HERAEUS PRECIOUS APPRAISAL

Heraeus

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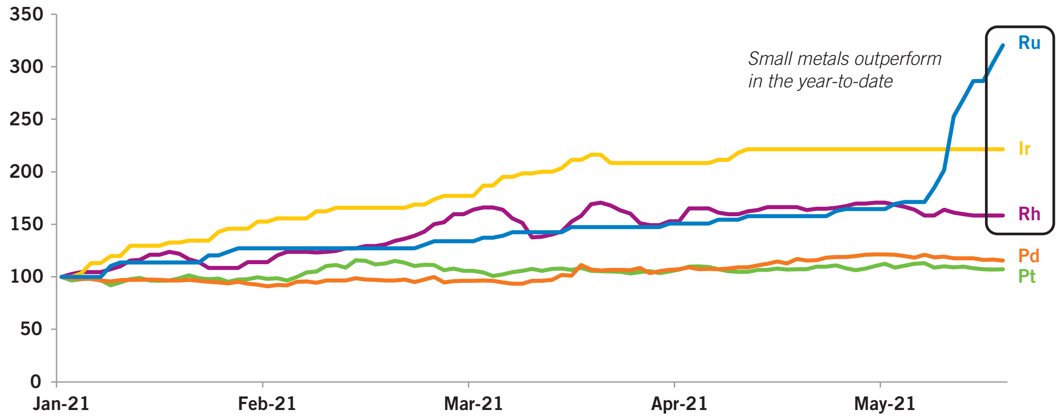
MARKET SPOTLIGHT

Other metals take centre stage in London Platinum Week

Last week was London Platinum Week, and for what is usually the largest event in the PGM industry calendar, representatives and attendees had a second consecutive year of online events. However, what the week lacked in personal interaction was more than made up for in thought-provoking debate around the themes which are shaping the future of the PGM industry.

After a strong recovery in demand for PGMs and with constrained supply, prices have rallied so far this year. Given the current high price regime, mine supply, recycling and the burgeoning hydrogen economy were all hot topics of discussion this year, and some key observations from the week's events are summarised below.

PGM prices (indexed to 100, 1 Jan 2021)



Source: SFA (Oxford), Heraeus

Minor to major? It is clear that the small PGMs, formerly seen as mere by-products with end-uses in niche industries, are now at the forefront of producers' minds as the hydrogen economy develops. With the highest proportion of ruthenium and iridium of any other orebody, South Africa's UG2 Reef is closely aligned to future demand. When the rhodium price was much lower, some UG2 mines and sections were closed, shutting significant production capacity. At current rhodium prices, some of that capacity could be profitably restarted.

The growing importance of ESG[1]. It is no longer enough for producers to merely supply the metal, they also need to play a key role in decarbonising the value chain. Arne Frandsen from Sedibelo Platinum Mines revealed details of the Kell Process. This is an alternative refining process for PGM concentrates using hydrometallurgy which has lower energy use and emissions than the traditional pyrometallurgical method. It will produce 'green' raw materials for the fuel cell value chain and help to improve the mine-to-market emissions related to fuel cell electric vehicles (FCEVs) compared to battery electric vehicles (BEVs).

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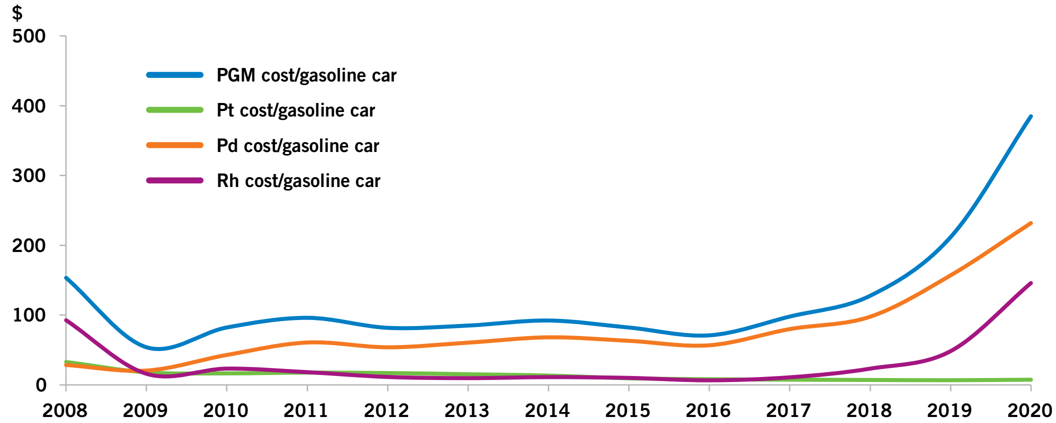
Beware of BEVs. The changing political and environmental landscape has dictated significant upward revisions to BEV forecasts, according to LMC Automotive, while the market share of FCEVs is expected to remain low until 2030. Additionally, SFA (Oxford) noted that the rising cost of aftertreatment for internal combustion engine (ICE) vehicles to meet increasingly strict emissions legislation is likely to tip the balance in favour of BEVs (at the expense of PGM demand for ICE vehicles) in the medium term owing to record high palladium and rhodium prices and the higher loadings required.

Average PGM cost per gasoline car



Source: SFA (Oxford)

There's room for everyone at the clean mobility party. Over the long term (beyond 2030), the convenience of refuelling, improved range and cost reduction are expected to boost the uptake of FCEVs, although Toyota reiterated the need for government support and collaboration between all players in the hydrogen industry to ensure its success. Overall, BEVs and FCEVs are expected to co-exist in the green mobility industry, with each technology appealing to different market segments.

Low PGM loadings are key to a GW-scale hydrogen economy. Philipp Walter revealed details of Heraeus's ongoing work to reduce PGM loadings in polymer electrolyte membrane (PEM) electrolysers and ensure their long-term success on a large scale. Given current high prices, PGMs account for a significant share of electrolyser costs, although next-generation electrolyser technology could see platinum and iridium loadings reduced by a factor of 4 and 5, respectively. While the majority of hydrogen is still produced from 'grey' sources, i.e. fossil fuels, demand for ruthenium will remain. However, as hydrogen grows 'greener', the more requirements for ruthenium will diminish. Cost reductions are necessary to enable the widespread adoption of this technology. If this can be achieved, unit sales growth will lift PGM use even with lower loadings, as has already been seen with silver use in solar cells.

Has China's jewellery found its sparkle? Platinum Guild International (PGI) presented its latest platinum jewellery business review, which revealed that despite a slow start to the year, China's platinum jewellery fabrication in 2020 declined by only 8% year-on-year to 929 koz (compared to -48% in India). PGI forecasts an optimistic change of between -2% and 2% year-on-year in China's platinum fabrication this year, although Johnson Matthey's demand projections are more cautious. PGI noted that retail sales of platinum jewellery in Japan totalled 509 koz in 2020, a 10% decline year-on-year, while the US recorded a 3.4% gain.

Capacity constraints could curb secondary PGM supply. The constraints on autocatalyst recycling could limit the recovery of PGMs this year, as several major European and North American recyclers are running close to capacity. Johnson Matthey noted that high palladium and rhodium prices mean gasoline autocatalysts are likely to be prioritised over diesel, which will restrict platinum recovery.

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The platinum price is likely to trend lower over the second half of the year, in line with seasonal trends. The platinum market (ex. investment) remains in a large surplus, despite improving sentiment in the Chinese jewellery market and increased automotive demand from palladium substitution in light-duty vehicles and higher loadings in heavy-duty vehicles. Any reduction in recycling is unlikely to move the balance sufficiently to impact the price.

In line with earlier forecasts, the consensus view from London Platinum Week is that strong automotive demand (despite chip shortage impacts) and constrained mine supply are likely to keep the palladium and rhodium markets in deficit this year, and hence their prices elevated. Iridium and ruthenium's price gains are expected to start easing once market liquidity improves.

Wild swings in cryptocurrencies show once again why holding some gold is useful. While outsized gains in bitcoin and other cryptocurrencies may have attracted considerable investor attention, their downside risks remain. Over the last two weeks the value of bitcoin was halved and other cryptocurrencies fared even worse. This volatility is in stark contrast to gold which has continued to move steadily higher.

[1] ESG refers to environmental, social and governance criteria used to measure the sustainability of an investment.

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