline has been narrowing since July and sales are expected to continue rising throughout Q4. The outlook has improved for the Chinese jewellery market, and while demand is still likely to be lower year-on-year (638 tonnes in 2019), it is on track to be one of the best-performing regions. Gold is still stuck in a trading range and US bond yields have been rising which is a headwind.

## 47 Ag Silver

	Close	Weekly change	High	Date	Low	Date
\$/oz	24.56	1.33%	25.29	21/10/2020	24.21	19/10/2020
€/oz	20.75	0.26%	21.29	21/10/2020	20.58	19/10/2020

**Silver is still waiting for some stimulus.** While uncertainty remains surrounding the exact timing and extent of government stimulus measures in the US, it is now only a matter of time with the election less than two weeks

away. As the markets become more optimistic that a fiscal support package will be passed after the election, the US dollar is expected to weaken, which is supportive for the silver price.

## 78 Pt Platinum

	Close	Weekly change	High	Date	Low	Date
\$/oz	913	4.52%	920	23/10/2020	854	19/10/2020
€/oz	771	3.43%	778	23/10/2020	726	19/10/2020

**Anglo converter problems hit refined platinum output in 2020.** Anglo American Platinum (AAP) has reduced its refined production guidance for 2020 to the lower end of 3.1-3.3 moz PGMs (previously 3.1-3.6 moz), including 1.4-1.5 moz of platinum. Refined production continues to be impacted by water leaks at the Anglo Converter Plant (ACP) Phase B unit. The Phase B unit was out of action for an estimated 20 days during Q3'20, leading to a slight increase in work-in-progress inventory. Repair work to the Phase A unit is ongoing and is estimated to be completed by the end of the year. As a result, it is

unlikely that AAP will process any excess inventory this calendar year, and metal will enter the market in 2021 instead. In contrast, guidance for metal-in-concentrate delivered to smelters for 2020 has been increased to 3.6-3.8 moz PGMs (previously 3.1-3.6 moz), including 1.7-1.8 moz of platinum, owing to strong performance at AAP own-managed mines. At the end of Q3'20, the company's mines were operating at 94% of their normal levels. The platinum price regained \$900/oz last week but as it is fundamentally the weakest PGM, the price could slip lower.



# PRECIOUS METALS REVIEW

## <sup>46</sup>Pd Palladium

	Close	Weekly change	High	Date	Low	Date
\$/oz	2,382	1.80%	2,418	21/10/2020	2,334	19/10/2020
€/oz	2,009	0.62%	2,040	21/10/2020	1,982	19/10/2020

**Nornickel's Q3 palladium output increased 8% quarter-on-quarter to 783 koz.** The increase was largely a result of the scheduled ramp-up of new leaching technology at the Kola nickel refinery. In the first nine months of the year, palladium output amounted to 2,053 koz (-9% year-on-year). This decline was caused by the high base effect of the same period in 2019 when a large volume of work-in-progress inventory was processed. Nornickel is on track to meet its guidance for FY'20, including 2,646-2,777 koz of palladium. Russia's market share of palladium output

is set to grow to 43% this year (up from 39% in 2019) owing to the significant disruption to supply from South Africa due to Covid-related shutdowns. Global primary palladium supply is estimated to decline by 11% (~800 koz) this year, but is forecast to rebound strongly in 2021, boosted by Nornickel's output rising following the completion of maintenance work to processing operations. The palladium price remains very high but is expected to ease as South African output improves.

## <sup>45</sup>Rh <sup>44</sup>Ru <sup>77</sup>Ir Rhodium, Ruthenium, Iridium

	Rhodium	Ruthenium	Iridium
Reporting week	\$14,600/oz	\$295/oz	\$1,650/oz
Previous week	\$14,050/oz	\$295/oz	\$1,650/oz

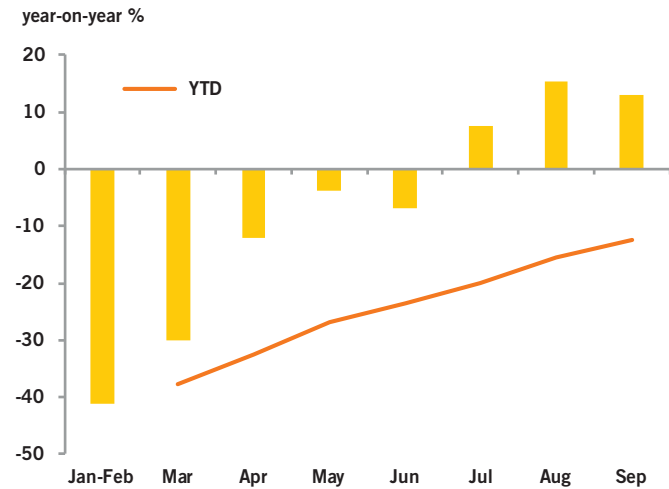
**Russian supply growth cannot offset South Africa's rhodium depletion.** Despite significant growth plans for the next few years, Nornickel will be unable to plug the widening rhodium market deficit as it does not have a rhodium-rich orebody. South Africa represents more than 80% of the world's primary rhodium supply, so reserve depletion of rhodium-rich mines in South Africa has a significant impact on global production. There is potential that record prices could incentivise

restarts of rhodium-rich UG2 mothballed mines and brownfield projects. However, at the cost of adding more platinum ounces to an already oversupplied market as a consequence, no PGM producer has yet to commit to a restart. During the week, the rhodium price climbed back within \$100/oz of the record high set in September (\$14,750/oz) and closed the week up 4%. Iridium and ruthenium held steady for another week.



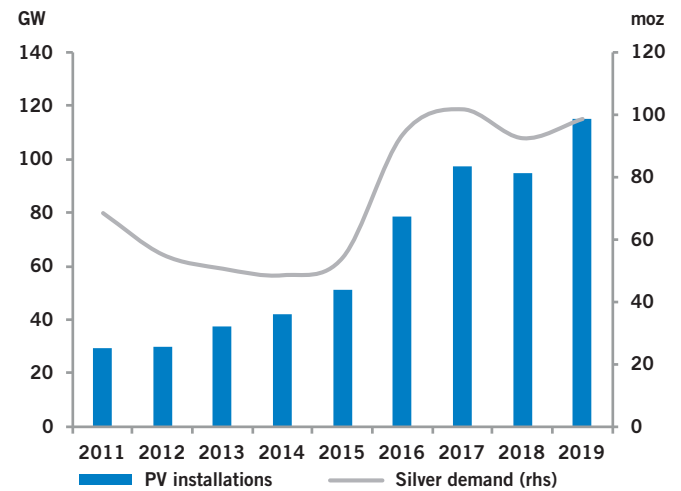
# TRENDS AND INVESTMENTS

## China jewellery sales 2020



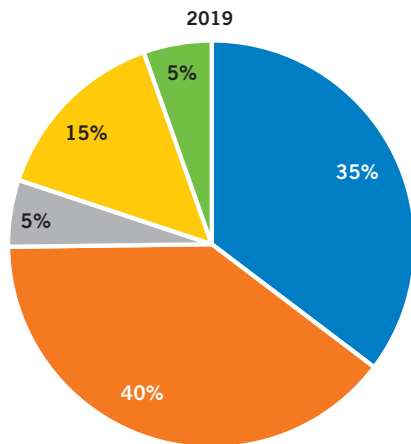
Source: SFA (Oxford), National Bureau of Statistics of China

## Photovoltaic silver thrifting



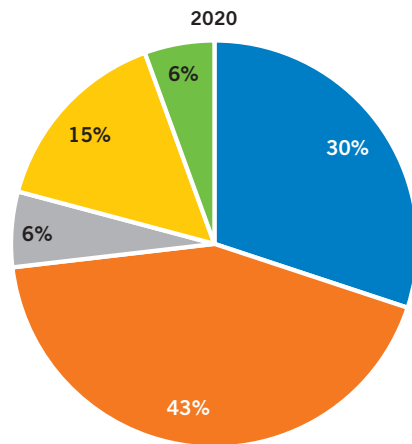
Source: SFA (Oxford), IEA, The Silver Institute

## Palladium mine supply - market share 2019 v 2020



Source: SFA (Oxford)

Russia's share of the market is expected to grow in 2020, while South Africa will shrink owing to Covid-related shutdowns



■ South Africa ■ Russia ■ Zimbabwe ■ North America ■ Other

## 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](http://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

## DISCLAIMER

This document is being supplied to the recipient only, on the basis that the recipient is reasonably believed to be a professional market participant in the precious metals market. It is directed exclusively at entrepreneurs and especially not intended for the use of consumers. The material contained in this document has no regard to the specific investment objectives, financial situation or particular need of any specific recipient or organisation. It is not provided as part of a contractual relationship. It is not and should not be construed as an offer to sell or the solicitation of an offer to purchase or subscribe for any investment or as advice on the merits of making any investment. This report has been compiled using information obtained from sources that Heraeus and SFA (Oxford) Ltd ("SFA") believe to be reliable but which they have not independently verified. Further, the analysis and opinions set out in this document, including any forward-looking statements, constitute a judgment as of the date of the document and are subject to change without notice. There is no assurance that any forward-looking statements will materialize. Therefore,

neither SFA nor Heraeus warrants the accuracy and completeness of the data and analysis contained in this document. Heraeus and SFA assume no liability for any losses or damages of whatsoever kind, resulting from whatever cause, through the use of or reliance on any information contained in this document. However, in so far as a liability claim exists under German law, Heraeus and SFA shall have unlimited liability for willful or grossly negligent breach of duty. Unless expressly permitted by law, no part of this document may be reproduced or distributed in any manner without written permission of Heraeus. Heraeus specifically prohibits the redistribution of this document, via the internet or otherwise, to non-professional or private investors and neither Heraeus nor SFA accepts any liability whatsoever for the actions of third parties in reliance on this document. Prices quoted are interbank (offer) prices for gold, silver, platinum and palladium. Rhodium, ruthenium and iridium quotes reflect the Heraeus offer price at the time of writing.