PLATINUM QUARTERLY

Q2 2025

10th September 2025

World Platinum Investment Council

FOREWORD

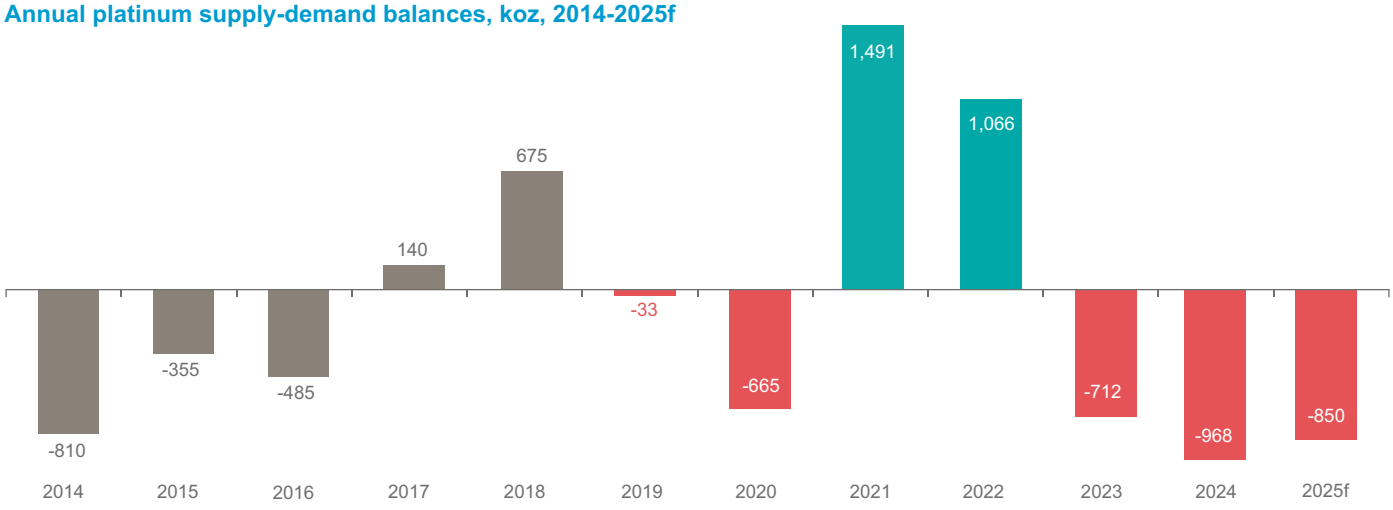
This *Platinum Quarterly* presents platinum supply and demand movements for the second quarter of 2025 and an updated forecast for the full year. It also provides WPIC's views on relevant issues and trends for investor exposure to platinum as an investment asset, and an update on how we continue to meet investors' needs through our product partnerships. The *Platinum Quarterly* data and commentary (starting on page 6) are prepared independently for WPIC by Metals Focus.

A significant focus of the second quarter of 2025 was the 37% increase in platinum prices over the three months to June. Interestingly, platinum prices rose despite the market only being in a modest deficit of 11 koz during Q2 2025. Nonetheless, rising prices were not unexpected given almost two and a half years of market deficits were being exacerbated by geographic demand dislocations as the US grappled with tariff concerns and China ramped up imports. In effect, market tightness was not alleviated by demand volatility and the release of US exchange stocks as geographic competition to gain access to this metal, between US domestic end users and Chinese and European market participants, continued. Accordingly, platinum lease rates remained elevated during Q2, and the London OTC market remained in strong backwardation. Looking to the remainder of 2025, platinum's investment case remains compelling as prices appear to be consolidating gains with the platinum market remaining in deficit, albeit as mine supply sequentially recovers after a depressed start to 2025.

Platinum markets remain in substantial deficit

- The global platinum market is expected to be in an 850 koz deficit in 2025f following a 968 koz deficit in 2024. The forecast platinum market deficit for 2025 has decreased from the 966 koz reported in the May 2025 *Platinum Quarterly* primarily due to an upgrade to jewellery demand expectations being more than offset by downward revisions to industrial platinum demand.
- The supply outlook remains depressed in 2025. Mining supply is forecast to decrease by 6% year-on-year as producers will not be able to repeat the drawdown of work-in-progress inventory we saw in 2024. Notably, recycling supply is expected to increase by 6% year-on-year in 2025 with some evidence of higher PGM prices supporting increased recycling.
- Total platinum demand is expected to decline by 4% year-on-year in 2025 to 7,877 koz. An upgrade to jewellery demand expectations and continued robust investment demand, driven by strength in bar and coin in China, are offset by slightly weaker automotive demand and a cyclical trough in glass demand within the industrial segment.

Annual platinum supply-demand balances, koz, 2014-2025f



Source: SFA Oxford (2014 – 2018), Metals Focus (2019 – 2025f)

The platinum investment case – geopolitics may have been the catalyst, but strong fundamentals remain in place

The second quarter of 2025 kicked off with the so called "Liberation Day" on April 2nd with President Trump's now infamous board listing off self-described reciprocal tariffs by country. The size of the tariffs was far higher-than-expected. However, tariff fears quickly eased as implementation was initially deferred for 90-days to allow for trade deals to be struck. Subsequently released details highlighted that most unprocessed platinum imports (sponge, grain, ingot etc.), as well as legal tender coins, would be exempt from tariffs. Platinum minted bars were not exempt from tariffs.

Platinum stocks held on exchange decreased by -317 koz through Q2 2025 following platinum's apparent tariff exemption and the associated tempering of US supply concerns. Where some may have expected a reduction in exchange stocks to improve platinum's liquidity in Europe, this was not reflected in London's OTC market. This remained in backwardation, and 3-month lease rates were elevated, averaging between 6% to 16% through Q2, well above the average lease rate of 1% to 3% seen through 2024. Whilst this would appear to incentivise metal into the lending market in Europe, at least some of the metal leaving NYMEX exchange stocks was imported into China, which recorded a 26% year-on-year increase in platinum imports during Q2 2025.

China's jewellery and investment segments drove domestic platinum demand growth in Q2 2025. In response to platinum's widening discount to gold (peaking at US$2,450 in April 2025), many gold jewellery businesses switched into relatively lower priced platinum as gold jewellery fabrication slowed (H1 2025: -31% year-on-year). Meanwhile, investors seeking hard assets perceived platinum as offering less downside risks given gold's price rally through Q1 2025. In Q2 2025, China's platinum jewellery fabrication increased over two-fold versus a year earlier and platinum bar and coin (<500g) demand increased by over six-fold.

Given platinum's strong price performance in Q2 2025, its discount to gold has narrowed. Accordingly, the rate of Chinese platinum jewellery and investment demand growth is expected to slow during H2 2025f. However, entering Q3 2025, tariff risks re-emerged with the announcement of US tariffs on copper imports. NYMEX platinum exchange stocks have partially reversed the unwinding trend recorded in Q2 2025 and increased holdings by 201 koz to 531 koz in July 2025.

These outsized geographic demand swings between Europe, the US and China have caused a rethinking of entrenched ideas that there are ample vaulted platinum stocks to be leased out to meet liquidity needs. In principle, higher lease rates should disincentivise borrowing metal and incentivise the outright purchase of metal. This would support higher prices, however, there is no widespread evidence of behavioural change as yet, with end users seemly prepared to absorb the higher leasing costs. With 3-month platinum lease rates peaking in July 2025 (post quarter end) at >25%, the market eventually showed some response to price appreciation of ~50%, with net ETF sales of 231 koz in July. WPIC has always acknowledged that ETFs can act as a source of platinum supply, but only if the price incentivises selling. Given the attractive outlook of continued platinum market deficits, we expect ETF investors to hold or even increase positions on expectation of higher future returns.

Looking at the events of 2025 thus far and our expectations over the remainder of the year, it is clear that three years of substantial platinum market deficits has meaningfully depleted above ground stocks (-2,529 koz or -46%). High prices typically encourage markets to self-solve for structural deficits by either incentivising new supply or pricing demand out of the market. However, history shows that both platinum supply and platinum demand can be remarkably price inelastic.

Platinum demand has proven highly price inelastic over typical investment time-frames. In the automotive and industrial sectors some platinum demand can be switched to less expensive palladium, however, whilst this process can occur over months, meaningful changes in demand can take several years as sales growth of vehicles with changed loadings builds. Jewellery demand can be more elastic than other end-markets. Yet for jewellery, platinum's relative affordability versus gold, and white gold in particular, should act as a counterforce to lower demand from higher prices.

Like demand, platinum supply, as a whole, is broadly price inelastic over a typical investment time horizon. Increasing mine supply is challenging with the economics hinging not only on platinum prices but the overall basket for all of the PGM metals plus gold, as well as base metal by-products. Notably, the palladium and rhodium led 80% increase in the PGM basket price between 2017 and 2023 coincided with total platinum mine supply declining by 7% over the same period. Even if PGM prices incentivise new supply, execution risks are high with most new mines requiring close to a decade to reach full production capacity. By contrast, platinum recycling is more responsive to prices than mine supply. Some initial feedback is emerging that rising PGM prices in 2025

is stimulating an increase in recycling supply. However, where automotive recycling is the largest constituent of recycling supply, the economics are driven more by palladium than platinum pricing, and palladium has a less compelling supply demand outlook than platinum (due to significant exposure to automotive demand and the slow, but ongoing, electrification of the global drivetrain).

Sustained market deficits have laid the groundwork for platinum's price appreciation, but the catalyst was arguably geopolitics and US tariffs. Security of supply appears to be a key theme which is emerging and with platinum markets forecast to remain in deficit while above ground stocks rapidly deplete, competition for metal will be high. Demand is proving resilient and thus we reiterate the idea that prices would need a sustained increase to incentivise new mine supply over the long term and increase to attract metal from above ground stocks to clear the market in the short term. It is also worth noting that the Trump administration's apparent efforts to influence the Federal Reserve and the associated questioning of the latter's independence, may continue to support demand for gold as a US dollar alternative asset. Should this flow through to a higher gold price it would have positive implications for platinum jewellery and platinum investment demand.

Platinum supply and demand – second quarter trends and updated 2025 outlook

A balanced market in Q2 2025

During Q2 2025, both platinum supply and demand decreased compared to Q2 2024. Total platinum supply declined by 4% year-on-year due to an 8% year-on-year decline in mine supply (-123 koz) which was partially offset by a 12% year-on-year increase in recycling (+44 koz). Highlighting the magnitude of the impact of flooding during Q1 in South Africa, the country's mine supply bouned back by 48% quarter-on-quarter in Q2 2025 but was still down 6% year-on-year. Russian production decreased by 14% year-on-year as a new OEM's equipment and vehicle fleet were incorporated into the mining operations. Higher automotive and jewellery recoveries drove recycling supply growth. Total platinum demand decreased by -22% year-on-year (-544 koz) in the second quarter. Higher jewellery fabrication was broadly netted off by declining automotive and industrial demand. However, the primary segment underpinning lower platinum demand in the second quarter was investment. Total investment holdings decreased by 64 koz in Q2 2025, compared to a 459 koz increase in Q2 2024. Investment demand was negatively impacted by a -317 koz reduction in platinum stocks held on exchange. In aggregate, the platinum market recorded a modest 11 koz deficit during Q2 2025.

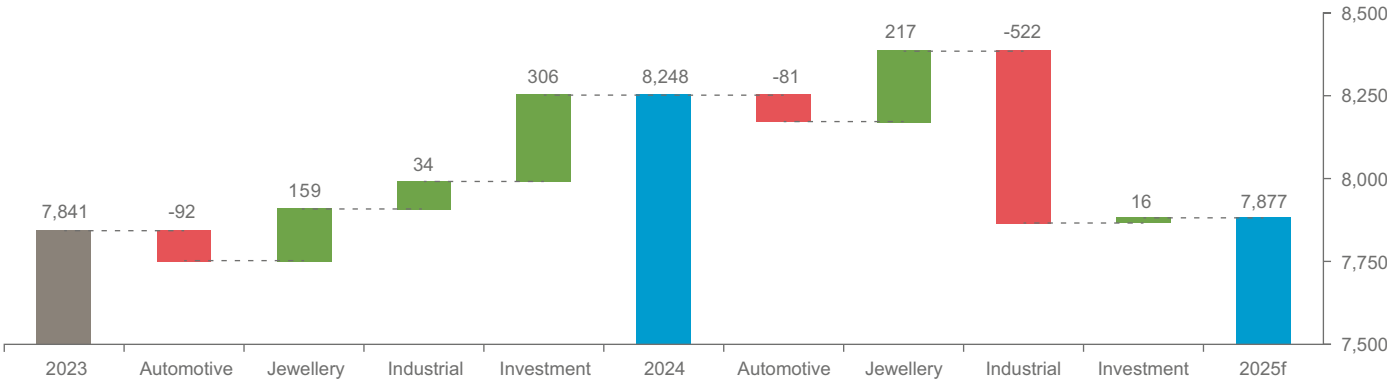
Updated 2025 outlook – a third consecutive and meaningful annual deficit

Platinum supply is expected to decline by -3% year-on-year in 2025. Depressed supply follows expectations for a -6% year-on-year reduction in mining output as South African producers will not be able to repeat the large drawdown of work-in-progress inventory that occurred last year. In contrast to mining, recycling supply is expected to rise by 6% year-on-year. Forecast recycling supply growth has been revised upward from 3% year-on-year growth previously due to higher prices incentivising more spent autocatalyst processing and jewellery sellbacks. Turning to demand and first looking at revisions since our last *Platinum Quarterly*; strong Chinese demand has led to upgrades to jewellery (increased by 111 koz) and investment (up by 30 koz) demand expectations for 2025. However, these have been more than offset by a downward revision of 210 koz to industrial platinum demand expectations in 2025. In aggregate, total platinum demand is forecast to decrease by 4% year-on-year to 7,877 koz. Industrial demand has the largest negative impact to total demand in 2025, with the glass segment facing a cyclical slowdown in new capacity additions which is leading to a 74% year-on-year reduction in demand (-515 koz). Elsewhere, whilst down 3% year-on-year, automotive demand is proving resilient in the face of ongoing electrification and tariffs. Jewellery demand is forecast to increase by 11% year-on-year, while investment demand is up 2% year-on-year for 2025f. For the full year, the platinum market is expected to record an 850 koz deficit which represents 11% of annual demand.

Annual total supply and changes 2023 to 2025f (koz)

Source: Metals Focus prepared for World Platinum Investment Council

Annual total demand and changes 2023 to 2025f (koz)



Source: Metals Focus prepared for World Platinum Investment Council

WPIC initiatives highlights

Our work with WPIC's wide and growing global network of product partners continues to provide us with insights to determine appropriate strategies for increasing investment in platinum.

During Q2 2025, in Europe and North America our partner sales exceeded those in the first quarter as strong investor interest and buying was enhanced by the increasing platinum price. This offset the reduced production and stock availability that occurred due to exceptionally high lease rates and the wider impact of tariffs on precious metals. While strong latent investor demand remains ongoing, since the end of the second quarter it has unfortunately continued to be frustrated by reduced production and availability of platinum bars and coins, as lease rates remain at elevated levels.

In China, WPIC partners achieved a record high in platinum sales in Q2 2025, with a year-on-year volume increase of over 110% driven by strong investor interest enhanced by the increase in the platinum price. This was accompanied by a revival in platinum jewellery manufacture and sales as jewellery fabricators and wholesalers in Shenzhen continued to move some or all of their capacity from gold jewellery to platinum jewellery. However, sales of platinum bars and jewellery in China slowed markedly in July and August as the 45% platinum price increase heightened business risk in the absence of the ability to hedge local price risk as well as some price sensitive buying fading away. This should be eased somewhat with the launch of Guanzhou Futures Exchange's platinum futures later this year.

WPIC successfully hosted the fifth annual Shanghai Platinum Week in the second week of July, with record-breaking attendance, including 500 delegates from 300 organisations worldwide.

In Japan, investor profit taking continued during the second quarter, as the yen price peaked, although it reversed in July as prices stabilised. Post quarter end, we have added a new product partner, Asahi Metalfine Inc., which has commenced fabricating platinum investment bars for sale through online channels. Our partner in Singapore, Silver Bullion, also achieved robust growth in platinum sales, led by the price increase-driven investor interest and buying.

Trevor Raymond, CEO

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Table 1: Supply, demand and above ground stock summary (this data is repeated in tonnes in Table 7 on page 24)

	2021	2022	2023	2024	2025f	2024/2023 Growth %	2025f/2024 Growth %	Q1 2025	Q2 2025
Platinum Supply-demand Balance (koz)									
SUPPLY									
Refined Production	**6,295**	**5,520**	**5,604**	**5,766**	**5,426**	**3%**	**-6%**	**1,106**	**1,453**
South Africa	4,678	3,915	3,957	4,133	3,869	4%	-6%	713	1,054
Zimbabwe	485	480	507	512	491	1%	-4%	114	137
North America	273	263	275	254	189	-8%	-26%	52	57
Russia	652	663	674	677	686	0%	1%	180	155
Other	206	200	190	191	191	0%	0%	47	49
Increase (-)/Decrease (+) in Producer Inventory	-93	+43	+11	-2	+0	N/A	N/A	-22	+0
Total Mining Supply	**6,202**	**5,563**	**5,615**	**5,764**	**5,426**	**3%**	**-6%**	**1,084**	**1,453**
Recycling	**2,107**	**1,811**	**1,515**	**1,516**	**1,601**	**0%**	**6%**	**372**	**423**
Autocatalyst	1,619	1,370	1,114	1,143	1,210	3%	6%	277	313
Jewellery	422	372	331	298	309	-10%	4%	75	90
Industrial	67	69	71	76	81	7%	7%	19	20
Total Supply	**8,309**	**7,374**	**7,130**	**7,280**	**7,027**	**2%**	**-3%**	**1,456**	**1,876**
DEMAND									
Automotive	**2,466**	**2,778**	**3,206**	**3,114**	**3,033**	**-3%**	**-3%**	**769**	**769**
Autocatalyst	2,466	2,778	3,206	3,114	3,033	-3%	-3%	769	769
Non-road	†	†	†	†	†	N/A	N/A	†	†
Jewellery	**1,953**	**1,880**	**1,849**	**2,008**	**2,226**	**9%**	**11%**	**533**	**668**
Industrial	**2,403**	**2,166**	**2,389**	**2,423**	**1,901**	**1%**	**-22%**	**365**	**513**
Chemical	660	672	839	625	575	-26%	-8%	159	146
Petroleum	169	193	159	158	181	0%	14%	45	45
Electrical	135	106	89	93	95	5%	2%	22	24
Glass	713	436	491	692	177	41%	-74%	-78	82
Medical	267	278	292	308	320	6%	4%	78	80
Hydrogen Stationary and Other	17	13	22	41	49	87%	19%	10	10
Other	443	469	497	505	503	2%	0%	127	126
Investment	**-3**	**-516**	**397**	**702**	**718**	**77%**	**2%**	**461**	**-64**
Change in Bars, Coins	349	259	322	194	282	-40%	45%	70	109
China Bars ≥ 500g	27	90	134	162	186	20%	15%	35	47
Change in ETF Holdings	-241	-558	-74	296	100	N/A	-66%	-6	97
Change in Stocks Held by Exchanges	-139	-307	14	50	150	244%	200%	361	-317
Total Demand	**6,818**	**6,308**	**7,841**	**8,248**	**7,877**	**5%**	**-4%**	**2,128**	**1,886**
Balance	**1,491**	**1,066**	**-712**	**-968**	**-850**	**N/A**	**N/A**	**-672**	**-11**
Above Ground Stocks	**4,442****	**5,508**	**4,796**	**3,828**	**2,978**	**-20%**	**-22%**		

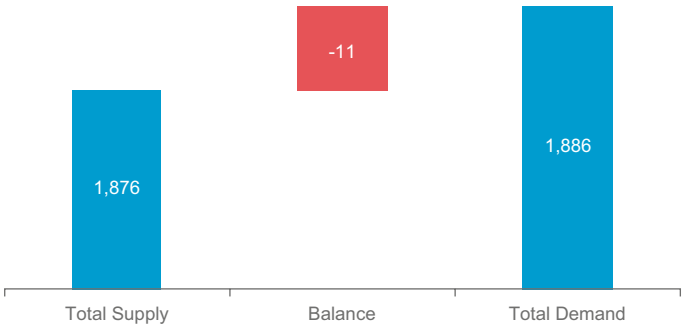
Source: Metals Focus 2021 - 2025f.

1. **Above Ground Stocks 3,650 koz as of 31 December 2018 (Metals Focus).
2. † Non-road automotive demand is included in autocatalyst demand.
3. All estimates are based on the latest available information, but they are subject to revision in subsequent quarterly reports.
4. The WPIC did not publish quarterly estimates for 2013 or the first two quarters of 2014. However, quarterly estimates from Q3'14, to Q1'23 are contained in previously published PQs which are freely available on the WPIC website.
5. Quarterly estimates from Q2'2023 and half-yearly estimates from H1'2023 are included in Tables 3 and 4 respectively, on pages 20 and 21 (supply, demand and above ground stocks).
6. Details of regional recycling supply in Table 6 on page 23 are only published from 2019.

2025 SECOND QUARTER PLATINUM MARKET REVIEW

In Q2'25, the platinum market was close to balance, with demand during the quarter impacted by outflows from CME warehouses, as tariff concerns eased. This was in spite of the fact that total supply contracted 4% (-79 koz) year-on-year, mainly due to lower primary production, with Q2'24 flattered by release of work-in-progress inventories which were not repeated this quarter as well as flooding and other Q1'25 operational challenges spilling into Q2. An increase in secondary supply was insufficient to offset this decline. On the demand side, growth in jewellery consumption more than compensated for weaker automotive demand, while industrial demand contracted 24% year-on-year, in the absence of new LCD capacity compared with Q2'24.

Chart 1: Supply-demand balance, koz, Q2 2025



Source: Metals Focus prepared for World Platinum Investment Council

Supply

Global refined mine supply fell 6% year-on-year to 1,453 koz, driven by lower output from South Africa and Russia.

Following the flooding and processing constraints in Q1'25, South African supply rebounded strongly quarter-on-quarter, jumping 48% as operations largely normalised and volumes recovered from the seasonally low first quarter. However, production in Q2'25 declined 6% year-on-year to 1,054 koz, primarily due to the depletion of semi-finished inventory at Valterra Platinum that had boosted refined output in 2024.

Valterra's Q2 output continued to be constrained by the flooding at Amandelbult which occurred in the previous quarter. While production from Tumela Lower resumed in June, the most affected section of the mine is not expected to return to full capacity until Q3'25.

Implats continued to face processing constraints, although the rebuild of Furnace 3 was completed during the quarter. As a result, refined volumes lagged mined output, with semi-finished inventory rising to around 200 koz by the period-end. In contrast, increased processing capacity at Northam supported higher production, partially offsetting declines elsewhere in South Africa.

Russian supply fell 14% year-on-year to 155 koz, reflecting lower ore output and a build in semi-finished inventory at Nornickel, the country's main producer. The withdrawal of key Western mining equipment suppliers from Russia means Nornickel is transitioning to alternative sources, which impacted ore production during the quarter.

Output from Zimbabwe rose 9% year-on-year to 137 koz, a quarterly all-time high. The increase was driven by the smelter expansion at Zimplats, which enabled a drawdown of semi-finished inventory accumulated during commissioning.

North American production edged down 4% year-on-year, as lower volumes at Sibanye-Stillwater's US operations, following restructuring to a smaller operating footprint, were only partially offset by a recovery at Vale's Canadian operations, after scheduled maintenance in 2024.

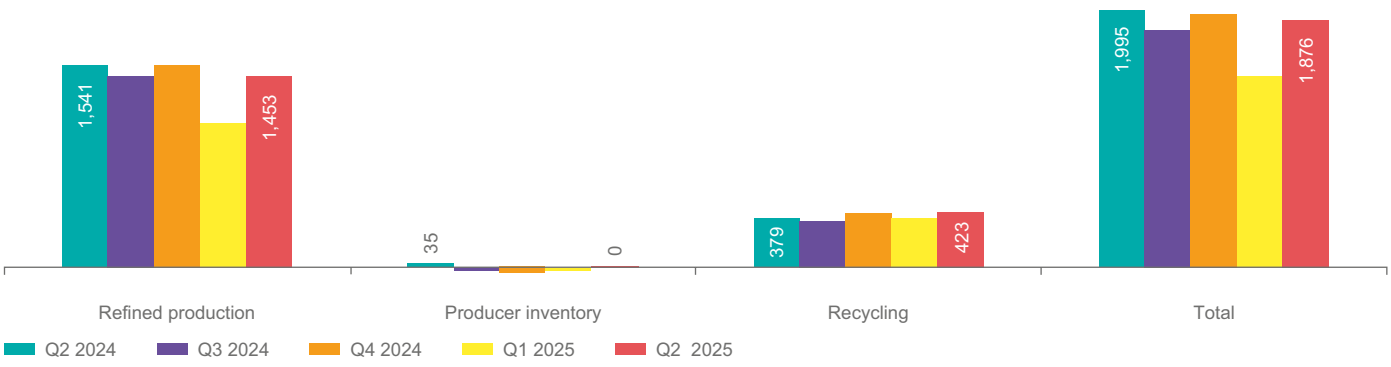
Recycling

Global recycling supply rose 12% year-on-year to 423 koz, with gains across all scrap segments. In autocatalyst scrap recycling we saw a continuation of the trends observed in Q1'25, as China's scrappage scheme boosted local recycling, while higher metal prices provided some support in other regions. However, PGM price increases only began materialising from late May 2025 so many recyclers still reported muted inflows, and weak economics led to contraction, closures, and restructuring within the collection and recycling segments of the value chain.

While all regions bar Japan saw increased flows of scrap jewellery, the flows in China were most notable. Chinese platinum jewellery scrap increased 45% year-on-year in Q2'25, mainly driven by the sharp rally in the local SGE platinum price. In addition, some leading retailers scrapped unsold jewellery pieces during the June price peaks.

In contrast, jewellery scrap supply in China declined, as the destocking of platinum jewellery in favour of gold, observed in Q1'24, did not reoccur. Elsewhere, jewellery scrap supply was either flat or recorded modest gains. Electronics recycling saw an increase to 19 koz, up 13% year-on-year, supported by higher collection rates especially in respect of e-scrap generated from hard-disk drives.

Chart 2: Platinum supply, koz

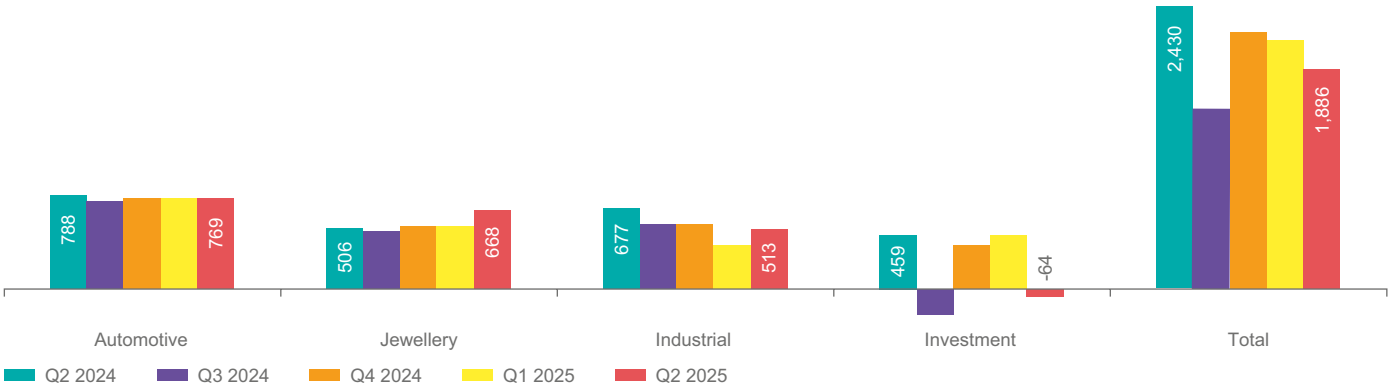


Source: Metals Focus prepared for World Platinum Investment Council

Demand

Global demand in Q2'25 was shaped by investment flows, as warehouse stocks built up in Q1'25 on tariff concerns were released back into the market. Total demand declined 22% year-on-year to 1,886 koz. The absence of new glass and chemical plant expansions in China was an additional drag. By contrast, jewellery demand rose 32% year-on-year, while automotive demand proved resilient, contracting only 2% year-on-year despite significant tariffs on vehicles and parts.

Chart 3: Platinum demand, koz



Source: Metals Focus prepared for World Platinum Investment Council

Automotive demand

Global light-duty vehicle (LDV) output increased 2% year-on-year in Q2'25 to 22.7M units, led by China, where battery electric vehicle (BEV) production expanded 16%. In North America and Europe, tariffs, tighter regulation and weaker affordability curbed production. Automakers scaled back forecasts and restructured output plans due tariff pressures and uncertainty. Heavy-duty vehicle (HDV) output was flat year-on-year at 3.3M units, with catalysed HDVs down 4%. Global automotive platinum demand slipped 2% (-19 koz) to 769 koz.

In North America, output cooled after a pre-tariff sales rush in Q1'25. Despite discussions around a rollback of emissions standards, the Corporate Average Fuel Economy (CAFE-3) rules for 2025 remained unchanged, imposing immediate compliance pressures and prompting automakers to shift line-ups toward electrified powertrains. This supported healthy hybrid growth, softening the impact of the decline in internal combustion engine (ICE) production on platinum group metals' demand. Against a record Q2'24 base, HDV production fell 27% in Q2'25 amid soft freight conditions and elevated inventories. With the anticipated EPA27-related fleet pre-buy not materialising and regulatory signals reducing near-term urgency, platinum demand fell 8% (-11 koz) to 118 koz.

In Europe, LDV production fell 2% as US tariffs cut exports, and rising costs weighed on output. Automakers delayed BEV launches in favour of hybrids, reflecting regulatory strain and affordability challenges. Hybrid production rose 17%, cushioning part of the fall in ICE volumes. The shifting powertrain mix and lower production saw platinum demand contract by 6% (-16 koz) to 246 koz.

In China, output remained strong, supporting growth in platinum demand. The New Energy Vehicle (NEV) credit system, which requires automakers to meet quotas of BEV, plug-in hybrid electric vehicle (PHEV) and fuel cell electric vehicle (FCEV) sales or buy credits, alongside tighter emissions limits, lifted production. China HDV production rose 17%, supported by subsidies and Stage 4 fuel-consumption standards for new models introduced in July 2025. HDV BEV sales expanded, while hybrids gained ground as a cost-effective compliance route. HDV ICE production also increased 7% year-on-year. These shifts lifted demand for platinum in after-treatment systems by 6% year-on-year.

In Japan and the Rest of World, conditions were mixed. Japanese automakers sustained steady output, supported by strong hybrid output and their ability to balance emissions compliance with affordability. In emerging markets, output was uneven as currency weakness and cost pressures limited demand, though some export-led economies gained modestly from shifting trade flows. For example, while output in Mexico, hit by tariff uncertainties, was down 8%, production in Argentina and Brazil was up 21% and 11% respectively. Hybrid growth was strong increasing by 37%, largely offsetting the decline in ICE production and resulting in total catalysed vehicle production in Q2'25 remaining flat. In addition, new regulations taking effect in 2025 in several jurisdictions within the Rest of World category further supported demand growth.

Jewellery demand

Global platinum jewellery demand increased by 32% year-on-year in Q2'25 to 668 koz, the highest since Q4'17. This in turn contributed to the highest first half total since 2015.

Jewellery fabrication in Europe is estimated to have risen by 7% in Q2'25. The widening price differential between platinum and gold, which increased by an average of 63% in Q2'25 versus Q2'24, has helped platinum outperform the broader weakness in the jewellery sector. In certain markets, we have seen platinum gain market share against the yellow metal. Meanwhile, a higher share of platinum in the bridal market, combined with relative price insensitivity for high-end branded jewellery, provided a degree of price inelasticity, limiting the impact of platinum's own price gains in the quarter. Consequently, platinum's jewellery performance in H1'25 was stronger than gold, which recorded a significant contraction in weight terms. Supporting this trend, UK hallmarking rose by 11% year-on-year in April-May, while Swiss watch hallmarking increased by 28% year-on-year in April-June.

In North America, jewellery fabrication demand was broadly flat year-on-year. However, with imports declining, and lower stock replenishment versus Q2'24, consumption of finished jewellery is estimated to have grown by 2%. As in Europe, the widening platinum–gold price differential supported platinum jewellery in weight terms, as total consumer spend on jewellery in North America continued to increase. Platinum jewellery unit sales also outperformed gold, diverging from the broader trend of reducing the metal content per jewellery unit. Additional support came from gem-set platinum jewellery, where falling diamond prices boosted purchases, more than offsetting the 9% year-on-year increase in platinum prices.

Japan was another market where the platinum-gold price gap continued to boost demand in Q2. Fabrication rose by 10% to around 105 koz, the largest figure recorded and first foray above the 100 koz mark since Q3'19. Once again feedback from our contacts suggested that both local sales and exports did well and we had positive feedback from the June Hong Kong show. We continued to hear about interest for platinum as an alternative to white gold from certain South East Asian buyers, although we should stress here that the absolute volumes of those flows remain limited.

Turning to China, platinum jewellery fabrication more than doubled year-on-year in Q2'25, lifting total demand in H1'25 by 82% year-on-year. Faced with higher financing costs from rising gold prices, lacklustre retail sales, and a prevailing view that platinum was undervalued, many Shenzhen showrooms undertook aggressive inventory building. More than ten new platinum jewellery showrooms opened in Shuibei during Q2'25, each holding inventories of 200–300 kg. In addition, many small-scale jewellery counters in showroom basements shifted focus from gold to platinum. Most of the gains occurred in April and the first three weeks of May. However, without conclusive evidence that retail consumption is matching the pace of fabrication and concerns about a near-term price correction grew, following platinum's price gains, showroom and manufacturer activity slowed sharply in June.

In Q2'25, India's platinum jewellery demand remained resilient, with fabrication rising 10% year-on-year to 53 koz, despite a slow start to the year. Exports, however, fell 12% year-on-year due to uncertainty around US tariffs, weighing on overall fabrication. Meanwhile, the expansion of major jewellery retail chains, combined with the higher margins associated with platinum, has encouraged more retailers to stock the metal and promote platinum sales – particularly as gold jewellery demand suffers from higher prices. Bi-metal jewellery, which combines platinum with yellow or rose gold, remains the fastest-growing segment. Its visibility is further enhanced as it is displayed within the more prominent gold sections of retail stores, helping to lift sales.

Industrial demand

Industrial platinum demand fell by 24% year-on-year to 513 koz in Q2'25, driven by a strong 2024 base which was boosted by exceptional glass capacity expansions. In contrast, demand rose by 41% quarter-on-quarter, largely reflecting the return of positive glass demand.

Chemical

Platinum chemical demand declined by 14% year-over-year to 146 koz, primarily due to a slowdown in capacity expansion for paraxylene (PX) and propane dehydrogenation (PDH). In May, Fuzhou Wanjing Petrochemical launched production at its new 900,000t PDH plant in China, the only new global capacity addition in Q2. This left most platinum demand in the petrochemical sector stemming from top-ups at existing facilities rather than new builds. In contrast, demand from the silicone industry edged higher. Despite ongoing uncertainty surrounding US tariff policies, major silicone producers reported stable or increased output, driven by strong demand from downstream sectors such as healthcare, consumer goods, and electronics. Meanwhile, the use of platinum in nitric acid production remained relatively steady, showing little variation from previous quarters.

Petroleum

Platinum demand from the petroleum sector remained steady quarter-on-quarter, but rose 14% year-on-year, driven by increased top-up demand following catalyst changeouts at gas-to-liquid (GTL) plants and continued momentum in biofuel project investments. Despite a sharp escalation in geopolitical tensions in the Middle East, global oil supply experienced minimal disruption during the quarter. In fact, supply continued to grow as OPEC+ producers began unwinding voluntary production cuts, and production from non-OPEC continued to rise. Regional performance remained mixed, consistent with the previous quarter. The "Other" region contributed the bulk of the gains, supported by ongoing oil refining capacity additions and elevated GTL catalyst activity. Europe, by contrast, recorded the largest decline, with several refining facilities scheduled for permanent closure in 2025, weighing on platinum demand in the region.

Medical

In Q2'25, platinum medical demand increased by 4% (+3 koz) year-on-year to 80 koz, following a jump in North American cancer treatment offtake and stronger demand for medical devices in emerging markets.

Glass

In Q2'25, platinum glass demand dropped 64% year-on-year to 82 koz, reflecting the elevated Q2'24 base amid large-scale Chinese LCD expansions. The latest quarter also lags the 2022–2024 average of 135 koz, with no new LCD capacity added as the sector moves past a cyclical investment phase. While fibreglass demand remains on an upward path, growth is moderating after several years of sustained investment in capacity expansions.

Electrical

Demand from the electronics segment in Q2'25 rose by 3% year-on-year (+1 koz). This growth was primarily driven by the ongoing expansion of data centres, which in turn is linked to the explosive growth of artificial intelligence (AI) and machine learning (ML) applications, and the wider adoption of cloud and edge computing solutions. These factors collectively boosted data storage demand, which stabilised hard disk drive (HDD) shipments. The growing market for high-capacity HDDs, which require greater metal loading, also fuelled demand for related materials. Concurrently, there was steady growth in platinum alloy demand for advanced semiconductor processes. While the trade war had some impact in June, overall nearline storage supported short-term growth in the storage sector.

Hydrogen: Stationary and Other

In Q2'25, platinum demand in hydrogen-based applications increased 20% year-on-year. Despite a political pivot towards security and defence diverting funding away from green energy programmes, key manufacturers reported expanding order books and active project deployment. In North America, the extension of hydrogen tax credits to January 2028 is supportive of the sector.

Other

Global other industrial demand declined by 2% (-3 koz) year-on-year to 126 koz in Q2'25. Within the automotive sector, a slight year-on-year drop ICE production, coupled with a more cautious stocking momentum in the aftermarket supply chain, led to a decrease in demand for spark plugs and sensors.

Investment demand

The second quarter saw global bar and coin investment surge by 660% year-on-year (+95 koz) to 109 koz, the highest level since Q1'23. This was almost entirely the result of a sharp increase in Chinese demand, which hit a new high. To put this performance into perspective, excluding China, the market would have seen net disinvestment of 5 koz.

Bar and coin demand in China surged to 114 koz, 6.6 times demand in Q2'24. Investors believed platinum to be undervalued, especially when the spread between platinum and gold reached a record high of $2,449/oz or 589 yuan/g on 22nd April. After that, the spread remained elevated, averaging $2,265/oz or 522 yuan/g in May. As the white metal's price strengthened further and broke through the important psychological level of $1,300/oz or 300 yuan/g in mid-June, local speculative demand rocketed.

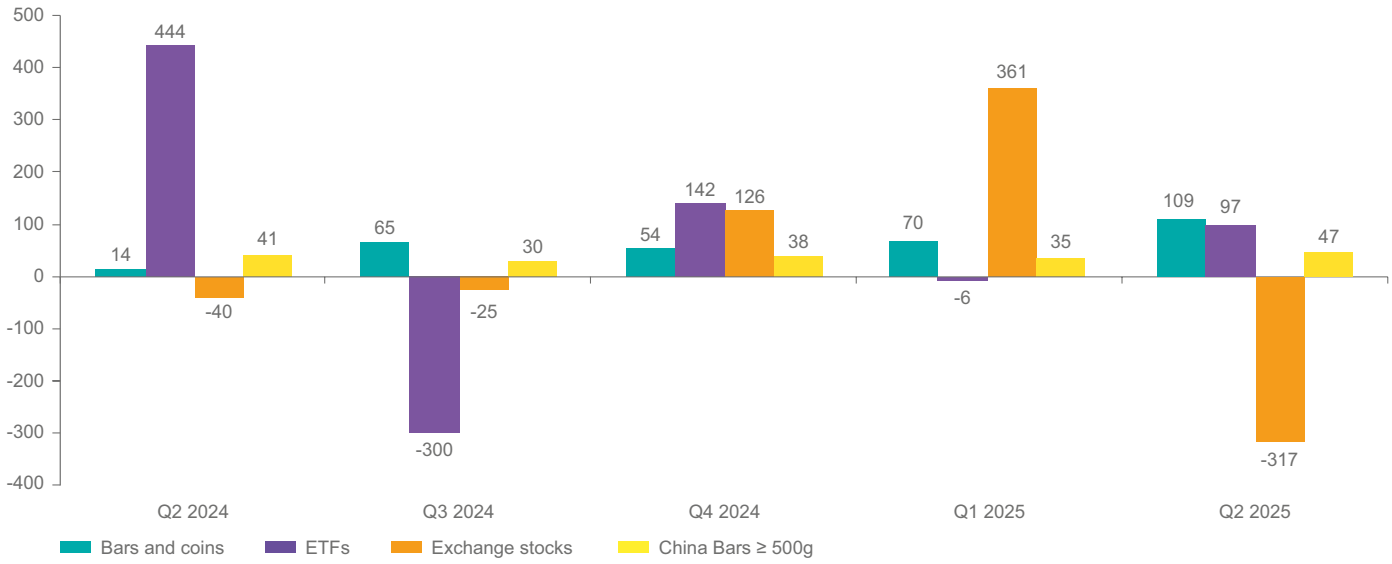
With regards to North America, Q2 recorded a 43% year-on-year decline (-12 koz) to just 16 koz. This reflected two key points, the impact of US tariffs and a jump in lease rates. The former saw imports of minted bars from outside the region hit with a 10% tariff, shipments of which immediately collapsed. In terms of lease rates, the jump was so pronounced that the cost of funding work-in-progress stocks made it prohibitively expensive to produce most bars and coins. These two factors created a shortfall in the market, which was exacerbated as the jump in the platinum price generated interest among investors for physical metal.

In Europe, bar and coin investment fell by 21% (-2 koz) year-on-year to 6 koz in Q2'25. Although the region saw much improved precious metals demand, strength for platinum during the early part of the quarter weakened as the quarter progressed, reflecting the impact of the surge in lease rates.

Lacklustre appetite from investors and some opportunistic selling on the back of price increases pushed the Japanese market further into disinvestment. The one silver lining was that during the June rally, we understand that both gross buying and selling rose significantly, suggesting that platinum can still excite Japanese investors, if price volatility is there.

Platinum ETF holdings rose 97 koz to 3,399 koz in Q2'25. Amid strong early-quarter investor interest, holdings hit a mid-June peak of 3,507 koz, their highest level since June 2024. Subsequent profit-taking above $1,250/oz, led by European funds, drove outflows that released physical metal back into the market and helped ease record-high lease rates, which at one point approached 40%.

Chart 4: Platinum Investment, koz



Source: Metals Focus prepared for World Platinum Investment Council

Reported platinum warehouse stocks fell 317 koz to 320 koz in Q2'25, nearly halving from their Q1'25 peak of 636 koz which was the highest level since the COVID-era dislocations of 2021. The Q1 build-up reflected dealer demand for US-based metal amid tariff concerns. But with unprocessed platinum (e.g. ingot and sponge) ultimately exempted from tariffs and OTC market conditions tight, inventories saw steep drawdowns. In July, restocking resumed as the US imposed tariffs on copper and reaffirmed 30% tariffs on South Africa, reigniting traders' concerns and prompting renewed demand for US-located metal. The exchange for physical (EFP) spread jumped to $80/oz.

2025 OUTLOOK

The platinum market is expected to record a third consecutive annual deficit, at 850 koz. By year-end, above ground stocks will have declined by a cumulative 2,529 koz since end-2022. Supply is forecast to fall 3% (-253 koz) to 7,027 koz, reflecting operational disruptions in South Africa and structural adjustments prompted by the persistently low PGM basket price.

On the demand side, total demand is projected to decline 370 koz to 7,877 koz, led principally by weaker industrial demand. Resilient jewellery demand will provide some offset, but automotive and industrial demand are set to contract following the introduction of tariffs and far fewer capacity expansions.

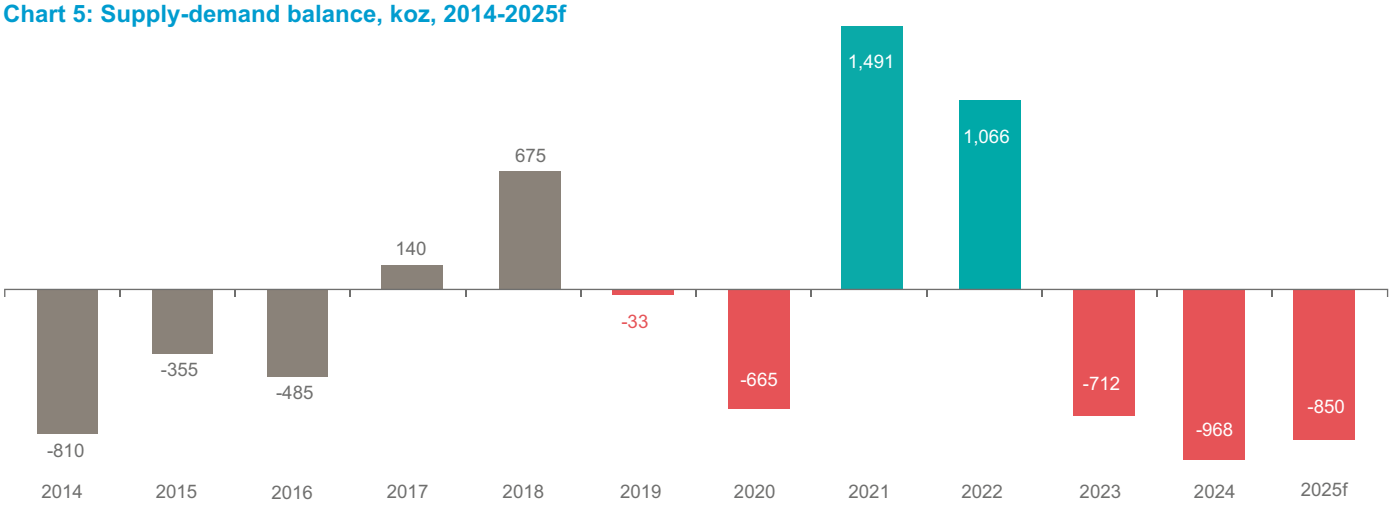
Supply

Despite a softer-than-expected first half, we have maintained the full-year outlook for global refined mine production at 5,426 koz, unchanged from the last *Platinum Quarterly*. The processing constraints that impacted H1 are expected to ease, supporting a recovery in the second half. In H1'25, volumes fell 8% year-on-year. While further declines are expected in H2'25, their pace is projected to moderate to 4% year-on-year.

Although unusually high rainfall in Q1'25 disrupted mined output, particularly at the Amandelbult mine, processing constraints accounted for much of the decline in H1. With the recovery of Valterra's processing capacity following the Q1 triannual stock count, the ramp-up of the expanded Zimplats smelter, and the completion of maintenance at Implats' South African smelters, these constraints are expected to ease in H2. However, with Valterra's semi-finished inventories now depleted, which had boosted supply in 2024, refined output is expected to align more closely with mined output, which remains in structural decline.

A sharp rebound in the platinum price, alongside gains across the broader PGM complex, has lifted the USD South African basket price by 44% year-to-date. This has materially improved the economics of South African platinum mining and alleviated the margin pressure driven downside risk to the 2025 outlook referenced in previous editions of *Platinum Quarterly*. Despite the rally, the current

Chart 5: Supply-demand balance, koz, 2014-2025f



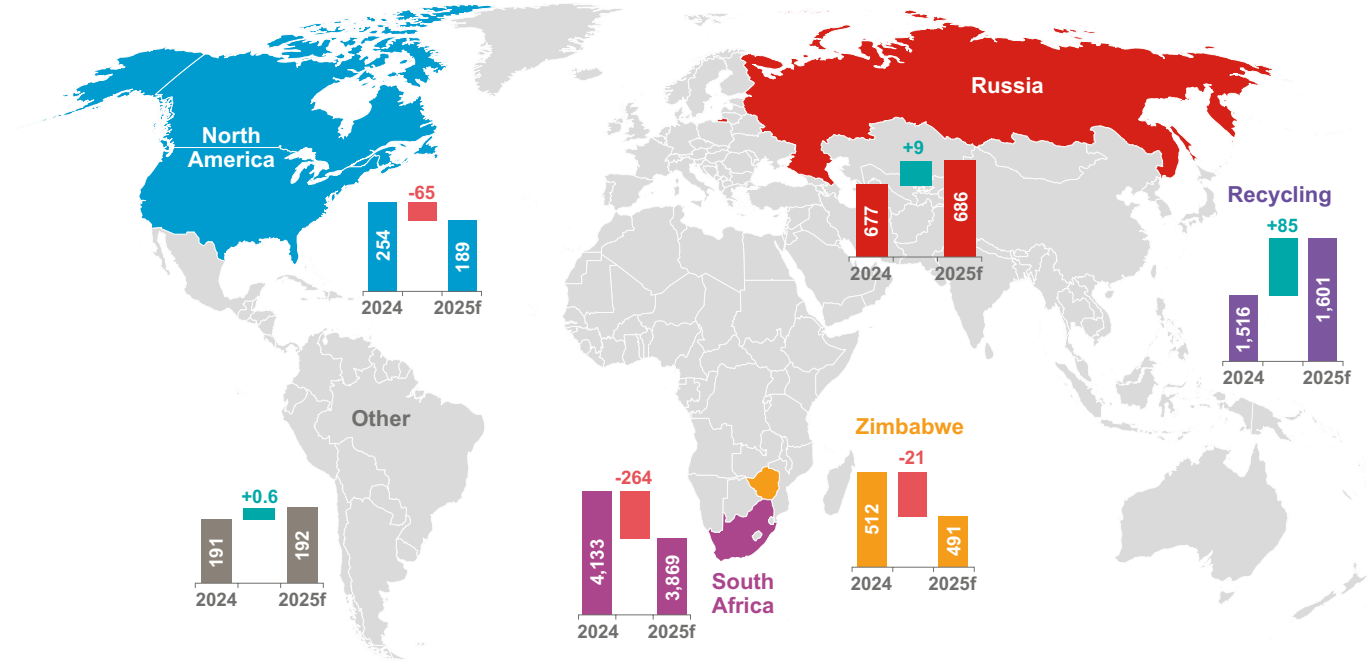
Source: SFA Oxford (2014 – 2018), Metals Focus (2019 – 2025f)

basket price only just matches the longer-term price assumptions underpinning producers' mine plans. Consequently, the structural decline in platinum supply, already built into producer strategies, is likely to persist.

South African mine output is projected to fall by 6% year-on-year in 2025, to 3,869 koz. Barring the strike-disrupted year of 2014 and the ACP shutdown in 2020, this represents the lowest annual production in roughly a quarter of a century.

Platinum supply from Zimbabwe is expected to contract by 4% year-on-year to 491 koz, retreating from the record level achieved in 2024. The decline is primarily attributable to the non-reoccurrence of a drawdown of semi-finished stock that boosted last year's volumes, combined with regional electricity shortages.

Chart 6: Changes in supply, koz, 2024 vs. 2025f



Source: Metals Focus prepared for World Platinum Investment Council

In North America, output is forecast to slump by 26% year-on-year to 189 koz, the lowest output in 30 years. This downturn stems from Sibanye-Stillwater's restructuring of its US assets, coupled with reduced production from Canadian nickel by-product operations, which face margin pressure. Russian mine supply, by contrast, is anticipated to remain broadly steady, edging up by 1% year-on-year to 686 koz.

Recycling

Platinum recycling is expected to continue recovering in 2025. We forecast a 6% increase (+85 koz) to 1,601 koz. Secondary supply from spent catalysts should benefit modestly from releases of spent catalytic converters hoarded during lower PGM prices and from improved clarity on tariffs, allowing cross-border flows. China's scrappage scheme will provide further support. However, volumes remain historically low and are still 25% below pre-Covid and peak-2021 levels.

Jewellery scrap recycling for the year is set to improve, mainly due to the Q2'25 price rally. In China, higher-than-expected volumes in Q2'25 lifted H1'25 scrap by 10% year-on-year. We have revised our full-year jewellery scrap forecast up to 8% year-on-year growth, mainly due to an upward revision in Metals Focus quarterly price outlook for H2'25.

Demand

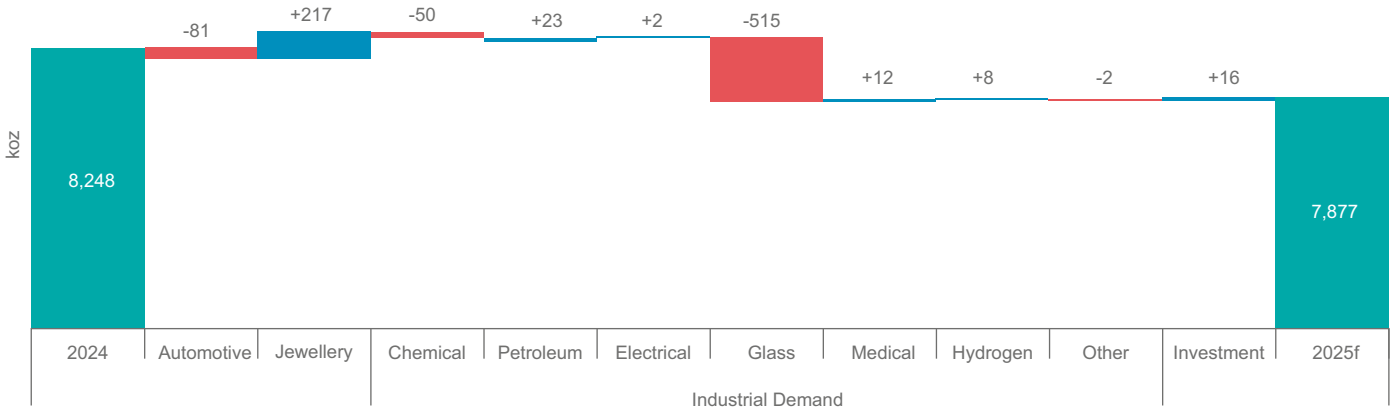
Global platinum demand is expected to contract by 4% year-on-year (-370 koz) to 7,877 koz in 2025. Lower automotive demand, plagued by tariffs and ongoing electrification will be more than offset by growth in jewellery demand. However, fewer glass and chemical plant expansions will weigh on this year's demand. Investment demand should increase by 2% year-on-year reaching 718 koz.

Automotive demand

Tariffs have added fresh headwinds for the automotive sector, resulting in a downward revision in global production outlook since Q4'24 by as much as 1.12M units (-1.3%). Light-duty vehicle (LDV) output in 2025 is now estimated to reach 90.7M units, up less than 1% on 2024. Catalysed LDV volumes are forecast to fall 3% year-on-year to 76.4M units. Heavy-duty vehicle (HDV) output is expected to remain flat at 3.3M units, with catalysed buses and trucks slipping 3%. Overall, lacklustre production and a lower catalysed share are set to reduce automotive platinum demand by 3% (-81 koz) to 3,033 koz. Modest gains in total vehicle output will come from battery electric vehicles (BEVs) and hybrids, while internal combustion engine (ICE) vehicle production continues to contract.

In Europe, platinum demand is forecast to decline 7% year-on-year to 952 koz in 2025. While automakers have gained some relief from carbon dioxide (CO_2) emissions penalties, with fleet averages now calculated over three years, they are still expanding BEV model offerings. BEV output is expected to grow 29%, while diesel's share is forecast to fall from 25% to 22%. New US import

Chart 7: Changes in demand by category, 2024 vs. 2025f



Source: Metals Focus prepared for World Platinum Investment Council

tariffs are reducing exports, while the EU's tariffs on China-built BEVs are raising costs for these imports and accelerating localised BEV assembly. Hybrids offer a bridge to compliance leading to a 19% increase in output partially offsetting the decline in platinum demand due to the 24% decline in ICE production. HDV production is expected to stay flat year-on-year following the spike seen in H1'24 due to pre-buy activities ahead of the EU General Safety Regulation.

In North America, platinum demand is forecast to fall 9% (-44 koz) year-on-year to 442 koz. LDV output is set to contract 5% on weaker sales, while HDV production is forecast to drop 27% as freight demand remains weak and pre-buying last year (ahead of Environmental Protection Agency (EPA) 2027 standards), limits fleet expansions. Corporate Average Fuel Economy (CAFE-3) rules in 2025 are driving hybrid output higher, but tariffs and expectations of less stringent CO_2 regulations beyond 2026 are slowing BEV investment. ICE models, especially trucks and SUVs, remain important, but fleet balancing is constraining production volumes of these models and as such platinum demand.

In Japan, platinum demand is forecast to increase 3% (+10 koz) in 2025. Growth in both LDV and HDV production, including a 6% lift in truck output, supports the rise. Steady hybrid volumes and stronger ICE sales underpin demand, while BEV adoption is slower due to weaker incentives.

In China, production remains supported by scrappage and renewal schemes. Robust LDV sales and recovering HDV demand, lifted by Stage 4 fuel-consumption standards, underpin growth expectations of 3% (+17 koz) to 549 koz. BEV and hybrid volumes continue to expand under the New Energy Vehicle (NEV) credit system and subsidies. However, the rapid shift to electrified vehicles is reducing the catalysed share, constraining platinum demand despite stable total vehicle output.

In the Rest of the World, platinum demand is forecast to rise 1% in 2025. ICE vehicles remain dominant, while BEV growth is held back by infrastructure and grid limitations. Hybrids are expected to increase 33%, offsetting ICE declines.

Substitution of palladium with platinum is expected to peak at 845 koz in 2025, partially offsetting losses from weaker ICE output.

Jewellery demand

Jewellery demand is expected to continue the recovery seen in 2024, increasing by 11% year-on-year to 2,226 koz, its highest since 2018.

Demand this year in Europe is forecast to rise by 7% to a record high, with both bridal and the top end brands contributing to gains. Much is due to a shift from white gold as more consumers and those in the trade either become aware of, or finally react to, price differentials. In addition, platinum jewellery is holding up better in terms of unit sales versus a meaningful contraction in the gold jewellery sector.

Full year demand in North America is forecast to grow by 8%, which would mean offtake surpassing the immediate post-COVID record highs. Most of the growth will flow through from yet wider fine metal price differentials (and the generous margins this opens up for retailers) plus still lower diamond prices (especially lab-grown). These factors will combine to ensure that platinum jewellery should avoid the fate of contracting gold jewellery unit sales.

Healthy gains in the first six months of the year and expectations that growth will continue in the second half are behind our forecast of a 5% increase in Japanese jewellery demand this year. The same drivers that helped platinum fare well this year so far, namely the price gap between platinum and gold and successful efforts by the industry to promote platinum as an alternative to both white gold but also in some cases yellow gold products, are expected to persist over the third and fourth quarters.

To reflect the higher-than-expected demand in Q2'25, we lifted our expectation for Chinese platinum jewellery fabrication in 2025 to a 42% year-on-year increase to 585 koz (18.2t). In fact, we have taken only a conservatively positive view for demand in H2'25 (with a modest increase of 5%), because we are concerned that the headwinds from impaired consumer sentiment and lack of leading retailers' aggressive promotion for platinum will limit the scope for further growth.

For 2025, fabrication in India is expected to decline by 10% year-on-year to 240 koz, largely due to weaker exports amid ongoing US tariff uncertainty. Exports, which made up nearly 40% of fabrication last year, are forecast to fall by around 45% year-on-year in 2025. On the domestic front, platinum is expected to benefit from elevated gold prices, which should encourage customers to shift away from gold. In addition, the growing preference for lightweight studded jewellery provides another opportunity for platinum to attract buyers.

Industrial demand

Industrial platinum demand is expected to fall 22% year-on-year in 2025 to 1,901 koz, the lowest level since 2017, following a 210 koz downgrade from the prior report. The revision is primarily due to reduced net glass demand, driven by the closure of a key Japanese LCD plant. This, combined with prior expectations for a slowdown in Chinese capacity growth versus last year, accounts for much of the annual decline. Chemical demand is forecast to fall 8%, while other sectors show flat-to-modest gains. Industrial demand is now set to contribute just 24% of total demand, the smallest share since 2017.

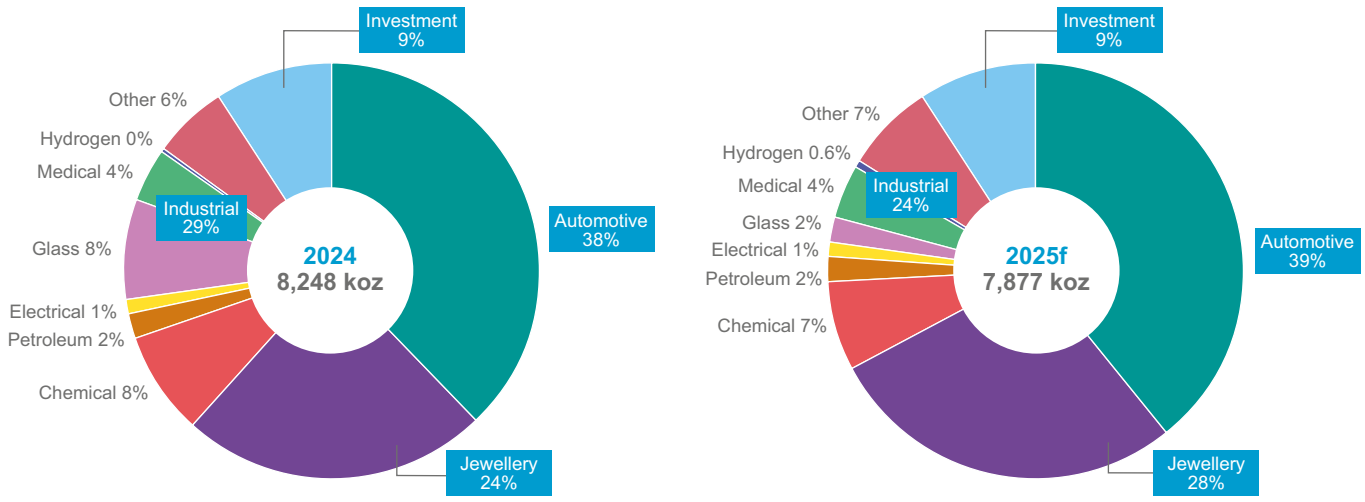
Glass

Platinum glass demand is projected to fall 74% year-on-year (-515 koz) to 177 koz in 2025, the lowest level in our series. The sharp decline reflects a slowdown in China's LCD sector after several years of strong expansions, making 2025 its quietest year since 2019. Meanwhile, major LCD plant closures in Japan will result in negative net LCD platinum demand, as metal is returned to the market. In the fibreglass segment, China (accounting for two-thirds of global capacity) remains the growth driver, although momentum is easing. This comes amid elevated global capacity. Outside China and Japan, the 'Other' region is forecast to return to net positive demand, rebounding after LCD plant closures in South Korea and Taiwan last year.

Chemical

Platinum chemical demand is projected to decline for the second consecutive year, falling 8% year-on-year to a seven-year low of 575 koz. This downturn is largely attributed to a subdued outlook for new capacity additions in global paraxylene (PX) and propane dehydrogenation (PDH) projects through the remainder of 2025. Much of this slowdown reflects the aftermath of significant capacity expansion in China in recent years, making a deceleration both expected and inevitable. Moreover, petrochemical manufacturers have faced mounting headwinds so far this year, including shrinking product margins and weakened demand from downstream industries amid the broader global economic slowdown. These factors may well lead to project delays and lower capacity utilisation rates across the industry. While platinum demand from the petrochemical sector is set to decline, this will be partially offset by growth in the silicone industry. However, ongoing macroeconomic uncertainties are likely to constrain this growth, keeping it modest. Meanwhile, demand from the fertiliser industry is expected to remain stable, with only limited new capacity additions anticipated.

Chart 8: Demand end-use shares, 2024 vs. 2025f



Source: Metals Focus prepared for World Platinum Investment Council

Petroleum

Petroleum platinum demand is expected to rise by 14% year-on-year, reaching a three-year high of 181 koz. This increase is primarily driven by increased top-up requirements due to a higher number of planned catalyst changeouts at gas-to-liquid (GTL) plants. Additionally, rising investment in biofuel projects is expected to support platinum demand. According to the International Energy Agency's June report, bioenergy investment in 2025 is projected to grow by 13% year-on-year to a record high, led by the United States and Brazil. In contrast, platinum use in catalytic reforming and isomerisation units is expected to decline modestly this year. While new refining capacity is being added, mainly in Africa and the Middle East, net global gains will be limited due to several permanent refinery closures in industrialised countries. In China, platinum demand faces additional pressure. An earlier-than-expected peak in fuel demand (driven by rapid electrification of the transport sector), along with the government's drive to improve industrial efficiency, are expected to accelerate consolidation within the domestic refining industry, further weighing on platinum consumption.

Medical

In 2025, platinum medical demand is expected to rise 4% to 320 koz (+12 koz), extending a steady growth trend. The increase reflects expanding use of platinum-based cancer therapies and medical devices, underpinned by ageing demographics, increased healthcare investment and improved access.

Electrical

Hard disk drives (HDDs) are continuing to lose market share to SDDs due to ongoing competitive pressures. However, due to their superior cost-effectiveness per unit of storage and lower carbon footprint, they are expected to maintain their significant share of the storage market, supporting stable HDD shipments throughout 2025. Looking ahead, the growth of capacity-oriented nearline drives for enterprise and hyperscale applications is poised to increase the average number of components per single drive. This will drive demand for two key components, heads and media, and underpin the metal offtake. Meanwhile, robust demand in the semiconductor industry presents a cautiously optimistic outlook for platinum. However, a key significant downside risk to all this stems from tariff policies, which may force cloud service providers to re-evaluate their short- and mid-term expansion plans.

Hydrogen Stationary and Other

Platinum demand from hydrogen-based applications is forecast to reach 49 koz in 2025, up 19% (+8 koz). Although deployments have been slower than expected order books for proton-exchange membrane (PEM) electrolysers are growing, and the regulatory environment is maintaining signs of support. In July 2025, the US Senate approved a budget reconciliation bill extending the eligibility window for the Section 45V clean hydrogen production tax credit. The revision gives developers an additional two years to begin construction, moving the deadline from early 2026 to 1 January 2028.

Other

While there is an expected decline in demand for spark plugs due to reduced internal combustion engine (ICE) vehicle production, the overall market outlook isn't entirely pessimistic. The rising popularity of hybrid vehicles offers a new source of demand. Additionally, growing needs for advanced sensors in sectors like marine and aerospace could help offset the automotive market's softness. However, a weakened aftermarket, driven by short-term inventory adjustments and uncertain trade policies, presents a risk to the forecast. For the full year we forecast 503 koz demand, largely flat on 2024.

Investment demand

This year, global bar and coin investment demand is forecast to jump by 45% (+88 koz) year-on-year to 282 koz which will represent just a two-year high. This outcome will be underpinned by further strength in the Chinese market, which will offset liquidation in some other key markets.

While bar and coin demand in China increased by 4.8 times year-on-year in H1'25, we expect the rate of growth to soften in the second half reflecting our conservative price projections for the rest of the year. As a result, bar and coin demand in China is forecast to grow almost 2.9 times year-on-year in full year 2025 to 184 koz. Growth in investment demand from China bars above or equal

to 500g is expected to continue in 2025, rising 15% year-on-year to 186 koz. Such slower growth reflects our conservative price projection for the rest of 2025.

Since the last *Platinum Quarterly*, the North American forecast has been revised markedly lower, for two reasons. First, although tariffs were already factored into the previous forecast, we had assumed they would either be resolved by now or the path to doing so would have been forged, neither of which has happened. Second, lease rates surged and have remained persistently high, resulting in a sharp reduction in minted bar and coin production, a situation which also looks unlikely to change materially in the near future. As such, even if tariffs were lifted it appears unlikely that production would resume to any great extent, despite growing interest among retail investors to acquire minted bars and coins.

Looking ahead, slow economic growth and macroeconomic uncertainty in Europe are expected to continue supporting demand for precious metals. Furthermore, as platinum has broken out of its previously rangebound pricing, improving price expectations should stimulate renewed investor interest..

As with China, we believe our conservative price outlook coupled with the memory of the recent rally, will attract an increasing number of Japanese investors to platinum, pushing retail investment demand in the country into positive territory in the second half of the year. Having said this, we expect volumes will be modest overall, as local investors continue to focus primarily on gold. Overall, we see net sales of 20 koz during the year.

In 2025, platinum ETF holdings are forecast to rise 100 koz to 3,408 koz, driven by improved sentiment following a recent price breakout, robust underlying fundamentals, and platinum's sustained discount to gold.

Reported warehouse stocks have been volatile this year as tariff concerns shifted flows in and out of exchange-approved vaults. Following the end of Q2'25, stocks rose again on renewed tariff worries, but strong physical demand has made these elevated levels difficult to sustain. This shift is reflected in the EFP, which has narrowed sharply, with futures now trading close to – and at times below – spot, a reversal from the exceptional premiums seen earlier in the year. We expect warehouse stocks to ease from current levels but to finish the year higher overall, supported by stronger demand for US-located material. We forecast a net addition of 150 koz.

ABOVE GROUND STOCKS

The projected 2025 deficit of 850 koz will draw above ground stocks down to 2,978 koz, which will cover four and a half months of global platinum demand. Note that year-end 2025 above ground stocks are higher than previously estimated due to a restatement of historical demand. The WPIC definition of above ground stocks is the year-end estimate of the cumulative platinum holdings not associated with exchange-traded funds, metal held in exchange-approved vaults or working inventories of mining producers, refiners, fabricators or end-users.

Table 2: Supply, demand and above ground stock summary – annual comparison

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025f	2024/2023 Growth %	2025f/2024 Growth %
Platinum Supply-demand Balance (koz)													
SUPPLY													
Refined Production	**6,160**	**6,145**	**6,130**	**6,125**	**6,074**	**4,988**	**6,295**	**5,520**	**5,604**	**5,766**	**5,426**	**3%**	**-6%**
South Africa	4,480	4,365	4,385	4,470	4,374	3,298	4,678	3,915	3,957	4,133	3,869	4%	-6%
Zimbabwe	405	490	480	465	458	448	485	480	507	512	491	1%	-4%
North America	365	390	360	345	356	337	273	263	275	254	189	-8%	-26%
Russia	710	715	720	665	716	704	652	663	674	677	686	0%	1%
Other	200	185	185	180	169	200	206	200	190	191	191	0%	0%
Increase (-)/Decrease (+) in Producer Inventory	+30	+30	+30	+10	+2	-84	-93	+43	+11	-2	+0	N/A	N/A
Total Mining Supply	**6,190**	**6,075**	**6,160**	**6,135**	**6,076**	**4,904**	**6,202**	**5,563**	**5,615**	**5,764**	**5,426**	**3%**	**-6%**
Recycling	**1,720**	**1,860**	**1,915**	**1,955**	**2,157**	**2,041**	**2,107**	**1,811**	**1,515**	**1,516**	**1,601**	**0%**	**6%**
Autocatalyst	1,185	1,210	1,325	1,430	1,612	1,553	1,619	1,370	1,114	1,143	1,210	3%	6%
Jewellery	515	625	560	505	476	422	422	372	331	298	309	-10%	4%
Industrial	20	25	30	30	69	66	67	69	71	76	81	7%	7%
Total Supply	**7,910**	**7,935**	**8,075**	**8,090**	**8,233**	**6,945**	**8,309**	**7,374**	**7,130**	**7,280**	**7,027**	**2%**	**-3%**
DEMAND													
Automotive	**3,245**	**3,360**	**3,300**	**3,115**	**2,688**	**2,196**	**2,466**	**2,778**	**3,206**	**3,114**	3,033	**-3%**	**-3%**
Autocatalyst	3,105	3,225	3,160	2,970	2,688	2,196	2,466	2,778	3,206	3,114	3,033	-3%	-3%
Non-road	140	135	140	145	†	†	†	†	†	†	†	N/A	N/A
Jewellery	**2,840**	**2,505**	**2,460**	**2,245**	**2,106**	**1,830**	**1,953**	**1,880**	**1,849**	**2,008**	**2,226**	**9%**	**11%**
Industrial	**1,875**	**2,020**	**1,900**	**2,040**	**2,208**	**2,003**	**2,403**	**2,166**	**2,389**	**2,423**	**1,901**	**1%**	**-22%**
Chemical	515	560	570	565	802	639	660	672	839	625	575	-26%	-8%
Petroleum	170	220	120	235	219	109	169	193	159	158	181	0%	14%
Electrical	205	195	210	205	144	130	135	106	89	93	95	5%	2%
Glass	300	320	260	275	236	435	713	436	491	692	177	41%	-74%
Medical	240	235	235	235	277	256	267	278	292	308	320	6%	4%
Hydrogen Stationary and Other	†	†	†	†	29	28	17	13	22	41	49	87%	19%
Other	445	490	505	525	500	407	443	469	497	505	503	2%	0%
Investment	**305**	**535**	**275**	**15**	**1,264**	**1,582**	**-3**	**-516**	**397**	**702**	**718**	**77%**	**2%**
Change in Bars, Coins	525	460	215	280	278	593	349	259	322	194	282	-40%	45%
China Bars ≥ 500g	†	†	†	†	16	23	27	90	134	162	186	20%	15%
Change in ETF Holdings	-240	-10	105	-245	991	507	-241	-558	-74	296	100	N/A	-66%
Change in Stocks Held by Exchanges	20	85	-45	-20	-20	458	-139	-307	14	50	150	244%	200%
Total Demand	**8,265**	**8,430**	**7,935**	**7,415**	**8,267**	**7,611**	**6,818**	**6,308**	**7,841**	**8,248**	**7,877**	**5%**	**-4%**
Balance	**-355**	**-485**	**140**	**675**	**-33**	**-665**	**1,491**	**1,066**	**-712**	**-968**	**-850**	**N/A**	**N/A**
Above Ground Stocks	**2,225***	**1,740**	**1,880**	**2,555**	**3,617****	**2,951**	**4,442**	**5,508**	**4,796**	**3,828**	**2,978**	**-20%**	**-22%**

Source: SFA (Oxford) 2015 – 2018, Metals Focus 2019 – 2025f.

Notes:

1. Above Ground Stocks: *4,140 koz as of 31st December 2012 (SFA (Oxford)). **3,650 koz as of 31 December 2018 (Metals Focus).
2. † Estimates for this item in this period are either negligible, or captured respectively in autocatalyst demand, other industrial demand, or change in bars, coins.
3. Data from Metals Focus and SFA (Oxford) may not have been prepared on the same or directly comparable basis.
4. Prior to 2019 SFA (Oxford) data is independently rounded to the nearest 5 koz.

Table 3: Supply and demand summary – quarterly comparison

	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025	Q2'25/Q2'24 Growth %	Q2'25/Q1'25 Growth %
Platinum Supply-demand Balance (koz)											
SUPPLY											
Refined Production	**1,486**	**1,393**	**1,532**	**1,225**	**1,541**	**1,461**	**1,539**	**1,106**	**1,453**	**-6%**	**31%**
South Africa	1,051	984	1,143	796	1,127	1,049	1,161	713	1,054	-6%	48%
Zimbabwe	126	132	133	132	126	132	121	114	137	9%	20%
North America	73	60	72	71	59	60	63	52	57	-4%	11%
Russia	190	168	136	178	181	172	146	180	155	-14%	-14%
Other	46	48	48	48	48	48	47	47	49	3%	4%
Increase (-)/Decrease (+) in Producer Inventory	+8	-6	-23	+22	+35	-22	-37	-22	+0	-100%	N/A
Total Mining Supply	**1,494**	**1,387**	**1,509**	**1,247**	**1,576**	**1,439**	**1,502**	**1,084**	**1,453**	**-8%**	**34%**
Recycling	**377**	**347**	**399**	**366**	**379**	**357**	**415**	**372**	**423**	**12%**	**14%**
Autocatalyst	284	255	296	264	289	270	321	277	313	8%	13%
Jewellery	76	75	85	84	72	68	74	75	90	26%	20%
Industrial	17	17	18	17	19	20	20	19	20	8%	3%
Total Supply	**1,871**	**1,734**	**1,907**	**1,613**	**1,955**	**1,796**	**1,917**	**1,456**	**1,876**	**-4%**	**29%**
DEMAND											
Automotive	**813**	**768**	**815**	**820**	**788**	**735**	**771**	**769**	**769**	**-2%**	**0%**
Autocatalyst	813	768	815	820	788	735	771	769	769	-2%	0%
Non-road	†	†	†	†	†	†	†	†	†	N/A	N/A
Jewellery	**474**	**446**	**471**	**488**	**506**	**493**	**521**	**533**	**668**	**32%**	**25%**
Industrial	**742**	**441**	**566**	**657**	**677**	**547**	**541**	**365**	**513**	**-24%**	**41%**
Chemical	251	127	133	181	170	139	136	159	146	-14%	-9%
Petroleum	41	38	39	40	40	40	40	45	45	14%	0%
Electrical	23	22	22	22	23	24	24	22	24	3%	6%
Glass	227	56	160	210	230	131	122	-78	82	-64%	N/A
Medical	72	71	72	74	77	77	80	78	80	4%	3%
Hydrogen Stationary and Other	3	6	10	7	9	11	13	10	10	20%	0%
Other	126	121	130	124	129	125	127	127	126	-2%	-1%
Investment	**195**	**50**	**-78**	**113**	**459**	**-230**	**360**	**461**	**-64**	**N/A**	**N/A**
Change in Bars, Coins	47	86	61	60	14	65	54	70	109	>±300%	55%
China Bars ≥ 500g	20	35	48	53	41	30	38	35	47	15%	33%
Change in ETF Holdings	155	-99	-171	11	444	-300	142	-6	97	-78%	N/A
Change in Stocks Held by Exchanges	-27	28	-16	-11	-40	-25	126	361	-317	N/A	N/A
Total Demand	**2,225**	**1,706**	**1,774**	**2,079**	**2,430**	**1,546**	**2,193**	**2,128**	**1,886**	**-22%**	**-11%**
Balance	**-354**	**28**	**133**	**-466**	**-475**	**250**	**-276**	**-672**	**-11**	**N/A**	**N/A**

Source: Metals Focus 2023 – 2025f.

Note:

1. † Non-road automotive demand is included in autocatalyst demand.

Table 4: Supply and demand summary – half-yearly comparison

	H1 2023	H2 2023	H1 2024	H2 2024	H1 2025	H1'25/H1'24 Growth %	H1'25/H2'24 Growth %
Platinum Supply-demand Balance (koz)							
SUPPLY							
Refined Production	**2,679**	**2,925**	**2,766**	**3,000**	**2,559**	**-8%**	**-15%**
South Africa	1,829	2,127	1,923	2,210	1,767	-8%	-20%
Zimbabwe	242	265	258	254	251	-3%	-1%
North America	143	132	130	123	109	-16%	-12%
Russia	370	304	359	318	335	-7%	5%
Other	94	96	96	95	97	1%	2%
Increase (-)/Decrease (+) in Producer Inventory	41	-30	57	-59	-22	N/A	N/A
Total Mining Supply	**2,720**	**2,895**	**2,823**	**2,941**	**2,537**	**-10%**	**-14%**
Recycling	**769**	**746**	**745**	**772**	**795**	**7%**	**3%**
Autocatalyst	563	550	553	590	590	7%	0%
Jewellery	171	160	156	142	165	6%	17%
Industrial	35	36	36	40	39	10%	-1%
Total Supply	**3,488**	**3,641**	**3,567**	**3,713**	**3,332**	**-7%**	**-10%**
DEMAND							
Automotive	**1,623**	**1,583**	**1,608**	**1,506**	**1,538**	**-4%**	**2%**
Autocatalyst	1,623	1,583	1,608	1,506	1,538	-4%	2%
Non-road	†	†	†	†	†	N/A	N/A
Jewellery	**933**	**917**	**994**	**1,014**	**1,201**	**21%**	**18%**
Industrial	**1,382**	**1,007**	**1,335**	**1,088**	**878**	**-34%**	**-19%**
Chemical	580	260	350	274	305	-13%	11%
Petroleum	82	77	79	79	91	14%	14%
Electrical	45	44	45	48	46	2%	-4%
Glass	275	216	440	252	4	-99%	-98%
Medical	149	144	151	157	158	5%	1%
Hydrogen Stationary and Other	6	15	16	25	21	29%	-16%
Other	245	251	252	253	253	0%	0%
Investment	**424**	**-27**	**572**	**130**	**397**	**-31%**	**206%**
Change in Bars, Coins	175	147	75	119	179	140%	50%
China Bars ≥ 500g	51	83	94	68	82	-13%	21%
Change in ETF Holdings	196	-270	455	-159	91	-80%	N/A
Change in Stocks Held by Exchanges	2	12	-51	101	45	N/A	-56%
Total Demand	**4,362**	**3,480**	**4,509**	**3,739**	**4,014**	**-11%**	**7%**
Balance	**-873**	**162**	**-942**	**-26**	**-682**	**N/A**	**N/A**

Source: Metals Focus 2023 - 2025f.

Notes:

1. † Non-road automotive demand is included in autocatalyst demand.

Table 5: Regional demand – annual and quarterly comparison

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025f	2024/2023 Growth %	2025f/2024 Growth %	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025
Platinum Gross Demand (koz)																		
Automotive	**3,250**	**3,350**	**3,290**	**3,115**	**2,688**	**2,196**	**2,466**	**2,778**	**3,206**	**3,114**	**3,033**	**-3%**	**-3%**	**788**	**735**	**771**	**769**	**769**
North America	480	410	390	390	311	266	338	410	446	486								
Western Europe	1,450	1,630	1,545	1,340	1,355	978	918	970	1,157	1,022								
Japan	510	450	435	425	285	223	248	247	292	287								
China	145	195	230	220	160	255	371	447	554	532								
India	180	170	175	200	††	††	††	††	††	††								
Rest of the World	485	495	515	540	576	474	591	704	757	788								
Jewellery	**2,840**	**2,505**	**2,460**	**2,245**	**2,106**	**1,830**	**1,953**	**1,880**	**1,849**	**2,008**	**2,226**	**9%**	**11%**	**506**	**493**	**521**	**533**	**668**
North America	250	265	280	280	341	277	409	448	438	445								
Western Europe	235	240	250	255	237	196	260	301	319	343								
Japan	340	335	340	345	372	316	298	333	338	376								
China	1,765	1,450	1,340	1,095	871	832	703	484	408	412								
India	180	145	175	195	109	59	123	171	203	266								
Rest of the World	70	70	75	75	176	151	159	144	144	166								
Chemical	**515**	**560**	**570**	**565**	**802**	**639**	**660**	**672**	**839**	**625**	**575**	**-26%**	**-8%**	**170**	**139**	**136**	**159**	**146**
North America	55	50	50	50	98	103	109	110	121	97								
Western Europe	75	110	115	105	124	112	115	106	112	105								
Japan	10	15	15	15	66	62	65	66	61	58								
China	230	225	220	215	299	205	221	234	360	184								
Rest of the World	145	160	170	180	215	157	149	155	185	181								
Petroleum	**170**	**220**	**120**	**235**	**219**	**109**	**169**	**193**	**159**	**158**	**181**	**0%**	**14%**	**40**	**40**	**40**	**45**	**45**
North America	-25	90	55	55	30	5	32	44	44	56								
Western Europe	35	10	5	20	14	11	18	30	22	21								
Japan	5	0	-20	5	7	6	12	7	5	5								
China	45	80	45	10	66	35	39	26	24	17								
Rest of the World	110	40	35	145	103	52	67	86	64	60								
Electrical	**205**	**195**	**210**	**205**	**144**	**130**	**135**	**106**	**89**	**93**	**95**	**5%**	**2%**	**23**	**24**	**24**	**22**	**24**
North America	15	10	15	15	38	35	35	28	24	25								
Western Europe	10	10	10	10	27	23	25	20	16	17								
Japan	15	15	15	15	20	16	17	14	12	12								
China	70	80	90	85	28	31	31	23	19	20								
Rest of the World	95	80	80	80	31	25	26	22	18	19								
Glass	**300**	**320**	**260**	**275**	**236**	**435**	**713**	**436**	**491**	**692**	**177**	**41%**	**-74%**	**230**	**131**	**122**	**-78**	**82**
North America	0	10	5	5	-67	-25	4	15	33	18								
Western Europe	5	5	5	20	59	39	6	26	-90	6								
Japan	0	-10	-10	0	-37	-63	7	-150	5	-9								
China	195	225	165	120	173	333	731	453	541	751								
Rest of the World	100	90	95	130	108	150	-36	92	1	-73								
Medical	**240**	**235**	**235**	**235**	**277**	**256**	**267**	**278**	**292**	**308**	**320**	**6%**	**4%**	**77**	**77**	**80**	**78**	**80**
Other industrial	**445**	**490**	**505**	**525**	**500**	**407**	**443**	**469**	**497**	**505**	**503**	**2%**	**0%**	**129**	**125**	**127**	**127**	**126**
Hydrogen Stationary & Other	**†**	**†**	**†**	**†**	**29**	**28**	**17**	**13**	**22**	**41**	**49**	**87%**	**19%**	**9**	**11**	**13**	**10**	**10**
Bar & Coin Investment	**525**	**460**	**215**	**280**	**278**	**593**	**349**	**259**	**322**	**194**	**282**	**-40%**	**45%**	**14**	**65**	**54**	**70**	**109**
North America					155	234	256	258	169	115								
Western Europe					52	75	61	44	24	32								
Japan					46	240	-26	-114	54	-24								
China					15	23	26	38	52	64								
Rest of the World					9	21	33	33	23	7								
China Bars ≥ 500g					**16**	**23**	**27**	**90**	**134**	**162**	**186**	**20%**	**15%**	**41**	**30**	**38**	**35**	**47**
ETF Investment	**-240**	**-10**	**105**	**-245**	**991**	**507**	**-241**	**-558**	**-74**	**296**	**100**	**N/A**	**-66%**	**444**	**-300**	**142**	**-6**	**97**
North America					125	524	-6	-102	-61	165								
Western Europe					508	237	56	-313	-99	163								
Japan					-13	58	-23	-28	12	-6								
Rest of the World					370	-312	-268	-116	74	-26								
Change in Stocks Held by Exchanges	**20**	**85**	**-45**	**-20**	**-20**	**458**	**-139**	**-307**	**14**	**50**	**150**	**244%**	**200%**	**-40**	**-25**	**126**	**361**	**-317**
Investment	**305**	**535**	**275**	**15**	**1,264**	**1,582**	**-3**	**-516**	**397**	**702**	**718**	**77%**	**2%**	**459**	**-230**	**360**	**461**	**-64**
Total Demand	**8,270**	**8,410**	**7,925**	**7,415**	**8,267**	**7,611**	**6,818**	**6,308**	**7,841**	**8,248**	**7,877**	**5%**	**-4%**	**2,430**	**1,546**	**2,193**	**2,128**	**1,886**

Source: SFA (Oxford) 2015 – 2018, Metals Focus 2019 – 2025f.

Notes:

1. † Hydrogen and Stationary Other demand is included in Other industrial demand prior to 2019.
2. †† India automotive demand is included in Rest of the World.
3. Data from Metals Focus and SFA (Oxford) may not have been prepared on the same or directly comparable basis.
4. Prior to 2019 SFA data is independently rounded to the nearest 5 koz.

Table 6: Regional recycling – annual and quarterly comparison

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025f	2024/2023 Growth %	2025f/2024 Growth %	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025
Platinum recycling supply (koz)																		
Automotive	**1,185**	**1,210**	**1,325**	**1,420**	**1,612**	**1,553**	**1,619**	**1,370**	**1,114**	**1,143**	**1,210**	**3%**	**6%**	**289**	**270**	**321**	**277**	**313**
North America					522	486	490	458	311	327								
Western Europe					792	823	842	687	580	585								
Japan					137	92	114	81	73	64								
China					35	68	77	59	53	72								
Rest of the World					126	83	95	86	96	95								
Jewellery	**515**	**625**	**560**	**505**	**476**	**422**	**422**	**372**	**331**	**298**	**309**	**-10%**	**4%**	**72**	**68**	**74**	**75**	**90**
North America					3	3	3	3	3	3								
Western Europe					4	4	3	4	4	4								
Japan					187	162	160	165	136	107								
China					276	248	250	195	183	179								
Rest of the World					5	5	5	6	5	5								
Industrial	**20**	**25**	**30**	**30**	**69**	**66**	**67**	**69**	**71**	**76**	**81**	**7%**	**7%**	**19**	**20**	**20**	**19**	**20**
North America					15	12	12	13	12	15								
Western Europe					11	10	11	11	13	15								
Japan					34	34	34	34	34	34								
China					7	7	8	9	9	10								
Rest of the World					2	2	2	2	2	2								

Source: SFA (Oxford) 2015 – 2018, Metals Focus 2019 – 2025f.

Table 7: Supply, demand and above ground stock summary (this table is a repeat of the data presented in ounces in Table 1 on page 6)

	2021	2022	2023	2024	2025f	2024/2023 Growth %	2025f/2024 Growth %	Q1 2025	Q2 2025
Platinum Supply-demand Balance (tonnes)									
SUPPLY									
Refined Production	**196**	**172**	**174**	**179**	**169**	**3%**	**-6%**	**34**	**45**
South Africa	146	122	123	129	120	4%	-6%	22	33
Zimbabwe	15	15	16	16	15	1%	-4%	4	4
North America	8	8	9	8	6	-8%	-26%	2	2
Russia	20	21	21	21	21	0%	1%	6	5
Other	6	6	6	6	6	0%	0%	1	2
Increase (-)/Decrease (+) in Producer Inventory	-3	+1	+0	-0	+0	N/A	N/A	-1	+0
Total Mining Supply	**193**	**173**	**175**	**179**	**169**	**3%**	**-6%**	**34**	**45**
Recycling	**66**	**56**	**47**	**47**	**50**	**0%**	**6%**	**12**	**13**
Autocatalyst	50	43	35	36	38	3%	6%	9	10
Jewellery	13	12	10	9	10	-10%	4%	2	3
Industrial	2	2	2	2	3	7%	7%	1	1
Total Supply	**258**	**229**	**222**	**226**	**219**	**2%**	**-3%**	**45**	**58**
DEMAND									
Automotive	**77**	**86**	**100**	**97**	**94**	**-3%**	**-3%**	**24**	**24**
Autocatalyst	77	86	100	97	94	-3%	-3%	24	24
Non-road	†	†	†	†	†	N/A	N/A	†	†
Jewellery	**61**	**58**	**58**	**62**	**69**	**9%**	**11%**	**17**	**21**
Industrial	**75**	**67**	**74**	**75**	**59**	**1%**	**-22%**	**11**	**16**
Chemical	21	21	26	19	18	-26%	-8%	5	5
Petroleum	5	6	5	5	6	0%	14%	1	1
Electrical	4	3	3	3	3	5%	2%	1	1
Glass	22	14	15	22	6	41%	-74%	-2	3
Medical	8	9	9	10	10	6%	4%	2	2
Hydrogen Stationary and Other	1	0	1	1	2	87%	19%	0	0
Other	14	15	15	16	16	2%	0%	4	4
Investment	**(0)**	**(16)**	**12**	**22**	**22**	**77%**	**2%**	**14**	**(2)**
Change in Bars, Coins	11	8	10	6	9	-40%	45%	2	3
China Bars ≥ 500g	1	3	4	5	6	20%	15%	1	1
Change in ETF Holdings	(7)	(17)	(2)	9	3	N/A	-66%	(0)	3
Change in Stocks Held by Exchanges	(4)	(10)	0	2	5	244%	200%	11	(10)
Total Demand	**212**	**196**	**244**	**257**	**245**	**5%**	**-4%**	**66**	**59**
Balance	**46**	**33**	**(22)**	**-30**	**(26)**	**N/A**	**N/A**	**-21**	**0**
Above Ground Stocks	**138**	**171**	**149**	**119**	**93**	**-20%**	**-22%**		

Source: Metals Focus 2021 - 2025f.

Notes:

1. **Above Ground Stocks 3,650 koz as of 31 December 2018 (Metals Focus).
2. † Non-road automotive demand is included in autocatalyst demand.
3. All estimates are based on the latest available information, but they are subject to revision in subsequent quarterly reports.
4. The WPIC did not publish quarterly estimates for 2013 or the first two quarters of 2014. However, quarterly estimates from Q3'14, to Q1'23 are contained in previously published PQs which are freely available on the WPIC website.
5. Quarterly estimates from Q1'23 and half-yearly estimates from H1'2023 are included in Tables 3 and 4 respectively, on pages 20 and 21 (supply, demand and above ground stocks).
6. Details of regional recycling supply in Table 6 on page 23 are only published from 2019.

GLOSSARY OF TERMS

Above ground stocks

The year-end estimate of the cumulative platinum holdings not associated with exchange-traded funds; metal held by

exchanges or working inventories of mining producers, refiners, fabricators, or end-users. Typically, unpublished vaulted metal holdings from which a supply-demand shortfall can be readily supplied or to which a supply-demand surplus can readily flow.

ADH

Alkane dehydrogenation: catalytic conversion of alkanes to alkenes. Broad term encompassing BDH and PDH.

BDH

Butane dehydrogenation; catalytic conversion of isobutane to isobutylene.

BEV

A Battery Electric Vehicle uses an electric motor exclusively powered by rechargeable batteries for propulsion.

Bharat

The Government of India introduced Bharat emission standards (BSES) to reduce and regulate the output of air pollutants. from internal combustion and spark-ignition engine equipment, including motor vehicles.

Bharat Stage VI standard (BS-V, BS-VI)

Bharat Stage VI standard is the equivalent of Euro 6 and was rolled out in India between 2018 and 2020.

Catalysed vehicle

A catalysed vehicle refers to a vehicle equipped with a catalytic converter, a device in the exhaust system that reduces harmful emissions by converting pollutants such as carbon monoxide (CO), nitrogen oxides (NO_x), and unburned hydrocarbons (HC) into less harmful gases like carbon dioxide (CO_2), nitrogen (N_2), and water vapour (H_2O). Both pure internal combustion engine vehicles and hybrid vehicles that burn fossil fuels will be fitted with a catalyst.

China Bars ≥ 500g

Net China demand for platinum bars of 500g or larger in size, excluding bars identified as being sold to investors mostly associated with industrial companies.

China Vehicle Emission Standards

China's vehicle emission standards are set nationally by the Ministry of Environmental Protection and are regionally and locally enforced by Environmental Protection Bureaus. A number of cities and provinces in China continue the historic practice of early introduction of new standards.

China 6

As of December 2016, China adopted China 6 standards that apply nationwide to light-duty passenger vehicles from July 2020 (China 6a) and July 2023 (China 6b). These standards incorporate elements of Euro 6 and U.S. Tier 2 regulations for tailpipe and evaporative emissions. China 6b includes mandatory on-road emissions testing modelled after the EU RDE regulation (also known as Euro 6d TEMP) with a few enhancements and modifications.

China VI

China VI standards have applied to all new heavy-duty diesel vehicles since July 2023.

Compounds (Platinum based)

Platinum combines with other elements to form chemical mixtures that are used as catalysts in chemical processes as well as in plating, metal deposition and other industrial processes.

Diesel oxidation catalyst (DOC)

A DOC oxidises harmful carbon monoxide and unburnt hydrocarbons, produced by incomplete combustion of diesel fuel, to non-toxic carbon dioxide and water.

Diesel particulate filter (DPF) and catalysed diesel particulate filter (CDPF)

A DPF physically filters particulates (soot) from diesel exhaust. A CDPF adds a PGM catalyst coating to facilitate oxidation and removal of the soot. The terms are often used interchangeably.

Electrolysis of water

Water electrolysers are electrochemical devices used to split water molecules into hydrogen and oxygen. An electrical current is applied to the electrolyser cell, and water is split into oxygen and hydrogen. The electrolysis system comprises of the system, the stack, and the cell.

Emissions Legislation

Regulations that necessitate the fitment of autocatalyst systems dealing with the treatment of vehicle tailpipe emissions such as carbon monoxide (CO), particulate matter, hydrocarbons, and oxides of nitrogen (NO_x). There are a range of standards specific to various regions and countries with varying minimum emissions targets and deadlinesfor compliance.

EPA

Environmental Protection Agency regulating the US vehicle and engine emission standards for pollutants.

EREV

An Extended Range Electric Vehicle is a BEV with a gasoline ICE which cannot drive the wheels directly (unlike in a PHEV, for example) but acts as a generator to charge the battery giving a greater driving range.

ETF

Exchange-traded fund. A security that tracks an index, commodity, or basket of assets. Platinum ETFs included in demand are backed by physical metal (LPPM good delivery bars stored in a secure vault approved by the listing exchange).

Euro 6 emission standards

EU emission standards for light-duty vehicles Euro 6 legislation were introduced in 2014/2015. The limits set in Euro 6 have remained unchanged, but the measuring methods have become more stringent progressively including Euro 6 a, b, c, d, and Euro 6d-Temp, now in place. For CO_2, the laboratory based WLTP and for NO_x RDE.

Euro VI emission standards

EU emission standards for heavy-duty vehicles Euro VI were introduced in2013/2014; similar standards have later been adopted in some other countries.

Euro 7 emission standards

Euro 7 regulations will keep the existing Euro 6 exhaust emission limits for LVs and LCVs but introduce stricter requirements for solid particles, as well as stricter lifetime requirements in terms of both mileage and lifetime. The new regulations are expected to be phased in from the start of 2027.

Euro VII emission standards

Euro VII regulations on HDVs imposes more stringent limits for various pollutants, including some that have not been regulated until now, such as nitrous oxide (N_2O), as well as stricter lifetime requirements. The new standards are expected to be phased in from the start of 2027.

FCM

Fuel Consumption Monitoring describes the recording of actual consumption during the life of the vehicle. Applicable under Euro 6d to all new vehicles from 1/01/2020 and all new registrations from 1/01/2021.

FCEV

Instead of batteries, Fuel Cell Electric Vehicles use hydrogen in a platinum containing fuel cell to generate electricity to drive electric motors.

Forward prices

The price of a commodity at a future point in time. Typically comprises of the spot price as well as the risk-free interest rate and cost of carry.

GTL

Gas-to-liquids is a process that converts natural gas to liquid hydrocarbons such as gasoline or diesel fuel.

HDD

Hard disk drive. Data storage device that stores digital data by magnetic platers.

HDV

Heavy-duty vehicle.

HEV

A Hybrid Electric Vehicle has an internal combustion engine that can drive the wheels directly or act as a generator to charge the battery. Energy can also be recovered to the battery from regenerative braking. The electric only driving range is typically a few kilometres.

Hydrogen Production Methods

In recent years, colours have been used to refer to different hydrogen production routes. There is no international agreement on the use of these terms as yet, nor have their meanings in this context been clearly defined but the following colour key provides a guideline of most widely use reference to the various production methods.

white – naturally occurring or produced as industrial by-product black or brown – coal gasification

grey – steam methane reforming turquoise – methane pyrolysis

blue – steam methane reforming plus carbon capture green – water electrolysis with renewable energy sources pink – nuclear power

yellow – solar power or mix of multiple sources.

ICE

Internal combustion engine.

IoT

Internet of Things. Networking system that allows data to be sent to and received from objects and devices through internet.

ISC

In Service Conformity which requires vehicles to not only conform with exhaust emission standards when they are new but also while in use.

Jewellery alloys

The purity of platinum jewellery is invariably expressed in parts per 1,000. For example, the most common variant, pt950, is 95% fine platinum, with the rest of the jewellery alloy made up of other metals such as cobalt or copper. Different markets would typically prescribe the purity levels for qualification and hallmarking of the jewellery as platinum jewellery.

Jewellery demand

Captures the first transformation of unwrought platinum into a semi-finished or finished jewellery product.

koz

Thousand ounces.

LCD

Liquid Crystal Display. It is a flat-panel display technology that uses liquid crystals sandwiched between two layers of glass or plastic and manipulated by electric fields to control the passage of light.

LDV

Light-duty vehicle.

NEDC

New European Driving Cycle vehicle emissions test set out in United Nations Vehicle Regulation 101 maintained by the United Nations Economic Commission for Europe and updated and reviewed from time to time. The WLTP is aimed to significantly enhance and replace this regulation.

Net demand

A measure of the requirement for new metal, i.e., net of recycling.

Non-road engines

Non-road engines are diesel engines used, for example, in construction, agricultural and mining equipment, often using engine and emissions technology similar to on-road heavy-duty diesel vehicles.

Ounce conversion

One metric tonne = 1,000 kilogrammes (kg) or 32,151 troy ounces.

oz

A unit of weight commonly used for precious metals. 1 troy oz = 31.103 grams.

PDH

Propane dehydrogenation, where propane is converted to propylene.

PEM Electrolyser Technology

One of four key water electrolyser technologies. The electrode on oxygen side (anode) contains iridium oxide while the electrode on hydrogen side (cathode) typically contains platinum. Transport layers are platinum-coated sintered porous titanium, and the bipolar plates would typically have platinum on with other metals.

PGMs

Platinum group metals.

PHEV

Plug in Hybrid Electric Vehicles can be plugged in to a power supply to charge a medium sized battery but also contain an ICE that can drive the wheels directly or charge the battery. The electric only driving range is typically 30-80km.

PMR

Precious metals refinery.

Pricing benchmarks

A price for a commodity that is traded on a liquid market that is used as a reference for buyers and sellers. In the case of platinum, the most commonly referenced benchmark is the LBMA Platinum Price, which is administered and distributed by the London Metals Exchange. The LBMA Platinum Price is discovered through an auction process.

Producer inventory

As used in the supply-demand balance, the change in producer inventory is the difference between reported refined production and metal sales.

PX

Paraxylene ('PX') is a chemical produced from petroleum naphtha extracted from crude oil using a platinum catalyst. This is used in the production of terephthalic acid which is used to manufacture polyester.

Refined production

Processed platinum output from refineries typically of a minimum 99.95% purity in the form of ingot, sponge, or grain.

RDE

The Real Driving Emissions (RDE) test measures the pollutants such as NO_x, emitted by cars while driven on the road. It is in addition to laboratory tests. RDE testing was implemented in September 2017 for new types of cars and has applied to all registrations from September 2019.

Secondary supply

Covers the recovery of platinum from fabricated products, including unused trade stocks. Excludes scrap generated during manufacturing (known as production or process scrap). Autocatalyst and jewellery recycling are shown in the country where the scrap is generated, which may differ from where it is refined.

Selective catalytic reduction (SCR)

Selective Catalytic Reduction (SCR) is an emissions control technology system that injects a liquid-reductant agent (urea) into the outlet stream of a diesel engine. The automotive-grade urea, known by the trade name AdBlue. The system typically requires a platinum bearing DOC ahead of the SCR unit.

SGE

Shanghai Gold Exchange.

SSD

Solid-state drive. Data storage device that uses memory chips to store data, typically using flash memory.

Stage 4 regulations

In the EU non-road mobile machinery (NRMM) is regulated by increasingly stringent regulations set out in tiers from Stage 1 to 5.

Three-way catalyst

Used in gasoline cars to remove hydrocarbons, carbon monoxide and NO_x. Platinum for palladium substitution has seen some platinum incorporated into the largely palladium-based catalyst, they also include some rhodium.

Tri-metallic catalyst

In the context of automotive emissions control, a tri-metallic catalyst typically refers to a catalytic converter that uses a combination of three platinum group metals (PGMs) – platinum (Pt), palladium (Pd), and rhodium (Rh)

US Vehicle Emission Standards

US vehicle and engine emission standards for pollutants, are established by the US Environmental Protection Agency (EPA) based on the Clean Air Act (CAA). The State of California has the right to introduce its own emission regulations. Engine and vehicle emission regulations are adopted by the California Air Resources Board (CARB), a regulatory body within the California EPA. Vehicles can in every year be certified in different emission classes, called “bins.” The fleet average emissions over all “bins” are then regulated.

Tier 3

Emission regulation issued by EPA. The regulation defines common targets until 2025 in the USA.

Tier 4 stage

In the US Non- Road mobile machinery (NRMM) is regulated by increasingly stringent regulations set out in tiers from Stage 1 to 5.

Washcoat

The layer that contains the active catalytic materials, such as PGMs, that is applied on the inactive, often ceramic, substrate within an autocatalyst block or component.

WIP

Work in progress.

WLTP

Worldwide Harmonised Light Vehicle Test Procedure is a laboratory test to measure pollutant emissions and fuel consumption. WLTP replaces the New European Driving Cycle (NEDC). It became applicable to new car types from September 2017 and new registrations from September 2018.

WPIC

The World Platinum Investment Council.

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