



HIGHER-FOR-LONGER

Growth in platinum-containing hybrids and extended range electric vehicles supports automotive PGM demand

Fifty years ago, technology company Johnson Matthey pioneered a way to reduce harmful internal combustion engine (ICE) vehicle emissions using an autocatalyst, or catalytic converter. Today, it is estimated that 40 tonnes of pollutants are prevented from entering the air every minute because of this technology. The platinum group metals (PGMs) platinum, palladium, and rhodium are used in the making of autocatalysts.

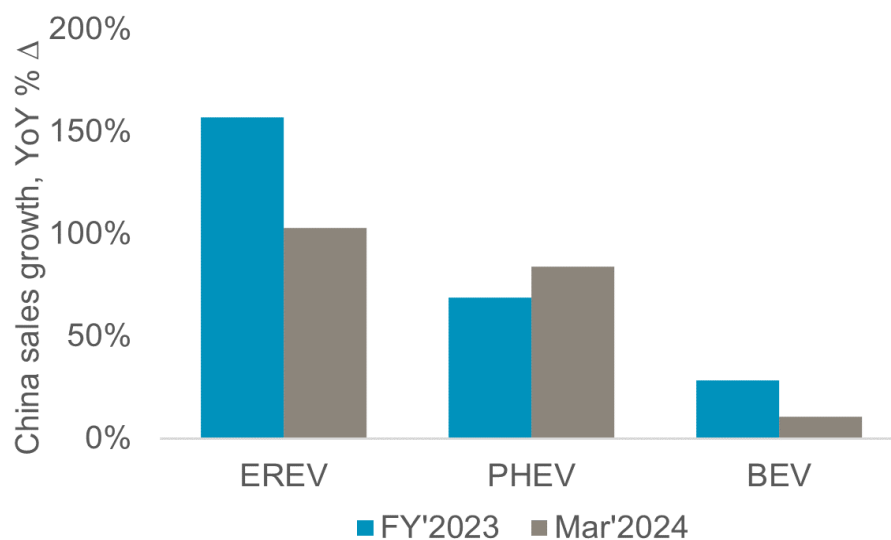
Automotive demand is the single largest demand driver for platinum, accounting for around 40 per cent of annual platinum demand. In 2023, automotive platinum demand grew strongly by 16% year-on-year to reach 3,211 koz, and it is forecast to grow again this year, albeit by a more modest 2%, to 3,269 koz.

This growth is being achieved despite rising battery electric vehicle (BEV) market share and a

reduction in ICE vehicle production. It is supported by factors including stricter emissions legislation, increased demand for hybrid vehicles, and platinum-for-palladium substitution in the autocatalysts manufactured for gasoline vehicles.

However, investor sentiment towards PGMs has been affected by concerns over the loss of ICE PGM automotive demand that will, in due course, come from the ongoing electrification of the vehicle fleet as automakers look to achieve CO2 reduction targets.

Recent research from the WPIC indicates that these concerns are overplayed, as erosion in demand for PGMs from declining ICE vehicle production will occur gradually, with only a very muted tapering of automotive demand over the next five years. Explosive BEV growth has slowed and is being comfortably outpaced by PGM-containing hybrids



PGM-containing EREVs are growing fast. Source: China Economic Observer, WPIC research

and extended range electric vehicles (EREVs) that support a 'higher-for-longer' automotive PGM demand outlook.

Range extender

An EREV is a BEV with an onboard combustion engine that is used as a generator to recharge the batteries (unlike a plug-in hybrid electric vehicle where the engine drives the vehicle if the batteries are flat). EREVs are China's fastest growing new energy vehicle category, on-track to exceed sales of one million units in 2024, offering the ability to mitigate BEV range and charging concerns.

Elsewhere, EREV models are on the rise. In the US, truck and van maker Ram is scheduled to launch

a range-extended electric truck next year. The 2025 Ram 1500 Ramcharger is a BEV that, with the addition a V6 gasoline engine, provides a combined range of 690 miles with a payload rating that places it best in class.

More than a third of the iconic cabs seen on London's streets are EREVs, with LEVC's TX now the most common model in operation. The BEV taxi is equipped with a petrol range-extender that provides 254 miles of additional range above the 60 miles provided by the battery alone. Since launch in 2018, the TX has cumulatively travelled in excess of 300 million miles in London and prevented more than 109,000 tonnes of CO₂ being emitted into the atmosphere.

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