Platinum Group Metals (PGMs) in Transition

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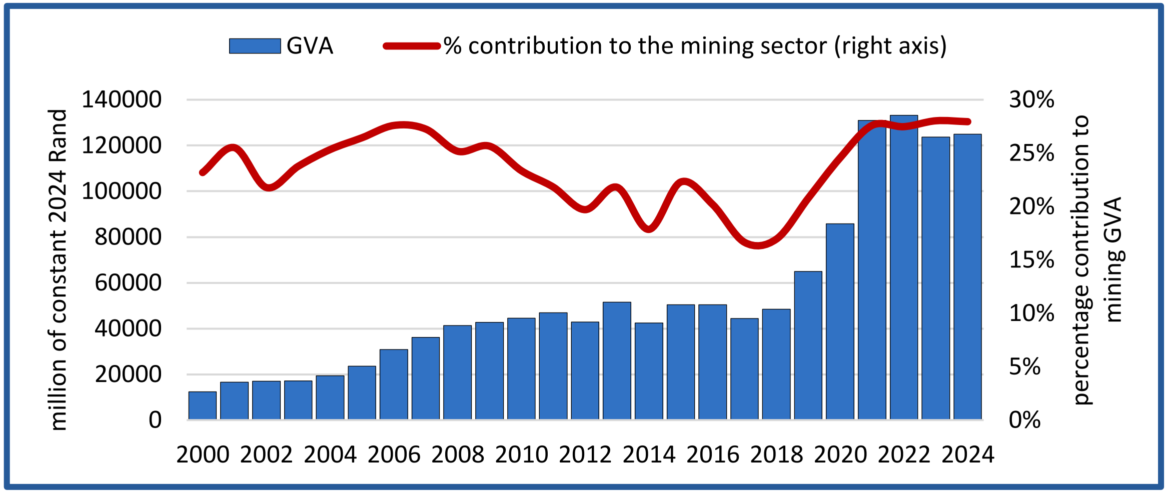
Problem statement

- South Africa holds nearly 90% of global PGM reserves and is the leading global supplier.
- For South Africa, PGMs are strategically important for foreign exchange earnings, mining revenue sales and employment.
- PGMs are listed as a CRM under DMPRs Critical Minerals and Metals List 2025.
- PGM demand is transforming as battery electric vehicle adoption increases: this threatens catalytic converters consumption, which has historically dominated the market.
- Catalytic converters are a key export component and very important to South Africa's automotive competitiveness.
- The extent and timing of the decline depends on the timeframes and adoption rates of alternative vehicle technologies, as well as the strength of policy support behind them.

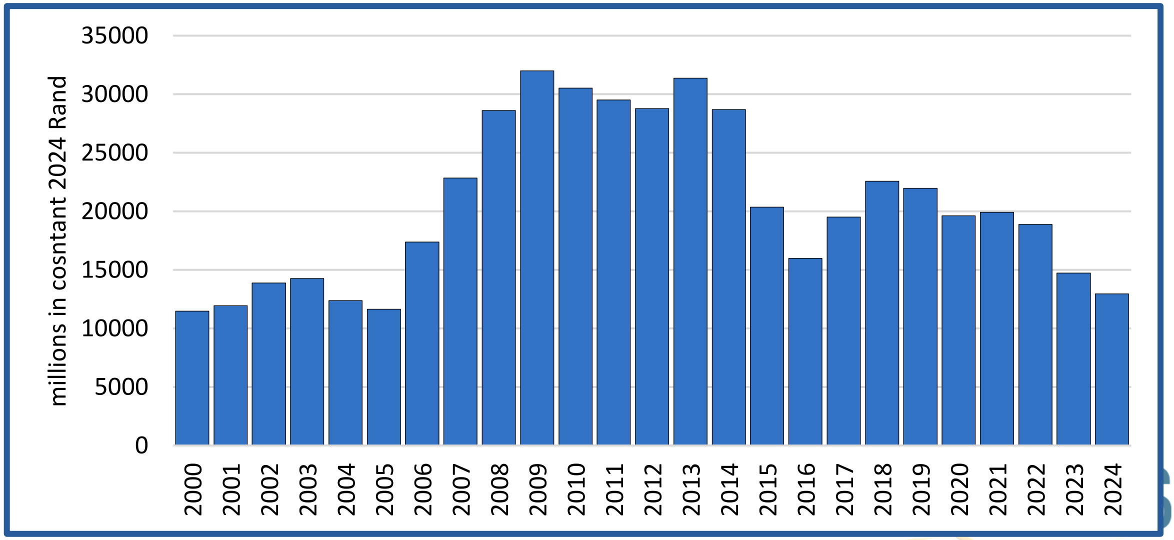
Overview of PGMs industry

- Export oriented industry with exports destined for US, UK, Japan, China and Germany for use in catcons.
- PGM demand is highly correlated with GDP growth, but prices are influenced by industry demand, speculation and geopolitical shocks.
- PGMs reached 28% of total mining GVA in 2024. Although down from this, the industry still contributes over a quarter of the mining sector's GVA.
- GFCF peaked at over R30 billion during the 2008-2011 commodity boom, but had been halved by 2024, indicating sustained underinvestment.
- Aging infrastructure, rising energy prices, and logistics failures have eroded competitiveness and slowed investment in **new** exploration

PGMs gross value add (GVA), 2000-2024

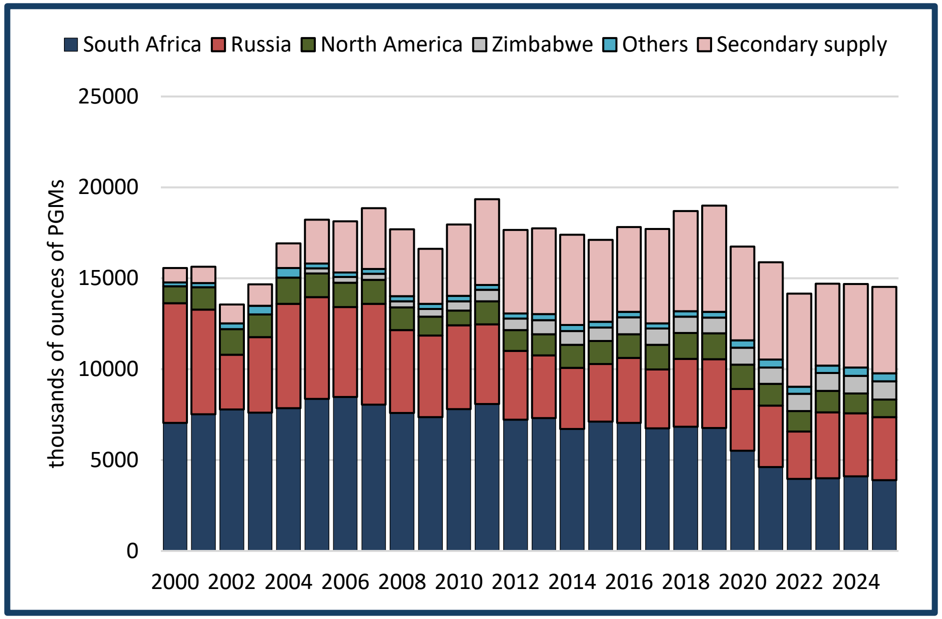


Gross fixed capital formation (GFCF), 2000-2024

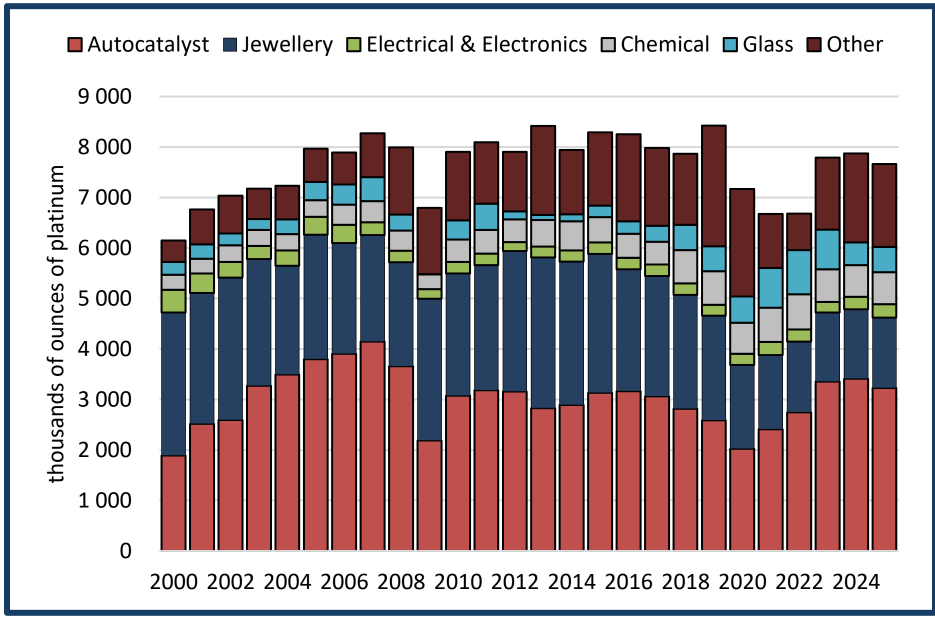


PGM supply and demand

PGMs supply, 2000-2024



PGMs demand, 2000-2024

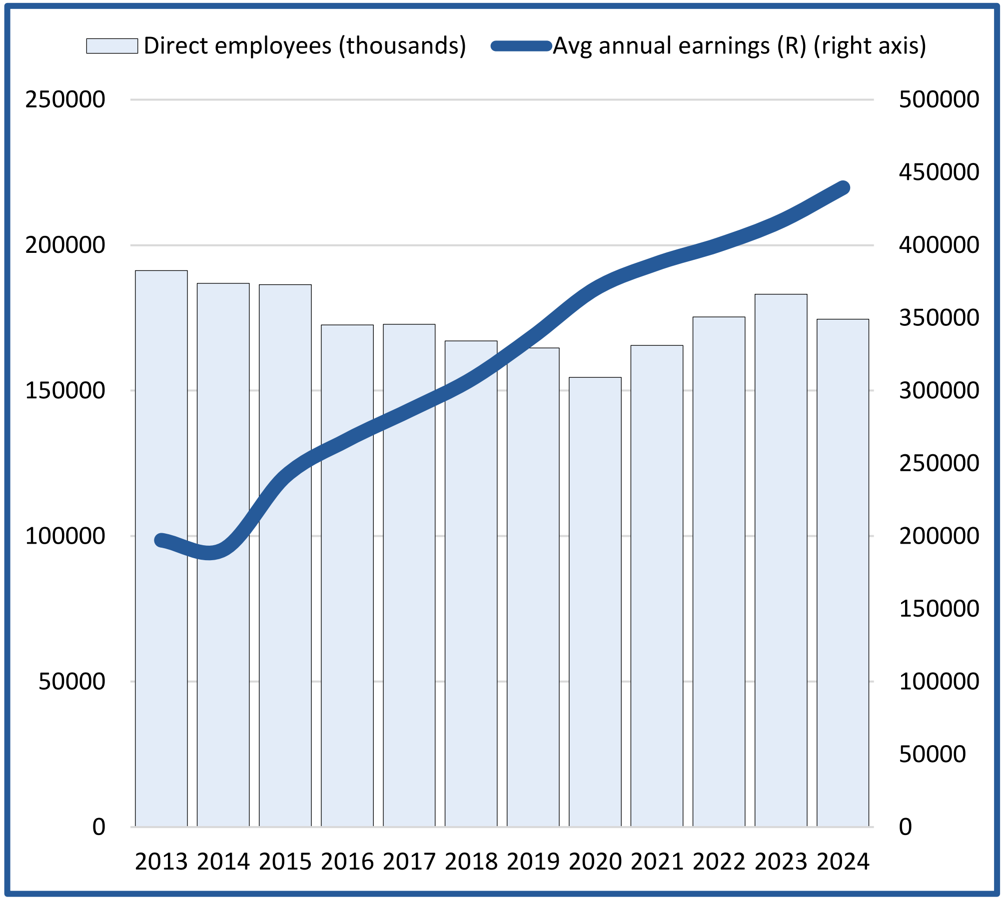


- By May 2025, South Africa's PGMs production was 10,2% below its 2019 levels, and its share of global supply had declined from 74% in 2021 to 70% in 2025.
- Global primary platinum supply fell sharply by 17,8% between 2019 and 2020, almost entirely attributable to South Africa.
- Geopolitical tensions, particularly the Russian invasion of Ukraine, have created additional uncertainty around supply.
- Secondary supply from recycling is also declining as low platinum prices and reduced automotive scrappage rates make recycling economically unviable.

- Jewellery dominated platinum demand until the early 2000s, when stringent emissions regulations in Europe and the US mandated PGM-based catalysts, driving automotive demand.
- Automotive PGM demand has experienced substantial volatility driven by regulatory changes, technology shifts, and global economic shocks.
- Future demand for PGMs will be driven by a range of applications, incl. fuel cell vehicles, energy storage, digital infrastructure, and existing markets such as jewellery.

Employment in PGMs industry

Employment and employee earnings, 2013-2024



- High employment despite downturns: In 2023, the PGMs industry employed approx. 180,000 workers, representing over 40% of South Africa's mining workforce, due to the labour-intensive nature of underground platinum mining.
- The industry recorded 8,500 job losses and a 4,7% employment decrease from the previous year, reflecting ongoing cyclical and structural pressures.
- Long-term uncertainty from the automotive sector's shift away from internal combustion engines, combined with challenges in the mining sector, has led to widespread restructuring, cost-cutting, and labour rationalisation.
- North West and Limpopo potentially face long term vulnerabilities.

PGM workers and the JT

- Support for displaced workers remains unclear, with impacts concentrated in South Africa’s most disadvantaged, mining-dependent communities already strained by apartheid-era spatial planning and migrant labour legacies.

- Contract workers make up one-third of platinum miners, earn approx. 60% of permanent workers’ wages, and have less job security and benefits—yet responsibility for their transition often falls on unaccountable contractors, not mining companies.

- PGM workers and mining-dependent communities need consideration within a JT framework and the existing instruments for supporting them, notably SLPs, require strengthened enforcement if the transition is to be just in practice, especially those who have little to no social protection when employment is lost. Mhaka and Mahlangu (2025) recommend that accountability for SLP delivery must be explicitly extended to contractors, with non-compliance attracting penalties proportionate to company revenue.

- “Green” demand does not guarantee just/fairness: The urgency of the critical raw materials transition risks accelerating extraction without addressing worker/community conditions, and reproducing old patterns—requiring a just transition framework focus should not only be about preparing for future decline, instead it needs to address the historical and ongoing failure of the mining sector to deliver on social and environmental obligations. Without structural intervention, declining PGM employment risks deepening poverty in both mining towns and labour-sending regions.

PGM supply risks in the energy transition

- PGMs position South Africa as a critical global supplier in clean energy value chains, but persistent mining sector challenges undermine this advantage.

- Supply dependency on platinum mining especially for iridium and ruthenium output as a by-product of platinum mining, means that sector downturns directly tighten supply, regardless of price or demand signals.

- Labour pressures and long-standing industry challenges have created sustained strain. These structural weaknesses that have built up over time and could affect the recovery of by-product metals.

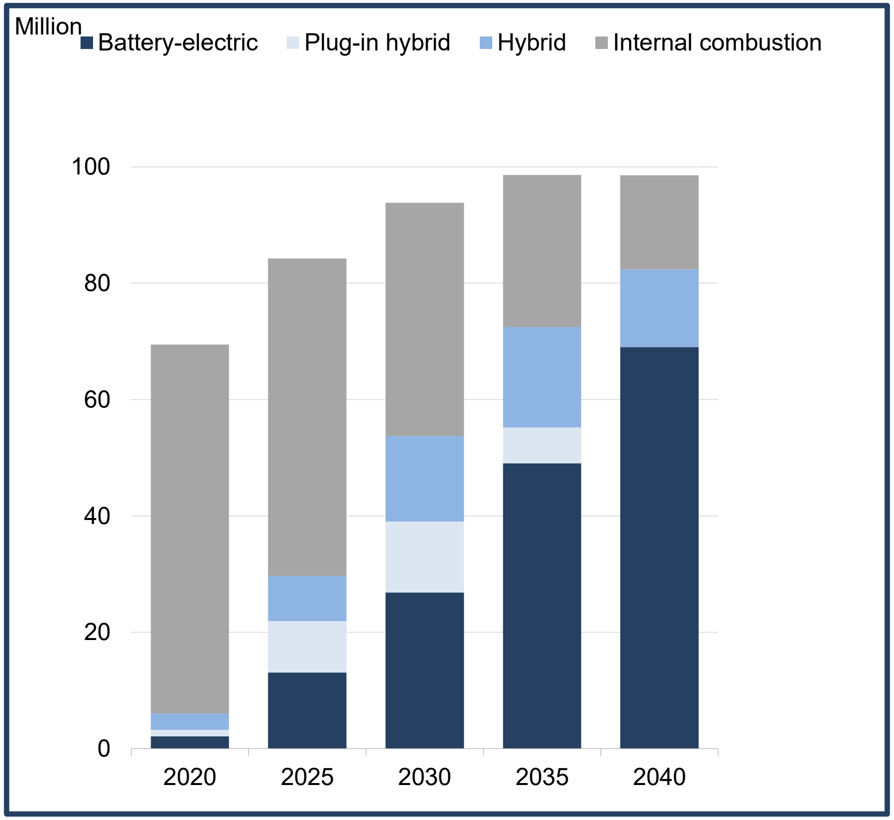
- The current geopolitical climate has heightened concerns about supply chain vulnerability, increasing pressure to find alternatives, improve recycling, and reduce PGM loadings.

- If South African supply is perceived as unreliable, investment in substitution pathways will accelerate, and once mature, the shift in demand could be structural and irreversible. Therefore, a well-coordinated, and implementable CRM strategy is South Africa's strongest signal that strategic intent is behind South Africa's mineral endowment.

PGM demand in mobility

- Electricfication is on the rise. 1 in 4 vehicles purchased in 2025 were EVs* (current rise in fuel prices set to drive sales for BEVs)
- EV landscape is evolving, and hybrids have grown stronger than expected narrowing the gap between hybrids and BEVs
- Hybrid vehicle growth provides a medium-term bridge, sustaining PGM demand
- Long-term PGM demand in autos depends on fuel cell electric vehicles, but slow adoption creates demand risk
- South Africa's hydrogen economy has not yet materialised, this places importance to promote diverse uses for PGMs locally.

ICE vehicles and EV projections for passenger vehicles by new sales 2020-2040, 2022-2030



Data source: BloomgbergNEF, 2025

Conclusion

- As PGM mines mature and mining supply from South Africa falls, South Africa needs to prioritise SLP frameworks for mine workers targeting PGMs and related CRMs, given the rising demand for these metals.

- Timeframes are also important as PGM demand will decline gradually especially linked to automotive demand, and not abruptly especially given the disruptions to EV adoption in the US and EU.

Thank you