

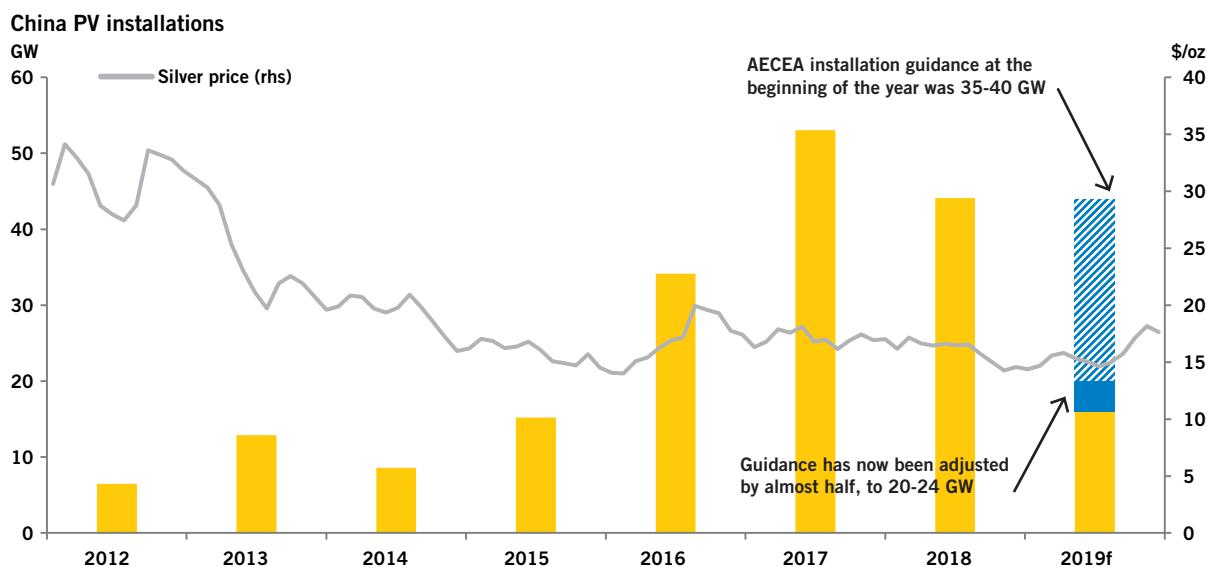


## MARKET SPOTLIGHT

### Subsidy cuts overshadow photovoltaic silver demand

**Photovoltaic (PV) installations in China will fall by 50% this year.** Installations of PV modules fell to 4.6GW in Q3, bringing China's cumulative installations for the year to a meagre 16GW, almost 50% lower than last year. Delays to the publication of subsidy guidelines were blamed for a weak H1, but the expected rebound after the announcement in July has not materialised. Details of the new policy included a feed-in tariff subsidy for installations connected before 31 December, but this has not helped demand as Q3 emerged as the weakest quarter of the year for the world's largest PV market.

**The drop in installations in China will negatively impact silver demand for the year.** China's PV industry last year accounted for around 33.8 moz of silver, with 44.1GW of installations, which was 42% of the world's total installed capacity that year (source: The Silver Institute). Following Q3 results, the AECEA (Asia Europe Clean Energy (Solar) Advisory) has made its fourth downward revision to China's installation guidance figure for 2019, which has been downgraded from the 35-40GW estimated at the start of the year to 20-24GW.



Source: SFA (Oxford), National Energy Agency, AECEA, Bloomberg

**A 20GW cut to installations in China translates to roughly 15 moz less silver.** This is on top of thrifting, which alone is reducing loadings by 3% a year (around 2 moz). However, as Chinese manufacturers have continued to produce cells and modules beyond domestic requirements, a growth in PV installations in other countries has boosted exports. Oversupply from China has helped to cap the price which, along with government support, is increasing demand across the rest of the world.

Nevertheless, given the market dominance of China, growth in other countries is unlikely to offset a reduction of 20GW this year; installations across the rest of the world would have to increase by 40% in order to recover China's losses and match the capacity installed in 2018. Estimates of global installations made earlier in the year of 125GW now seem doubtful. **Combined with ongoing thrifting, this adds further pressure to global photovoltaic silver demand, which is likely to fall short of last year's 80.5 moz.**



# PRECIOUS METALS REVIEW

## 79 Au Gold

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,466	0.06%	1,475	14/11/2019	1,446	12/11/2019
€/oz	1,327	-0.17%	1,338	14/11/2019	1,313	11/11/2019

**Young consumers are the weak link for gold.** The world's youngest consumer demographic, known as 'Generation Z' (born 1995-2010), pose the greatest threat to gold demand in China and the US. A World Gold Council study has reported that young consumers have a much weaker connection with gold jewellery than their elders; fashion and lifestyle choices are less traditional and more focused on experiential purchases. Together, China and the US account for 34% of gold consumer demand (1,149 t) (source: World Gold Council). With Generation Z predicted to represent around a third of the consumer market by 2025, as well as having significant influence

over their parents' spending, there is a risk to the future of jewellery demand in two of the world's largest markets if the changing consumer sentiment is not addressed.

**The gold price had a fairly uneventful week** despite more twists and turns in the US-China trade deal saga. The Fed Chairman confirmed there were no immediate plans for more rate cuts in his testimony to Congress, thus removing a potential support for gold from additional monetary easing. Therefore, more sideways to lower price action looks likely in the near term.

## 47 Ag Silver

	Close	Weekly change	High	Date	Low	Date
\$/oz	16.96	0.39%	17.11	14/11/2019	16.65	12/11/2019
€/oz	15.36	0.17%	15.55	14/11/2019	15.11	11/11/2019

**A strong reception for smartphones.** The electrical and electronic sector accounts for 24 moz of silver a year, or a quarter of global demand. In Q3, smartphone shipments from Huawei and Samsung increased by 28% and 10% year-on-year, to 66.8 million and 78 million units respectively. Gains made by the Chinese manufacturer were also supported by the 5G rollout, for which Huawei supplied the majority of the infrastructure. Global shipments of smartphones in Q3 were 358.3

million units, 8% higher than in Q2 (333.2 million). This was enough to return the industry to year-on-year growth, providing Q4 is equally strong. The trend is positive for silver demand, which is used in the electrical component of smartphones. The silver price managed to claw its way back above \$17/oz, but failed to hold that level. It is still looking weak compared to gold and could easily drop further.

## 78 Pt Platinum

	Close	Weekly change	High	Date	Low	Date
\$/oz	894	0.11%	897	15/11/2019	866	12/11/2019
€/oz	809	-0.25%	812	15/11/2019	786	12/11/2019

**The risk of a strike is over for South Africa's major platinum producers.** The Association of Mineworkers and Construction Union (AMCU) have agreed a three year wage deal with Anglo American Platinum, Impala Platinum and Sibanye-Stillwater following four months of wage negotiations. The three producers contribute around 3.1 moz of platinum to the global market, more than 50% of global primary supply.

**PGI India is targeting a growing market** with the new 'Men of Platinum' jewellery range. The Platinum Guild International's (PGI) campaign promotes the rarity and

stylish design of platinum in order to appeal to the 'modern man', in a market dominated by traditional gold jewellery. The Indian jewellery market is estimated to account for around 200 koz of platinum annually, with demand among the male population growing 40% year-on-year from 2018 (source: PGI). Despite being only the fourth-largest market, India has become a key driver of growth in the platinum jewellery industry, though from a low base. At \$572/oz currently, platinum's discount to gold is appealing, and a market shift from small retailers to chain stores which have a higher share of platinum products has increased availability.



# PRECIOUS METALS REVIEW

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

	Close	Weekly change	High	Date	Low	Date
\$/oz	1,722	-1.47%	1,752	11/11/2019	1,679	11/11/2019
€/oz	1,559	-1.71%	1,589	11/11/2019	1,523	11/11/2019

**A sales rebound in October fails to materialise.** Car sales in China last month witnessed yet another decline, down 5.8% year-on-year to 192,800 units. ‘Silver October’ (which follows ‘Golden September’), nicknamed to reflect what has been a lucrative month for car sales in China in previous years, was the 16th monthly decline in the past 17 months, and highlights the severity of the market slump. China is the largest petrol market in the world, with palladium autocatalyst demand estimated to be around 2 moz this year. The early implementation of

tighter emissions legislation in several major cities this year is keeping demand high.

**Palladium’s price volatility continued** last week as the price fell a further \$50/oz on Monday. However, the uptrend reasserted itself and the price recovered most of its lost ground over the course of the week. Lease rates have eased slightly in November, but the market remains tight and the trend is toward higher prices.

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

	Rhodium	Ruthenium	Iridium
Reporting week	\$6,050/oz	\$250/oz	\$1,500/oz
Previous week	\$5,575/oz	\$250/oz	\$1,500/oz

**Active-matrix organic light-emitting diodes (AMOLEDs) provide a platform for iridium.** AMOLED display is emerging as the standard in high-end smartphones, and will be used in more than 50% of handsets sold by 2023 (it currently represents around 30% of the market). As well as being a component of the display itself, iridium is used in crucibles for growing crystals that are used in the manufacturing process. The market is currently dominated by TFT LCD display, which uses less iridium.

Iridium demand increased rapidly in 2010 due to demand for crucibles by the electrical sector (LED televisions

in particular), bringing a 150% price hike. Electronic applications, including crucibles, account for around 71 koz of iridium a year, or 30% of global demand. With a further 330 million units requiring new AMOLED displays over the next three years, there will be continued support for the price.

The rapidly-tightening rhodium market pushed up the price by \$475/oz last week, but the ruthenium and iridium prices remained unchanged.

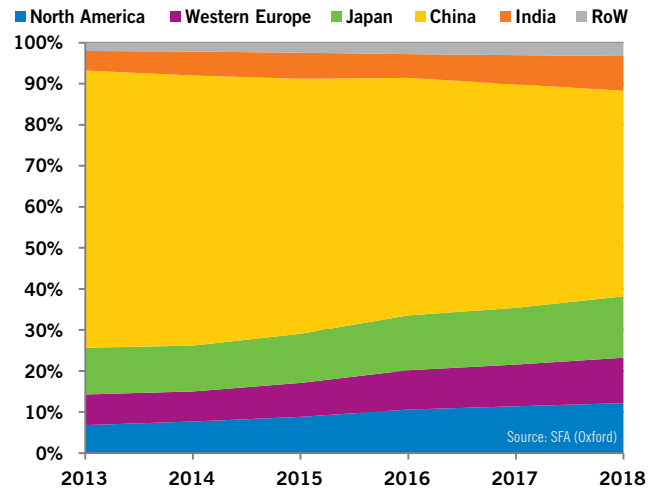


# TRENDS AND INVESTMENTS

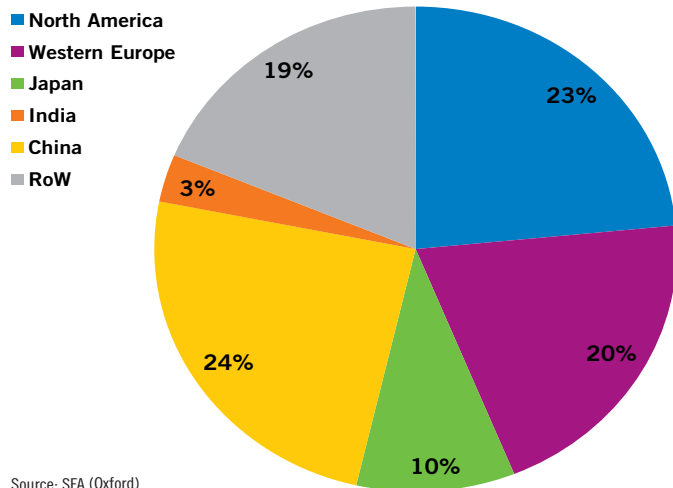
## Gold and silver prices 2019



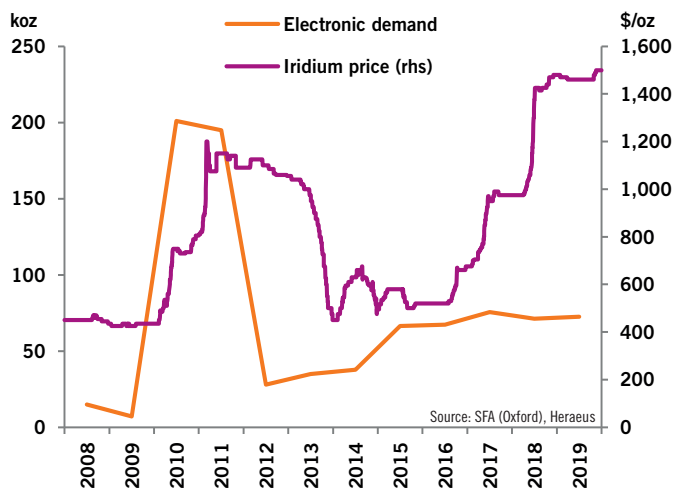
## Platinum jewellery market share



## Autocatalyst palladium demand



## Electronic demand for iridium



## 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

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



consulting analysts in tomorrow's commodities and technologies

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

[www.herae.us/trading-market-report](http://www.herae.us/trading-market-report)

## 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.