PLATINUM PERSPECTIVES

Platinum's supply risks cannot be overlooked as PGM prices remain weak and miners reduce capex

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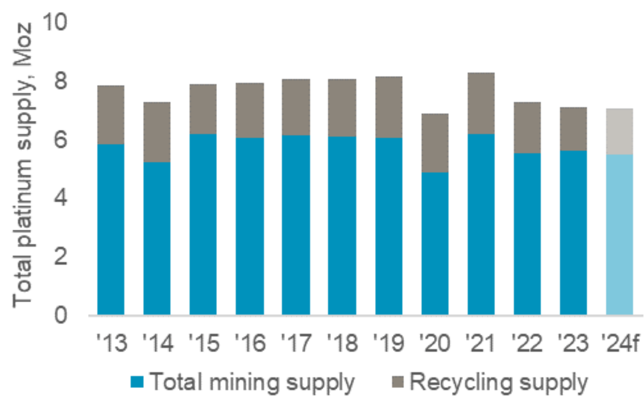
South African PGM miners have all announced cost focussed restructuring in response to a lower PGM basket price during 2023. Efforts are focussed on cash conservation, with several growth and replacement initiatives deferred to reduce capex. Restructuring announcements (to date) are unlikely to materially impact near-term production. However, previous slow reductions in output due to declining capex could be repeated. Since the WPIC two- to five-year supply-demand outlook uses the aggregate mid-point of public guidance ranges, the potential downside risks to mining supply from ongoing basket price weakness and reduced capex do not feed into WPIC's outlook.

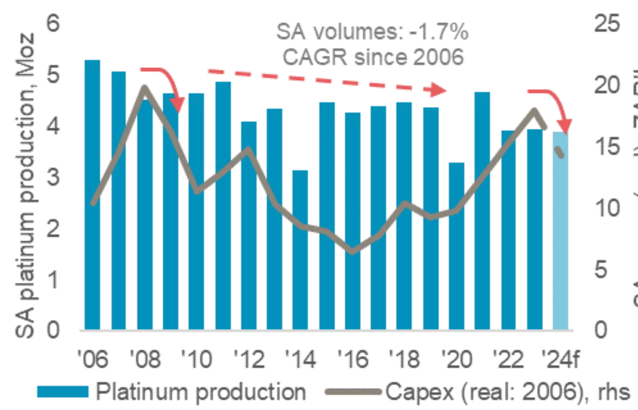
Stripping out 2020, where South African output was impacted by extended COVID shutdowns, 2024 is expected to be the lowest level of total platinum supply in our time series extending back to 2013 (Fig. 1). Our latest *Platinum Quarterly* (*link*) forecasts a -3% YoY reduction of total mining supply in 2024 to 5,489 koz. This moderate decline in 2024 mining supply contrasts with a FY'2023 cost curve that estimates several mines are loss making at spot PGM basket prices. Supply has probably been slow to respond to prices due to an observable shift between the 2022 and 2023 cost curves (Fig. 3 & 4). Although 35% of non-Russian production is estimated to be loss making on both the FY'2022 and FY'2023 cost curves, South African Rand depreciation (Fig. 6) and operational improvements (cost discipline and volume increases) have helped flatten the 2023 profile. Thus, average cash losses across fourth quartile production has decreased from -US$247 in FY'2022 to -US$148 per 6E ounce in FY'2023 leaving operations closer to breakeven versus spot.

Fig 1. Platinum supply is forecast to decline 1% YoY



Source: SFA (Oxford) 2013 to 2018, Metals Focus 2019 to 2024f

Fig 2. Reduced capex weighs on mined production



Source: Bloomberg, Johnson Matthey, SFA (Oxford), Metals Focus, WPIC Research

This negative margin may narrow further with capital expenditure cuts. South African PGM miners have guided for an 11% YoY decline in sustaining capex for FY'2024 (Fig. 7) which equates to an average reduction in AISC of US$25 per 6E oz. These factors cumulatively act to improve South African supply resilience. South African refined production is therefore only forecast to decline by 1% YoY in 2024 following minor restructuring, assets reaching their end of lives and some growth deferral. This outcome reflects previously discussed short-term actions for miners to tolerate current margins (*link*).

In response to low PGM prices PGM miners are focussing on efficiencies and reducing capex.

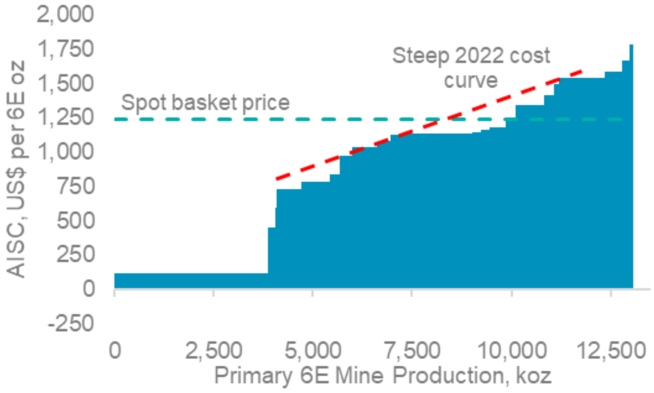
Notwithstanding a potential short-term profitability reprieve, reduced capex may reduce mining supply. The sustained reduction in real capex between 2008 and 2023 (Fig. 2) contributed to declining South African refined platinum production (-1.7% CAGR since 2006). **Should future supply match past reduced-capex trends, a supply risk of ~250 koz per annum by 2028 could deepen our average projected platinum market deficits of 518 koz between 2025f and 2028f (Fig. 8).**

Lower real capex has weighed on miner's ability to maintain production. Downside risk to future supply may widen projected platinum market deficits.

Platinum's attraction as an investment asset arises from:

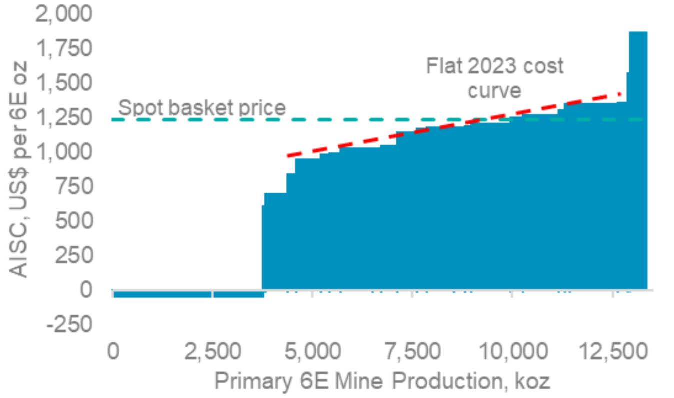
- WPIC research indicates the platinum market entering a period of consecutive deficits from 2023.
- Platinum can be considered a proxy for investing in the growing hydrogen economy given its use in electrolysers and fuel cells.
- Platinum supply remains challenged, hampered by electricity shortages in South Africa and sanctions against Russia.
- Automotive platinum demand growth should continue due principally to substitution in gasoline vehicles.
- The platinum price remains historically undervalued and significantly below both gold and palladium.

Figure 3: The slope of the **2022** all-in-sustaining-cost curve is steep, with 4th quartile production costs averaging US$247 per 6E oz above spot prices



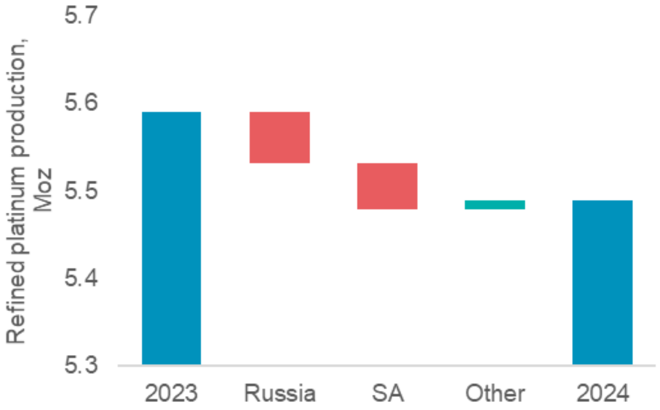
Source: Company data, Bloomberg, WPIC research

Figure 4: The **2023** all-in-sustaining-cost curve has flattened relative to 2022, with 4th quartile production costs averaging US$148 per 6E oz above spot prices



Source: Company data, Bloomberg, WPIC research

Figure 5: Mined platinum supply is forecast to decline by 3% YoY in 2024 from lower Russian and South African volumes

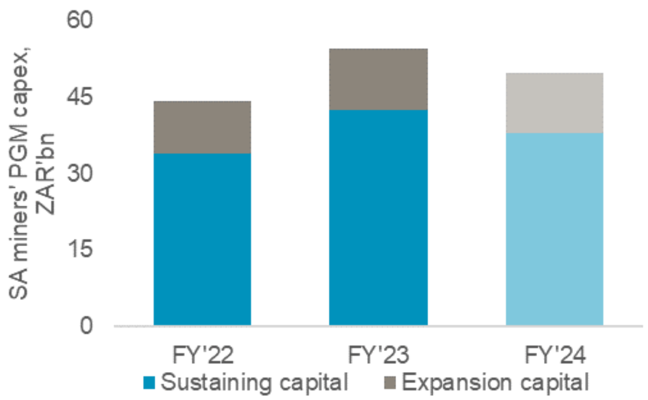


Source: Metals Focus, WPIC research

Figure 6: The South African Rand has steadily depreciated relative the US$ since mid-2021, helping to improve South African cost competitiveness

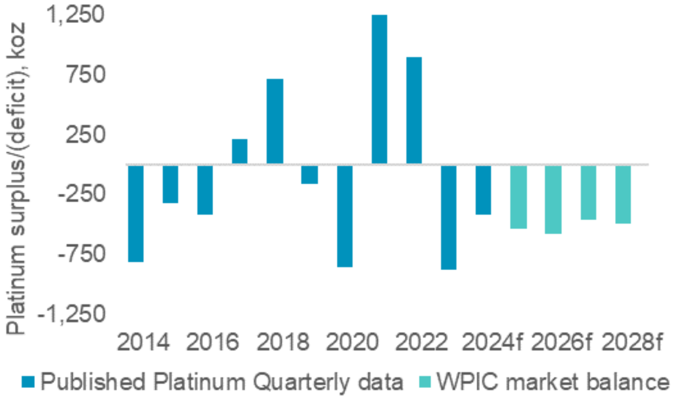
Source: Bloomberg, WPIC research

Figure 7: South African sustaining capital expenditure is forecast to decline by 11% YoY in FY'2024 helping to lower future all-in-sustaining-costs



Source: Bloomberg, Company data, WPIC research

Figure 8: Platinum market deficits could deepen beyond our average forecast of 518 koz between 2025 and 2028 if reduced capex causes mine supply reduction



Source: SFA (Oxford) 2014 to 2018, Metals Focus 2019 to 2024f, WPIC Research thereafter

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