



PLATINUM RECYCLING

Recycled volumes of platinum make an important contribution to global supply, helping to manage the demand balance of a scarce natural resource

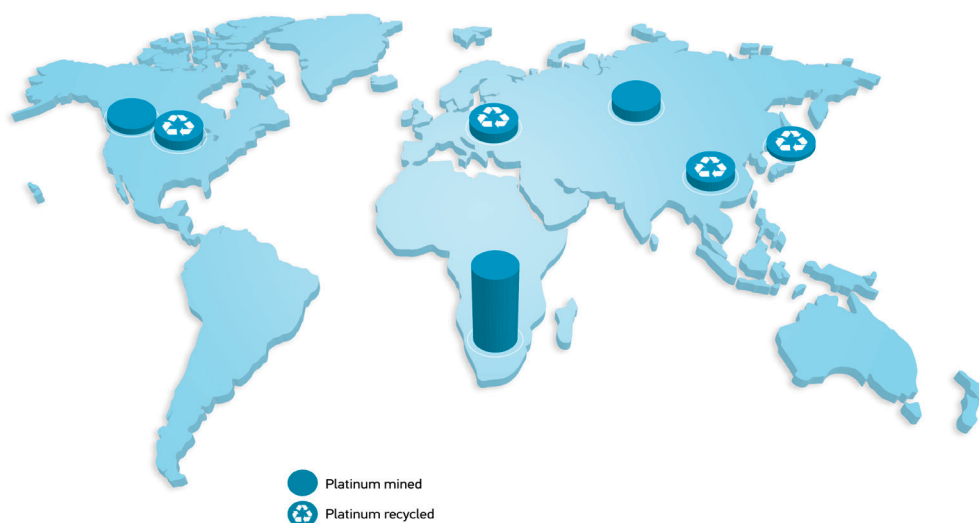
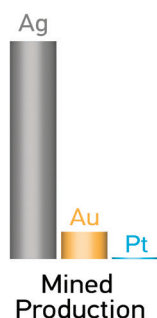
Platinum's economic value, combined with its relative scarcity, has given rise to an efficient recycling ecosystem which complements primary mined production and assists with managing complex demand and supply dynamics. Recycling also brings environmental benefits.

Platinum is in demand as both an industrial and precious metal due to its unique physical and chemical properties. For example, it is invaluable as a catalyst in a wide range of applications, from autocatalysts used to reduce harmful vehicle tail-pipe emissions to the platinum gauze employed in the production of nitric acid, a key feedstock for fertiliser manufacture.

With its melting point of 1,768°C and remarkable resistance to corrosion, platinum is also one of only a few materials that can withstand the high temperatures required in glass making, where it is used to line vessels that contain, channel and form molten glass. It is also used to coat equipment such as ceramic stirrers and bowls that are used to mix the molten glass.

However, platinum is a scarce natural resource, thirty times rarer than gold. Reserves are concentrated in one place – with 80 per cent of annual mined supply coming from Southern Africa.

Mining Supply 2018



Source: Bloomberg, WPIC Research.

Furthermore, platinum is present at low concentrations in the earth's crust. For example, it can take up to six months and up to 40 tonnes of mined ore to produce 1 oz of platinum. In 2018, the total mined production of platinum was 6 moz, compared to 108 moz of gold.

Each year, platinum supply benefits from around 2 moz of metal from mainly autocatalyst (80 per cent) and jewellery (20 per cent) recycling. The former is achieved through a recovery process that sees the 'end-of-life' recycling of over 60 per cent of the platinum used in autocatalysts.

In addition to end-of-life recycling, 'closed-loop' recycling of platinum also takes place, for instance

in glass production where old platinum equipment is recycled and turned into new equipment.

Sustainable benefits

Platinum recycling is important. Firstly, it gives existing end-users and those developing new technologies reassurance as to the long-term sustainability of platinum availability, allaying fears concerning the potential for eventual resource depletion. Secondly, recycling platinum brings carbon-offset benefits to the platinum supply-chain, contributing towards producers' own efforts to improve sustainability and lower their environmental impact.

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