

PLATINUM QUARTERLY PRESENTATION Q4 2024

London

5th March 2025

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AGENDA: PLATINUM QUARTERLY: Q4 2024, FINAL 2024 ESTIMATES AND UPDATED 2025 OUTLOOK

1. Introduction

Trevor Raymond, CEO

2. Platinum Quarterly, fundamentals review

Edward Sterck

3. Current thematics

Edward Sterck

4. Questions

Trevor Raymond

Edward Sterck



AGENDA: PLATINUM QUARTERLY: Q4 2024, FINAL 2024 ESTIMATES AND UPDATED 2025 OUTLOOK

1. Introduction

Trevor Raymond

2. Platinum Quarterly, fundamentals review

- Supply, demand and balance: Q4 2024, final 2024 estimates, and updated 2025 outlook

Edward Sterck, Director of Research

3. Current thematics

Edward Sterck

4. Questions

Trevor Raymond

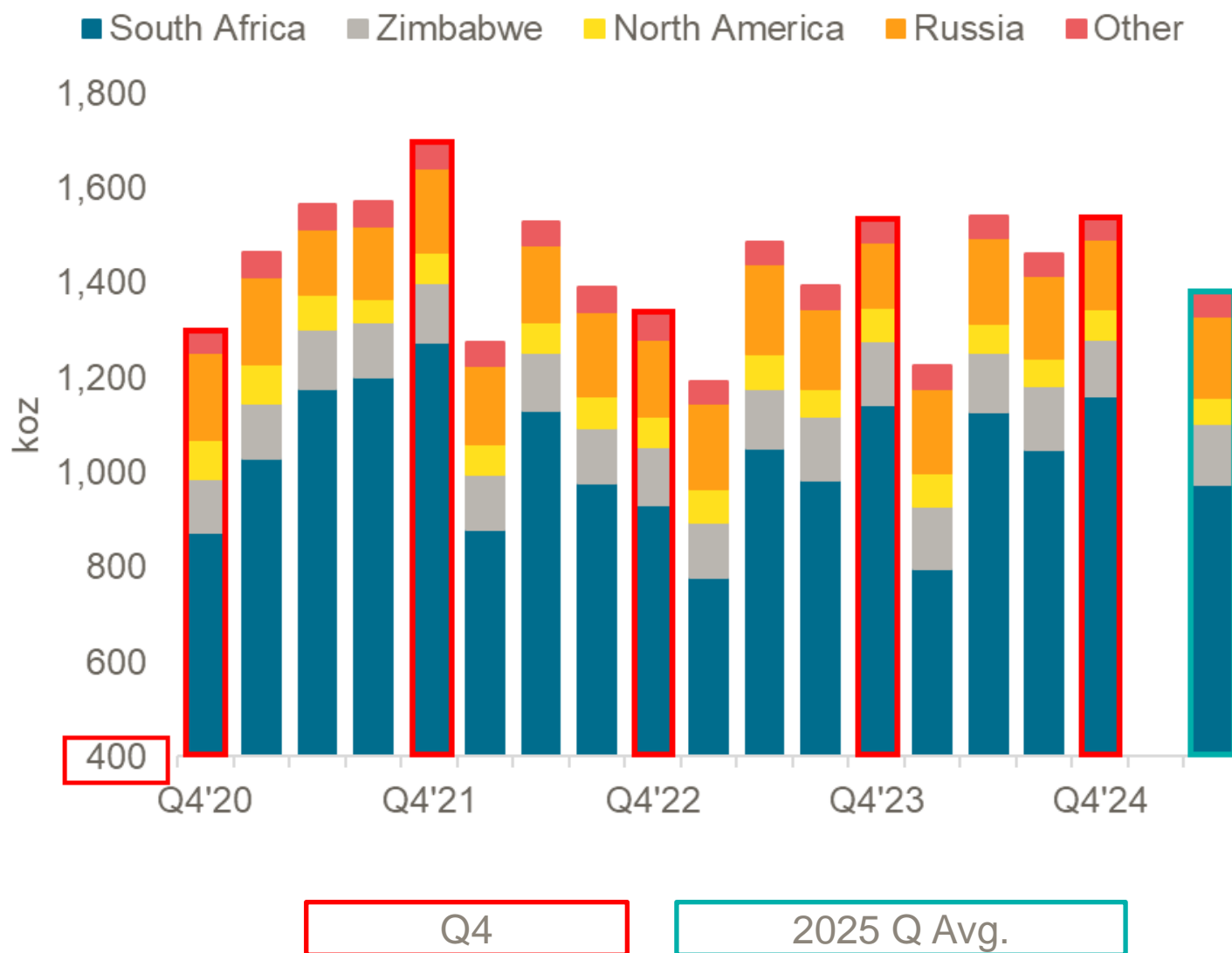
Edward Sterck



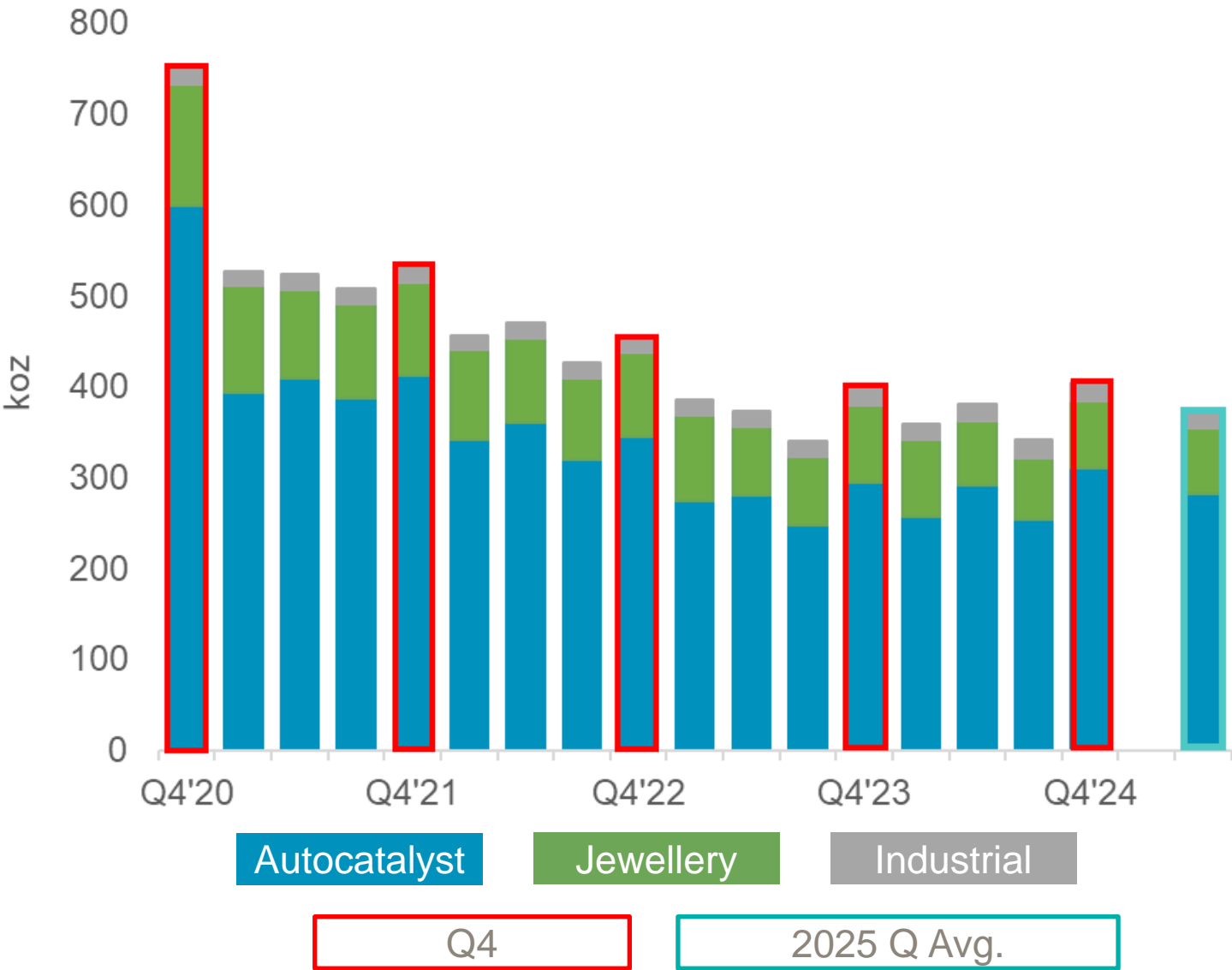
Q4 2024 SUPPLY: MINE SUPPLY UP 2% YOY ON RELEASE OF WIP INVENTORY, RECYCLING ALSO UP 1%

SUPPLY (koz)	Q4 2023	// Q3 2024	Q4 2024	YoY	QoQ
Refined Production	1,532	1,461	1,539	0%	5%
South Africa	1,143	1,049	1,160	2%	11%
Zimbabwe	133	132	121	-9%	-8%
North America	72	60	63	-11%	5%
Russia	136	172	146	7%	-15%
Other	48	48	47	0%	0%
Inc(-)/Dec(+) in Producer Inventory	-23	-11	-4	-81%	-61%
Total Mining Supply	1,509	1,450	1,534	2%	6%
Recycling	399	342	404	1%	18%
Autocatalyst	295	254	310	5%	22%
Jewellery	85	68	74	-13%	9%
Industrial	18	20	20	10%	3%
Total Supply	1,907	1,792	1,938	2%	8%

Q4 2024 REFINED MINE SUPPLY: SOUTH AFRICA RELEASED WORK-IN-PROCESS INVENTORY



Q4 2024 RECYCLING SUPPLY IMPROVED QOQ BUT REMAINED EXTREMELY DEPRESSED

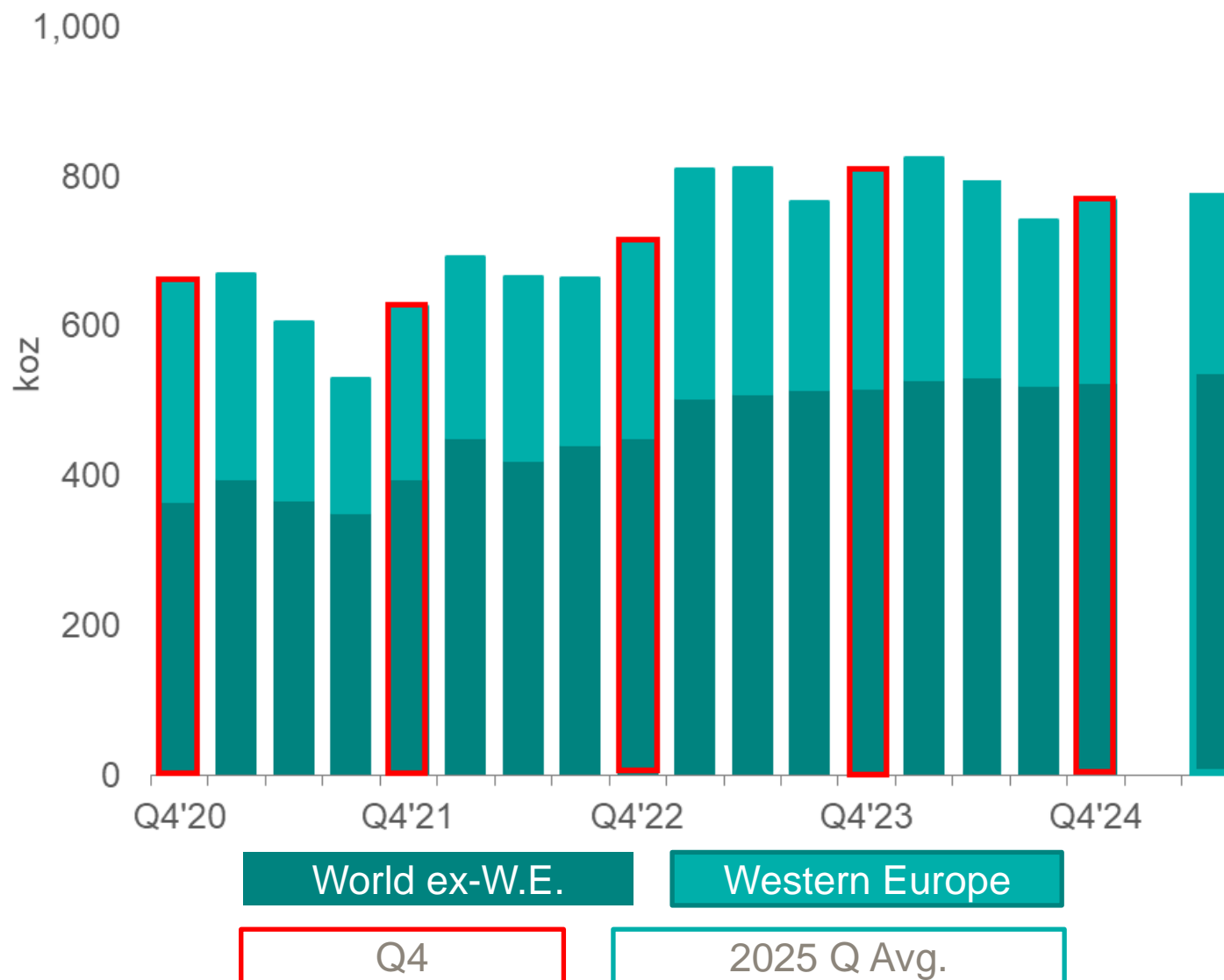


Source: WPIC Platinum Quarterly Q4 2024, Metals Focus

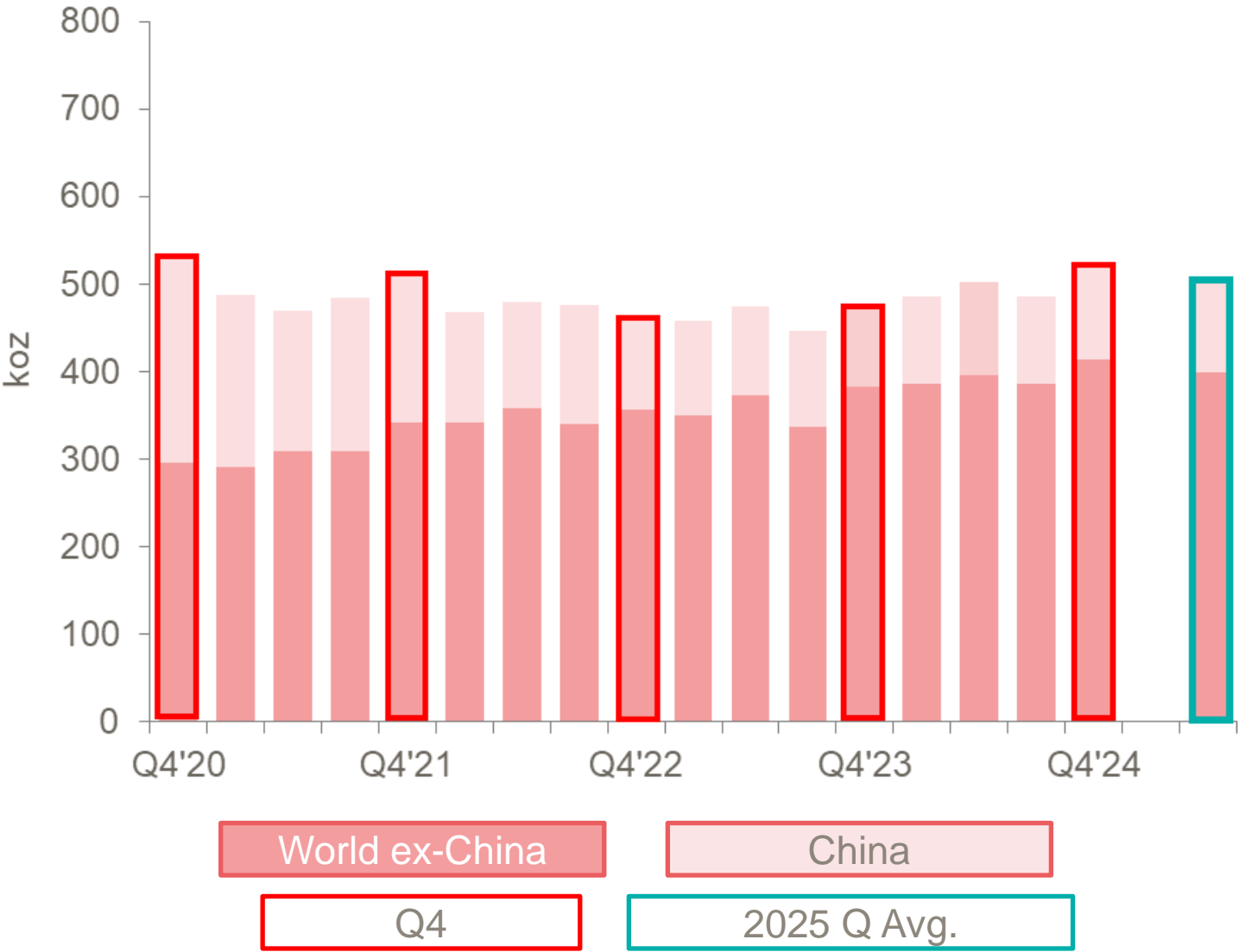
Q4 2024 DEMAND: UP 22% ON JEWELLERY GROWTH AND A SIGNIFICANT POSITIVE SWING IN INVESTMENT

DEMAND (koz)	Q4 2023 // Q3 2024	Q4 2024	YoY	QoQ	
Automotive	813	743	768	-6%	3%
Autocatalyst	813	743	768	-6%	3%
Non-road	†	†	†	†	†
Jewellery	472	485	520	10%	7%
Industrial	592	557	547	-8%	-2%
Chemical	133	136	128	-3%	-5%
Petroleum	39	40	40	2%	0%
Electrical	22	24	24	9%	0%
Glass	167	125	116	-30%	-7%
Medical & Biomedical	72	77	79	9%	3%
Hydrogen Stationary and Other	10	12	15	46%	21%
Other	150	144	145	-3%	1%
Investment	-78	-230	360	n/a	n/a
Change in Bars, Coins	61	65	54	-11%	-17%
China Bars ≥ 500g	48	30	38	-22%	26%
Change in ETF Holdings	-171	-300	142	n/a	n/a
Change in Stocks Held by Exchanges	-16	-25	126	n/a	n/a
Total Demand	1,799	1,555	2,195	22%	41%
Balance	108	237	-256	n/a	n/a

Q4 2024 AUTOMOTIVE: DOWN 6% YOY ON 2% AND 14% LOWER CATALYSED LDV AND HDV PRODUCTION

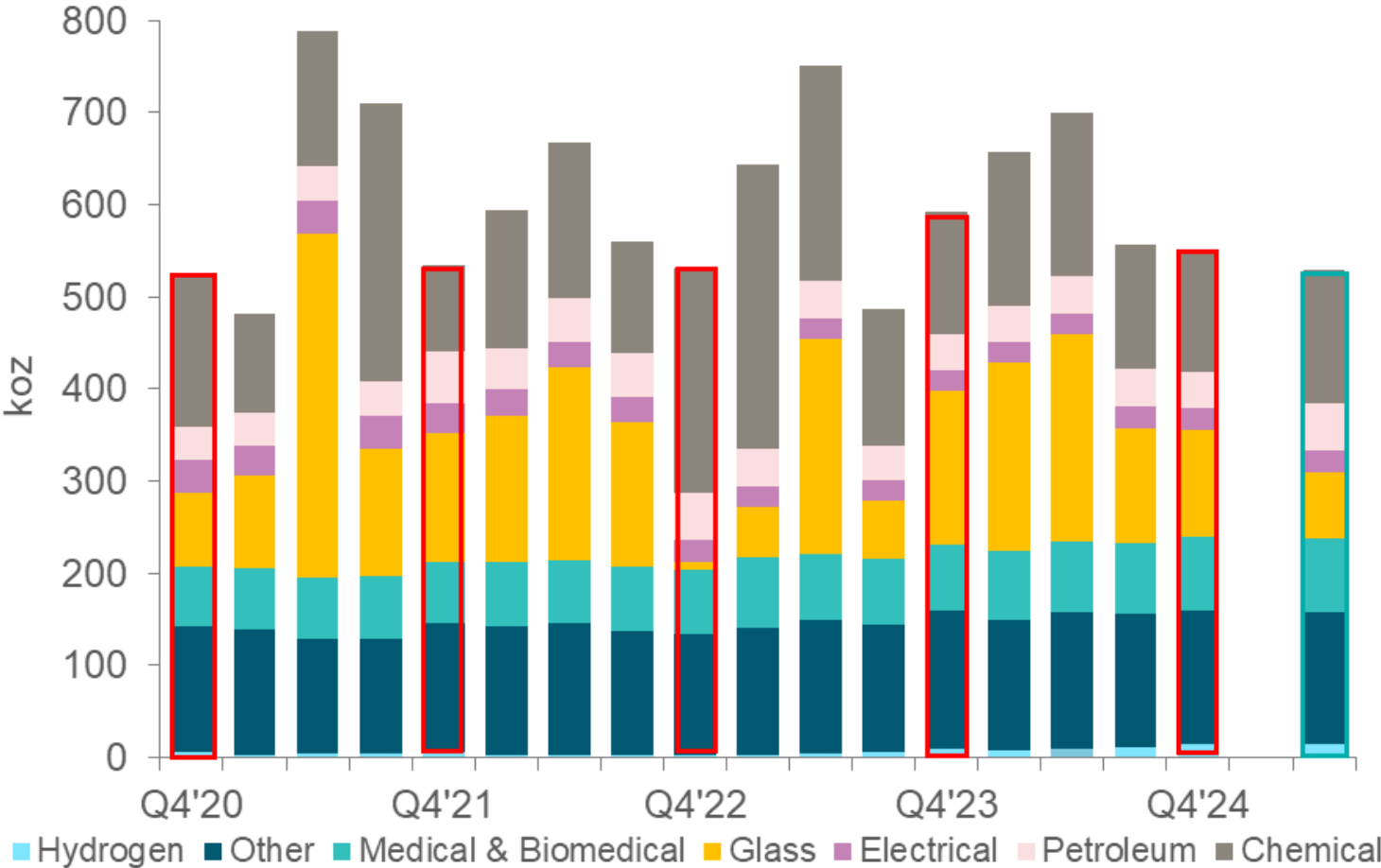


Q4 2024 JEWELLERY: POSITIVE MOMENTUM WITH DEMAND STRENGTH ACROSS ALL GEOGRAPHIES



Source: WPIC Platinum Quarterly Q4 2024, Metals Focus

Q4 2024 INDUSTRIAL DEMAND: DOWN 8% YOY WITH GLASS CAPACITY ADDITIONS NORMALISING

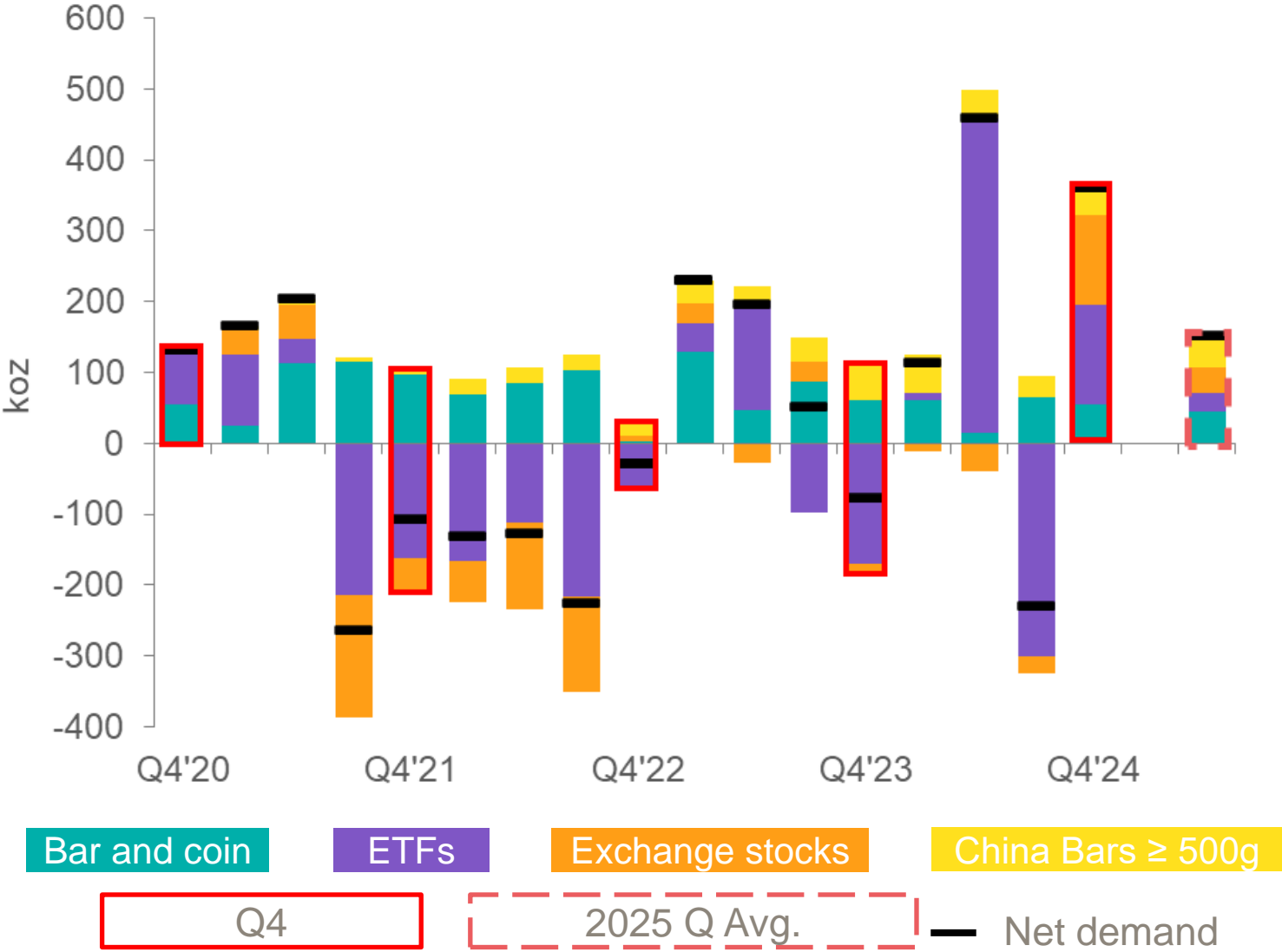


Q4

2025 Q Avg.

Source: WPIC Platinum Quarterly Q4 2024, Metals Focus, N.B. Hydrogen stationary and other excludes automotive FCEV demand

Q4 2024 INVESTMENT DEMAND: SIGNIFICANT Q4 INVESTMENT INFLOWS – UPSIDE RISK IN 2025

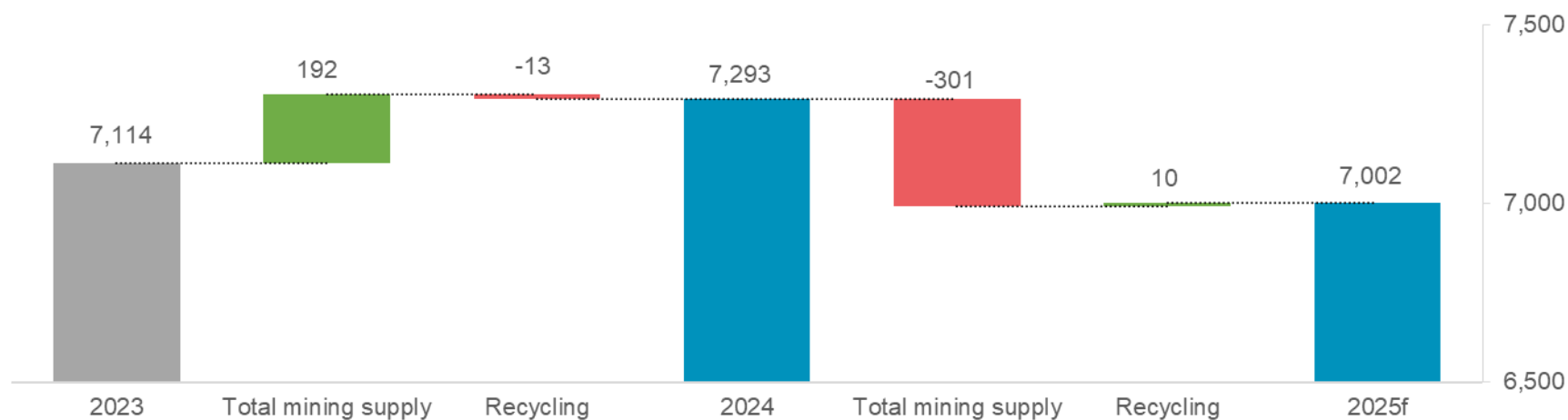


2023 - 2025F FULL YEAR: THIRD CONSECUTIVE MATERIAL DEFICIT

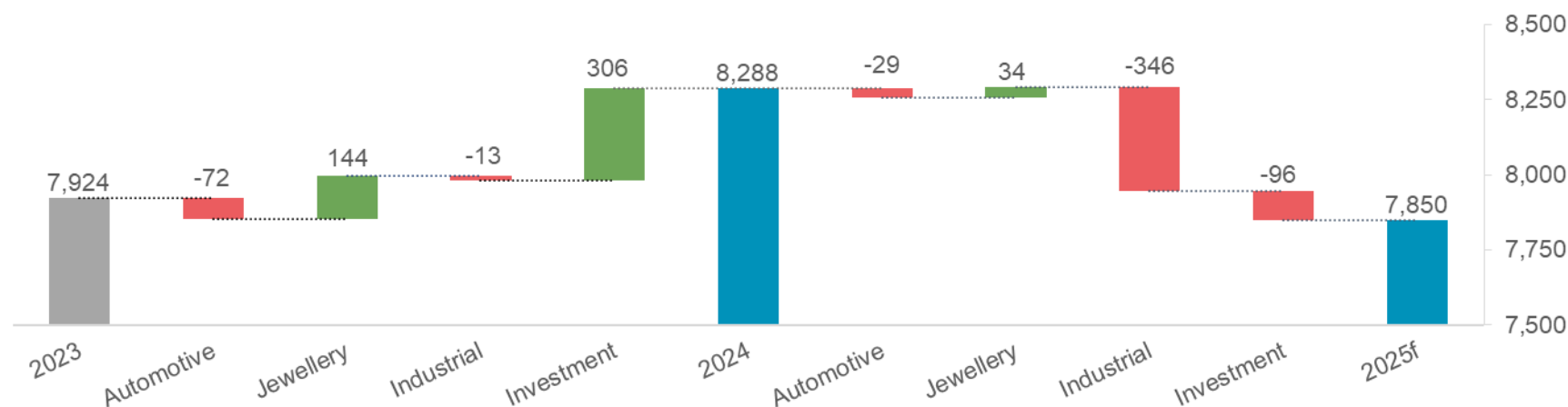
SUPPLY (koz)	2023	2024	YoY, %	2025f	YoY, %
Refined Production	5,604	5,766	3%	5,506	-5%
South Africa	3,957	4,132	4%	3,899	-6%
Zimbabwe	507	512	1%	514	0%
North America	275	254	-8%	216	-15%
Russia	674	677	0%	686	1%
Other	190	191	0%	191	0%
Inc (-)/Dec (+) in Producer Inventory	+11	+41	261%	0	-100%
Total Mining Supply	5,615	5,807	3%	5,506	-5%
Recycling	1,499	1,486	-1%	1,496	1%
Autocatalyst	1,098	1,113	1%	1,129	1%
Jewellery	331	298	-10%	286	-4%
Industrial	71	76	7%	81	7%
Total Supply	7,114	7,293	3%	7,002	-4%
DEMAND (koz)					
Automotive	3,202	3,130	-2%	3,102	-1%
Jewellery	1,849	1,993	8%	2,027	2%
Industrial	2,475	2,462	-1%	2,116	-14%
Investment	397	702	77%	606	-14%
Total Demand	7,924	8,288	5%	7,850	-5%
Balance	-809	-995	N/A	-848	N/A
Above Ground Stocks	4,378	3,383	-23%	2,535	-25%

2025F OUTLOOK: WEAKER MINE SUPPLY COINCIDES WITH A CYCLICAL INDUSTRIAL DOWNTURN IN 2025

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



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



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1. Introduction

Trevor Raymond

2. Platinum Quarterly, fundamentals review

Edward Sterck

3. Current thematics

- Entrenched deficits and declining above ground stocks
- Estimated impacts of proposed US Tariffs
- EV slowdown continues
- Recycling struggles

Edward Sterck, Director of Research

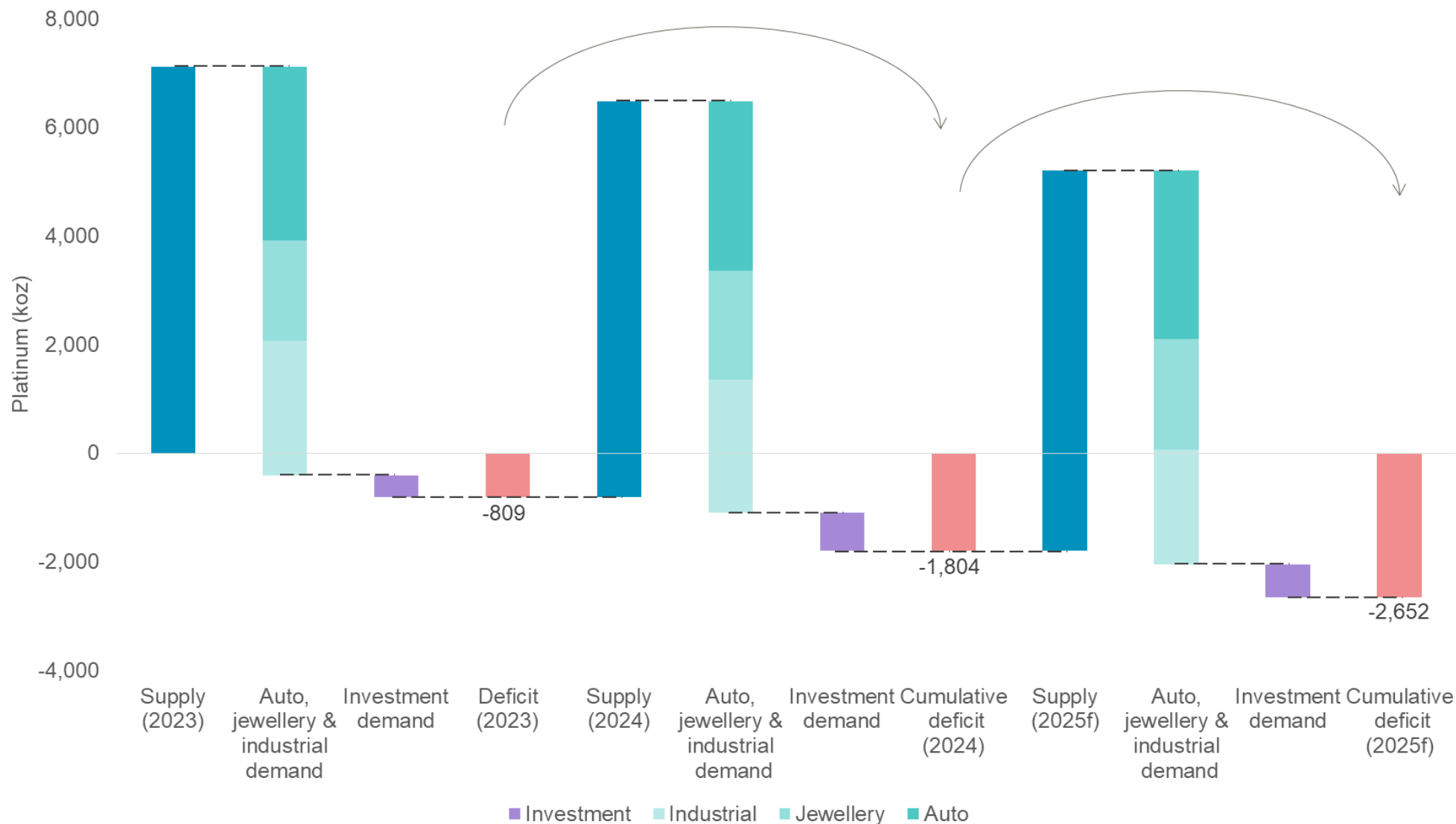
4. Questions

Trevor Raymond

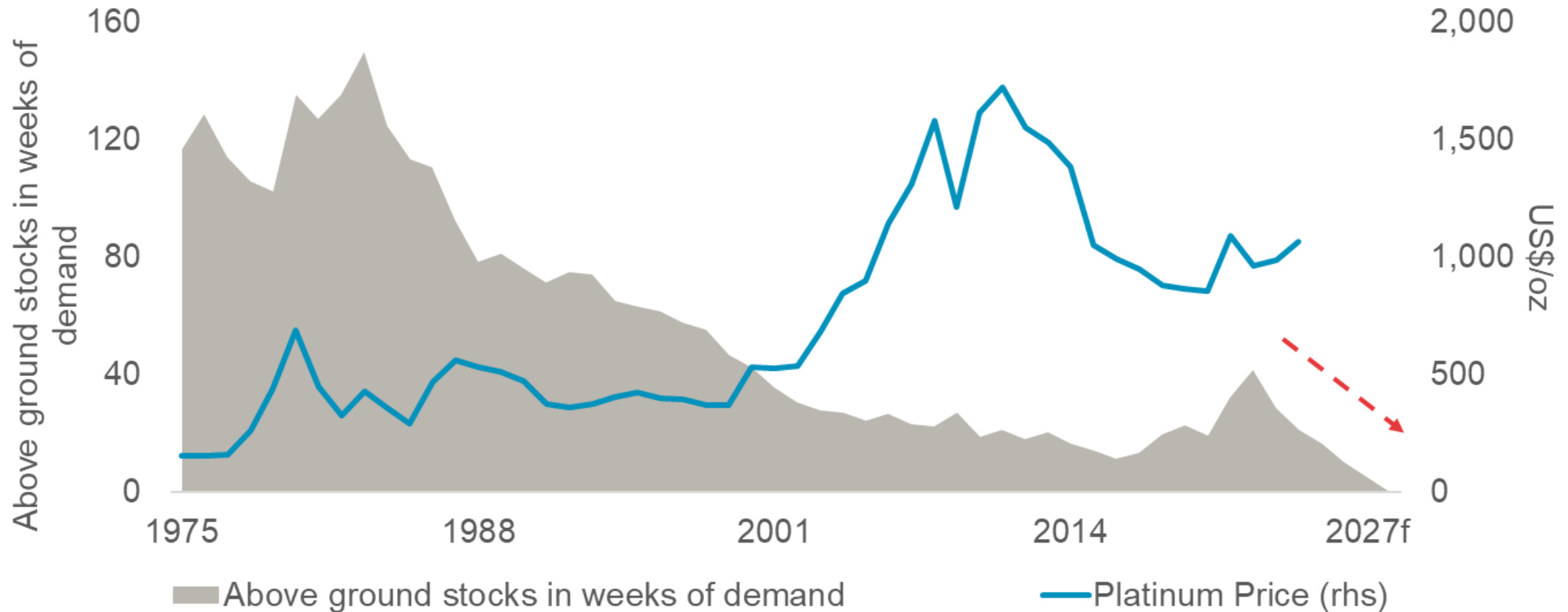
Edward Sterck



THE DEFICITS ARE STRUCTURAL WITH A CUMULATIVE DEFICIT OF OVER 2.6 MOZ BY END 2025

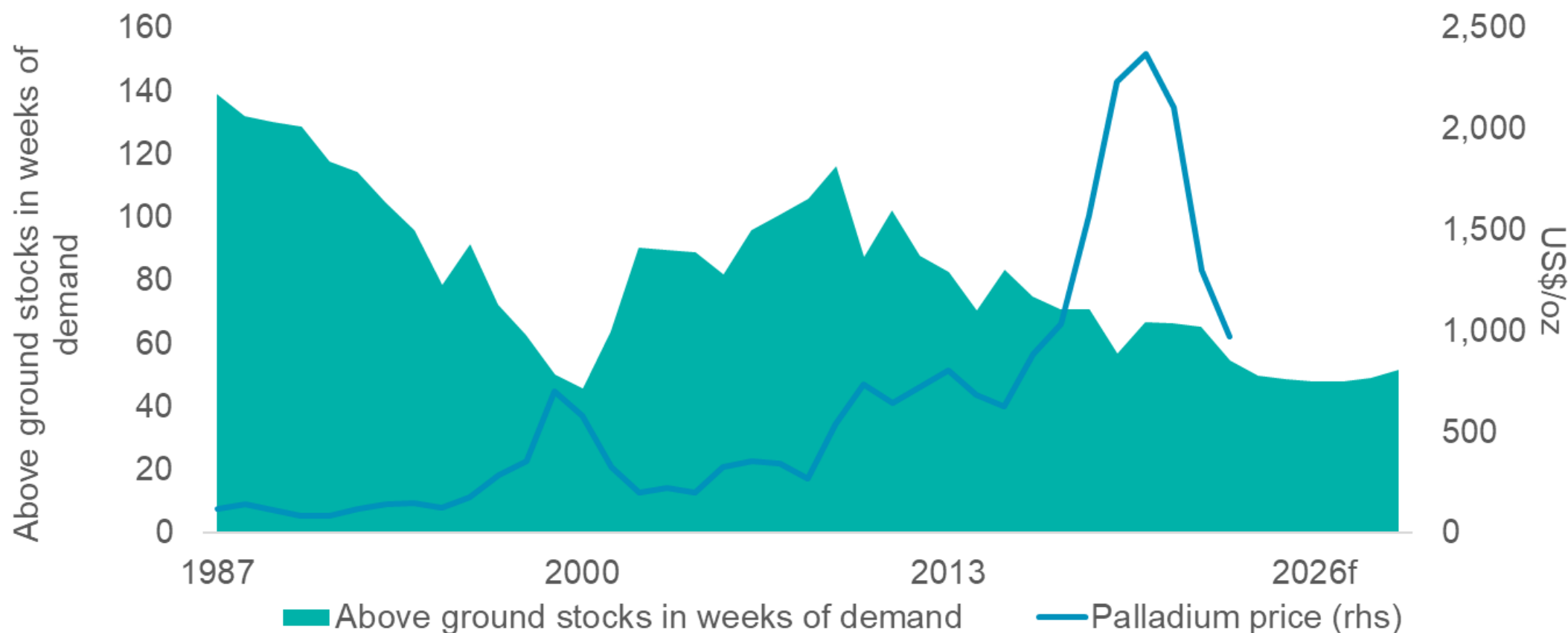


AS ABOVE GROUND STOCKS DEplete, DO THEY MATTER & HOW LOW CAN THEY FALL?



- WPIC's definition of above ground stocks is unallocated vaulted material.
- Other market commentators include ETFs, stocks held on exchange and working inventories.

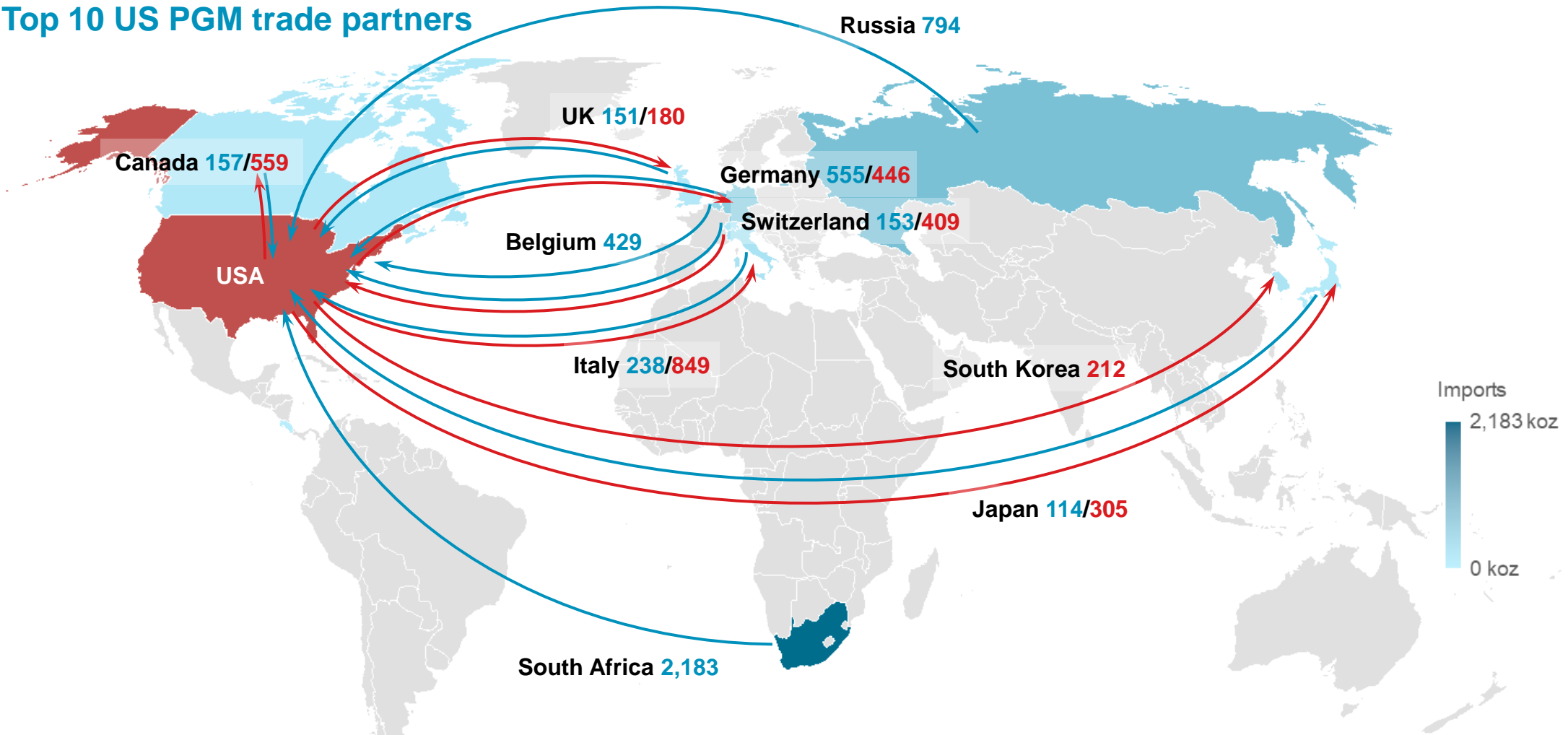
PALLADIUM STOCKS HAVE NOT ALWAYS INFORMED PRICE PERFORMANCE



- Above ground stocks do not need to reach zero before price responds to market tightness.

US PGM TRADE FLOWS - IN 2023 THE US IMPORTED 5.1 MOZ AND EXPORTED 3.2 MOZ

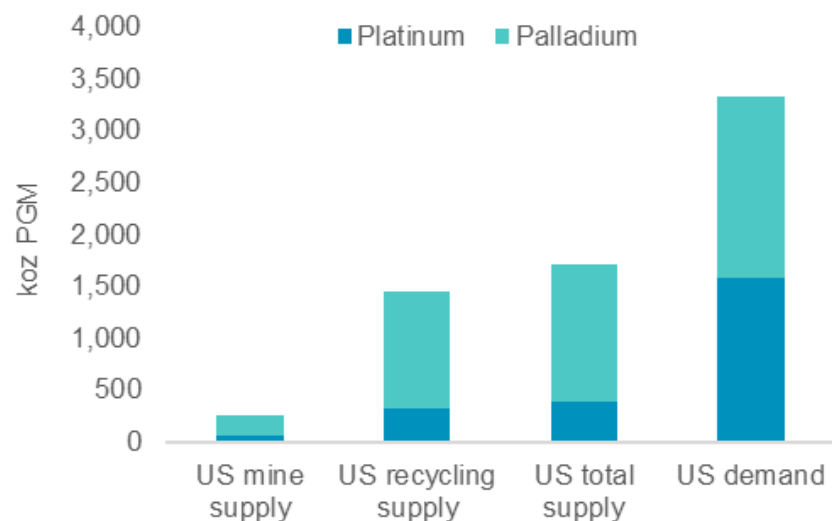
Top 10 US PGM trade partners



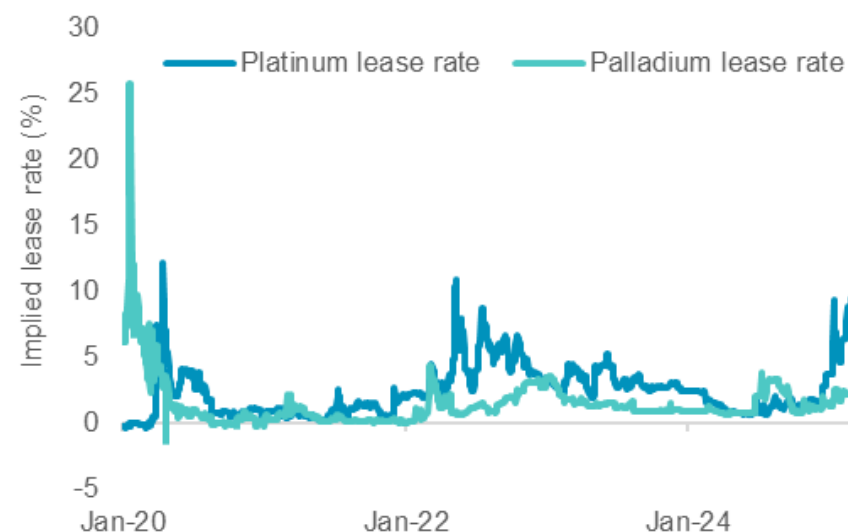
Key:
 Figures in koz PGMs for trade >100 koz
 Country: Imports to US/Exports from US

US DOMESTIC PGM SUPPLIES TOTAL ONLY ABOUT 50% OF ANNUAL DEMAND

US domestic PGM supply vs. demand

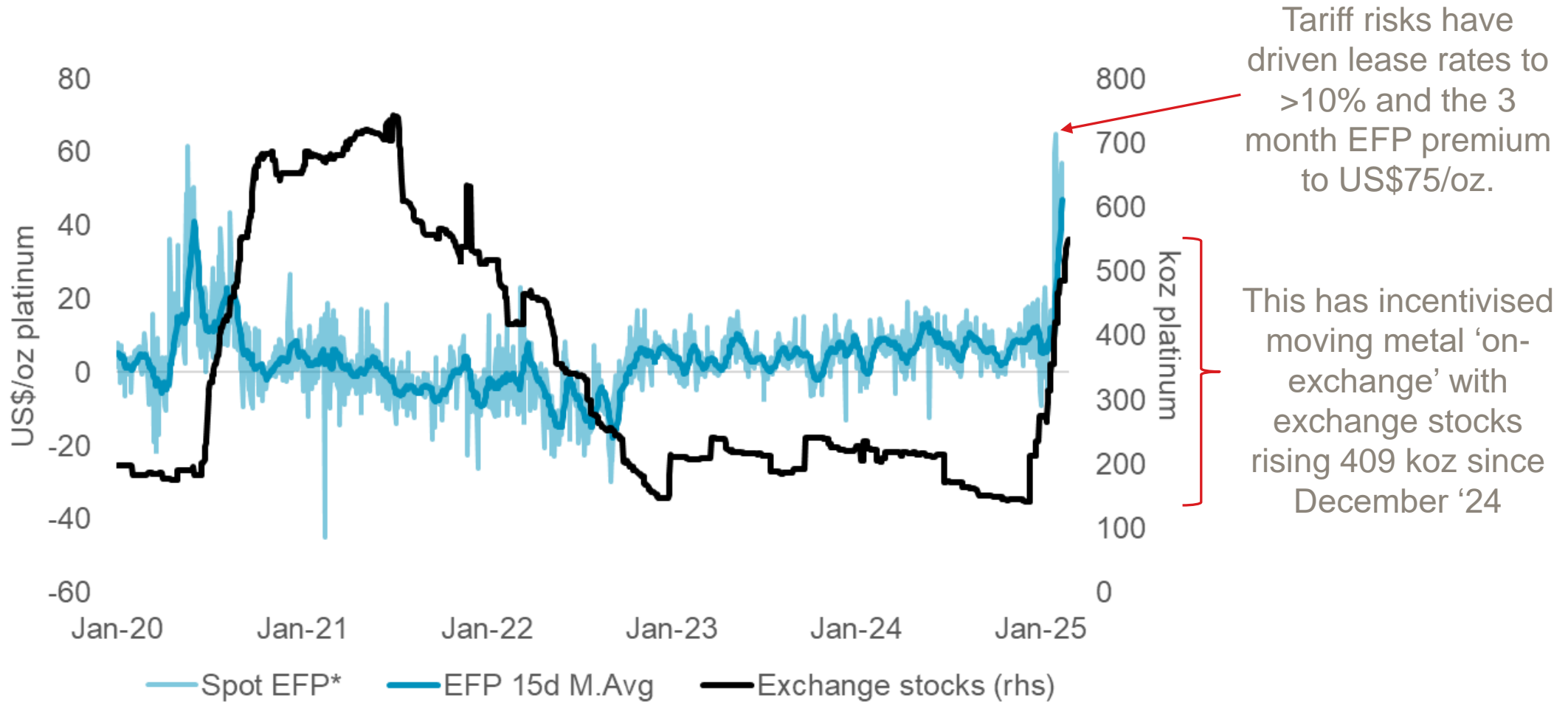


Implied 3 month lease rates have risen sharply



- The US has one PGM mine and quite substantial recycling
- Tariff risks are shining a light on the lack of domestic supply
- A scramble to secure metal is leading to a leap higher in lease rates
- Reflecting domestic supply balance, platinum lease rates are more impacted than palladium

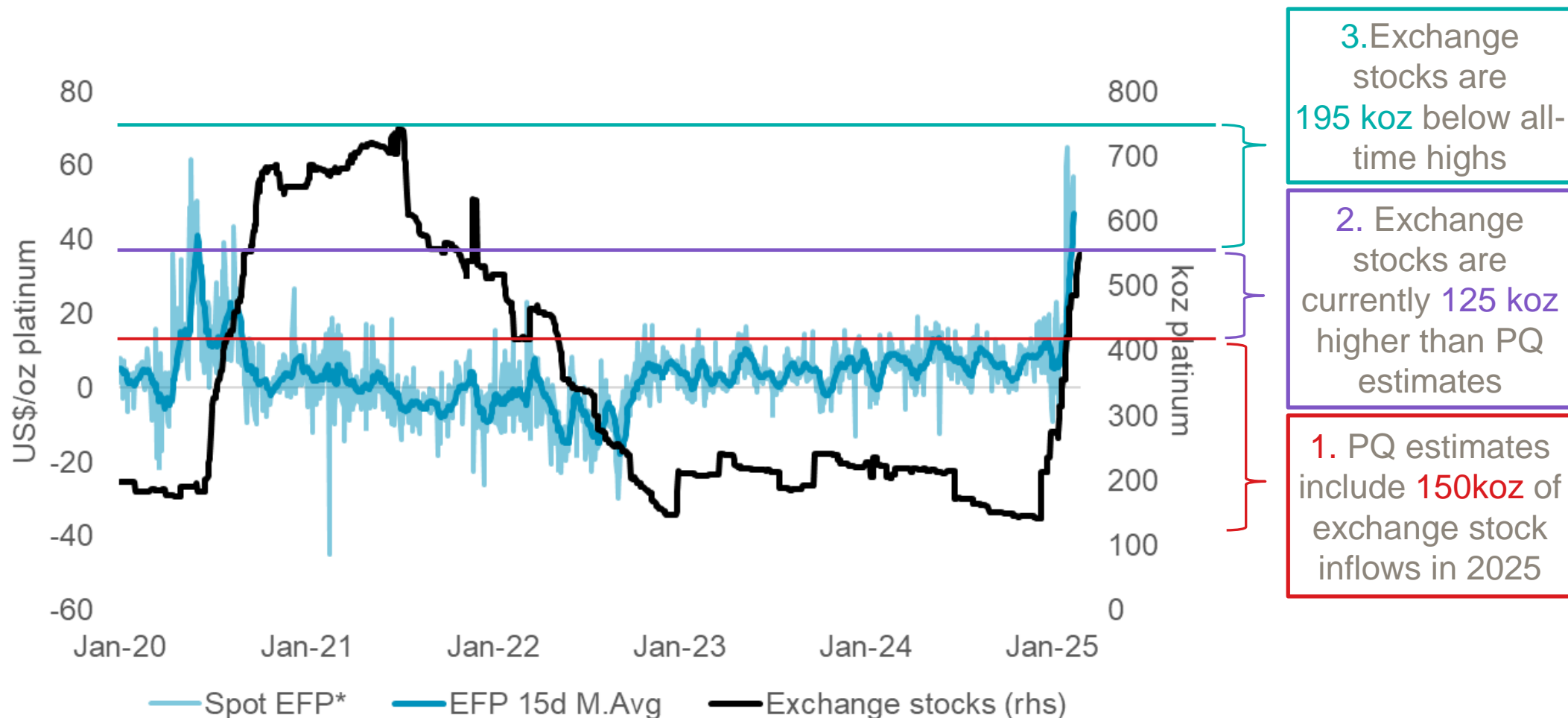
EFP RATES REFLECT RISKS AND DRIVE UP STOCKS HELD ON EXCHANGE (MAINLY NYMEX)



*Spot EFP is a blend of the 1- and 3-month implied EFP rates

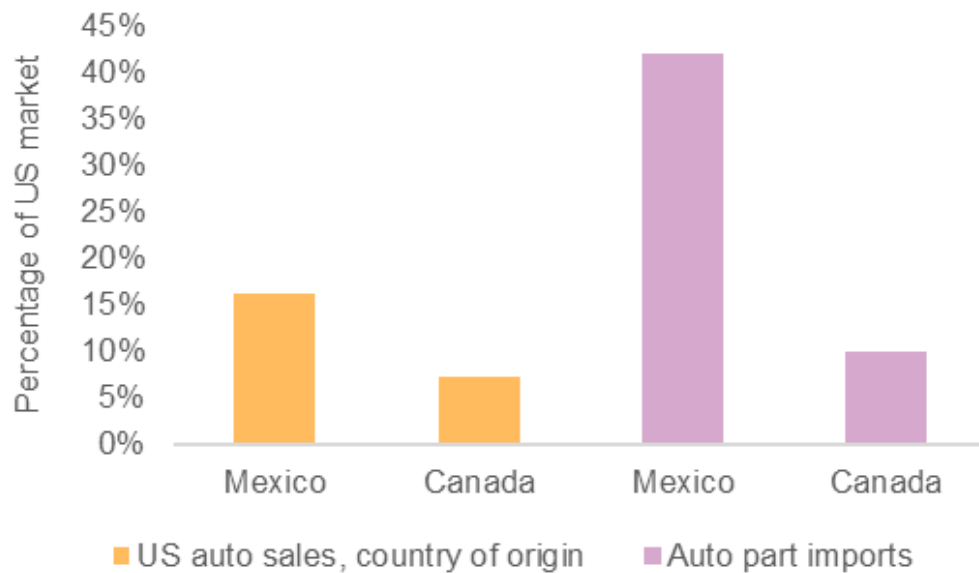
Source: Bloomberg, WPIC Research

STOCKS HELD ON EXCHANGE EXCEED 2025 OUTLOOK BUT NOT YET AT PEAK LEVELS

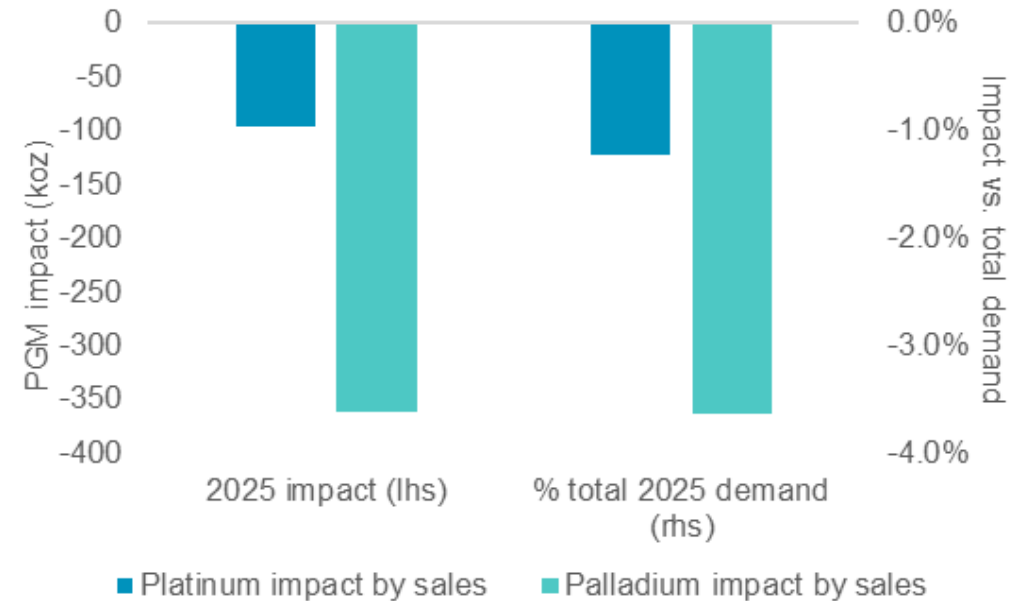


US TARIFFS HAVE NEGATIVE IMPLICATIONS FOR AUTO PRODUCTION AND PGM DEMAND

Mexico and Canada imports into the US auto industry



Potential negative impact of tariffs on US auto demand for PGMs



- The North American automotive industry is too highly integrated to untangle quickly
- Proposed 25% tariffs on Canada and Mexico likely to increase prices and suppress demand
- The damage to auto demand alone could total **100 koz platinum** and **360 koz palladium**

Note this is North America only – US tariffs on the EU and beyond would accentuate matters

US POLICIES POTENTIALLY NEGATIVE FOR US DOLLAR PLATINUM PRICE

US inflation and interest rates could remain elevated



High interest rates support the US dollar

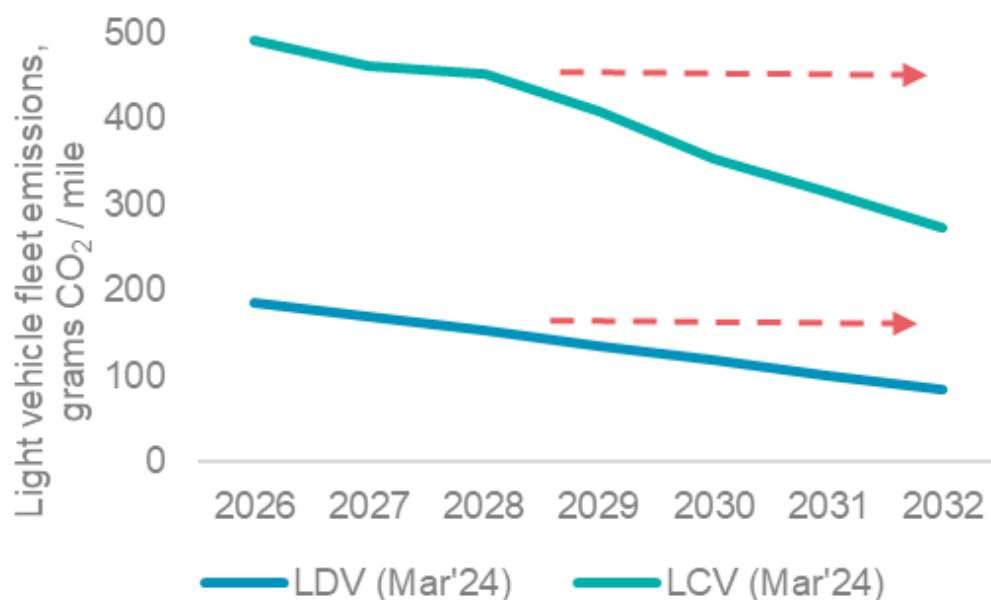


Variable	Underlying change	Impact on Price
Automotive demand	+/-100koz	+/- \$28
Jewellery demand	+/-100koz	+/- \$23
Gold Price	+/-100\$/oz	+/- \$68
Interest rates	+/-100bps	-/+ \$24
USD:ZAR	+/-1 USD:ZAR	-/+ \$60
NYMEX % Net Long	+/-10% Long/OI	+/- \$37

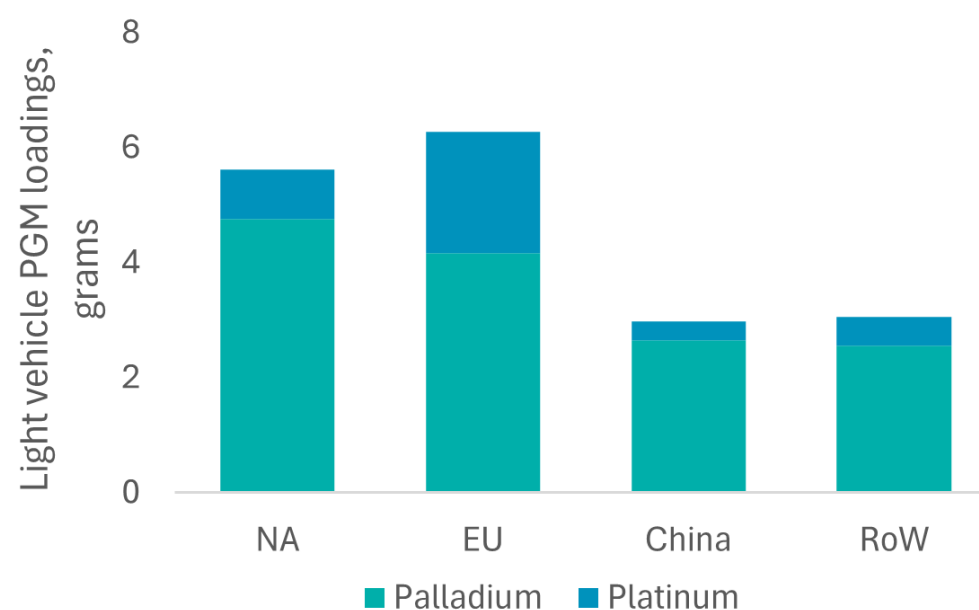
- Protectionist policies are inflationary and likely to lead to higher for longer interest rates and a stronger US dollar.
- As shown in our Platinum Price Attribution Model, these factors do not support platinum price strength.

US ENVIRONMENTAL ROLLBACK MORE POSITIVE THAN NEGATIVE FOR PLATINUM IN THE LONG RUN

Emission reduction targets for US automakers



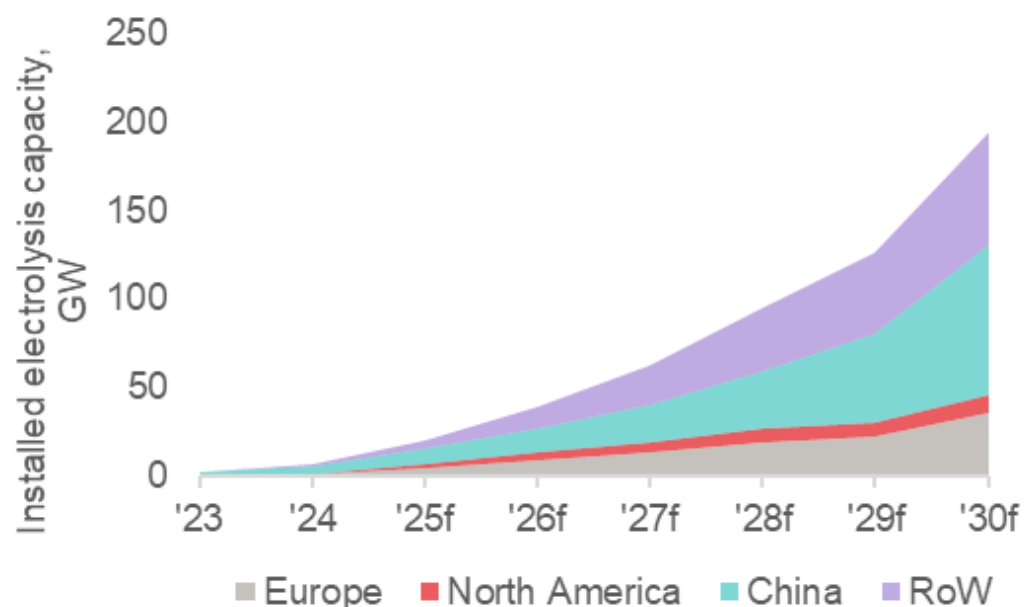
PGM loadings per vehicle by geography



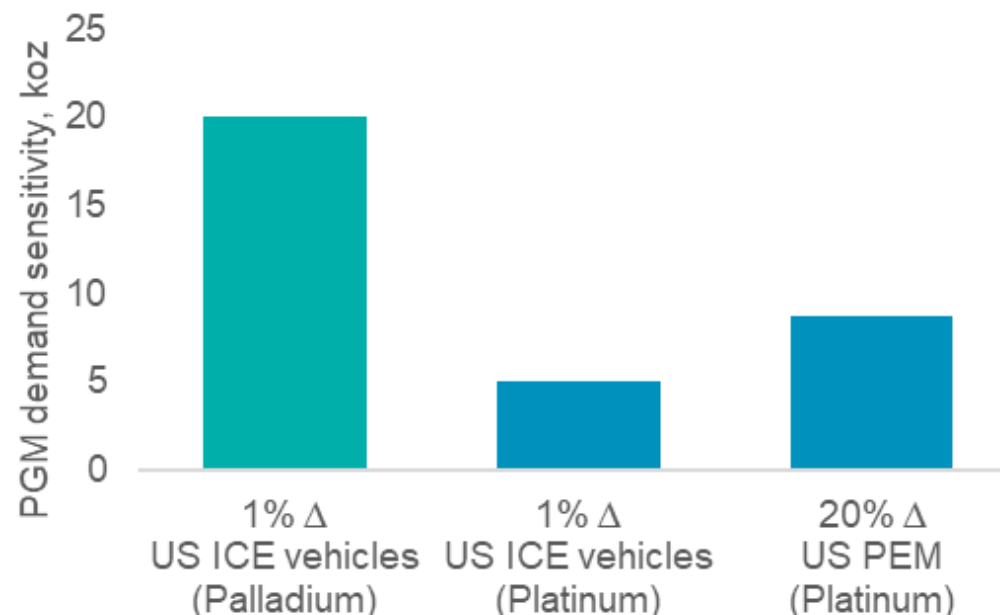
- Weakening CO₂ emissions targets lowers automaker commitments to electrify fleet
- N.A . vehicles have the highest avg. Palladium loadings due to consumers' preference for larger gasoline vehicles

US ENVIRONMENTAL ROLLBACK MORE POSITIVE THAN NEGATIVE FOR PLATINUM IN THE LONG RUN

Hydrogen demand for platinum

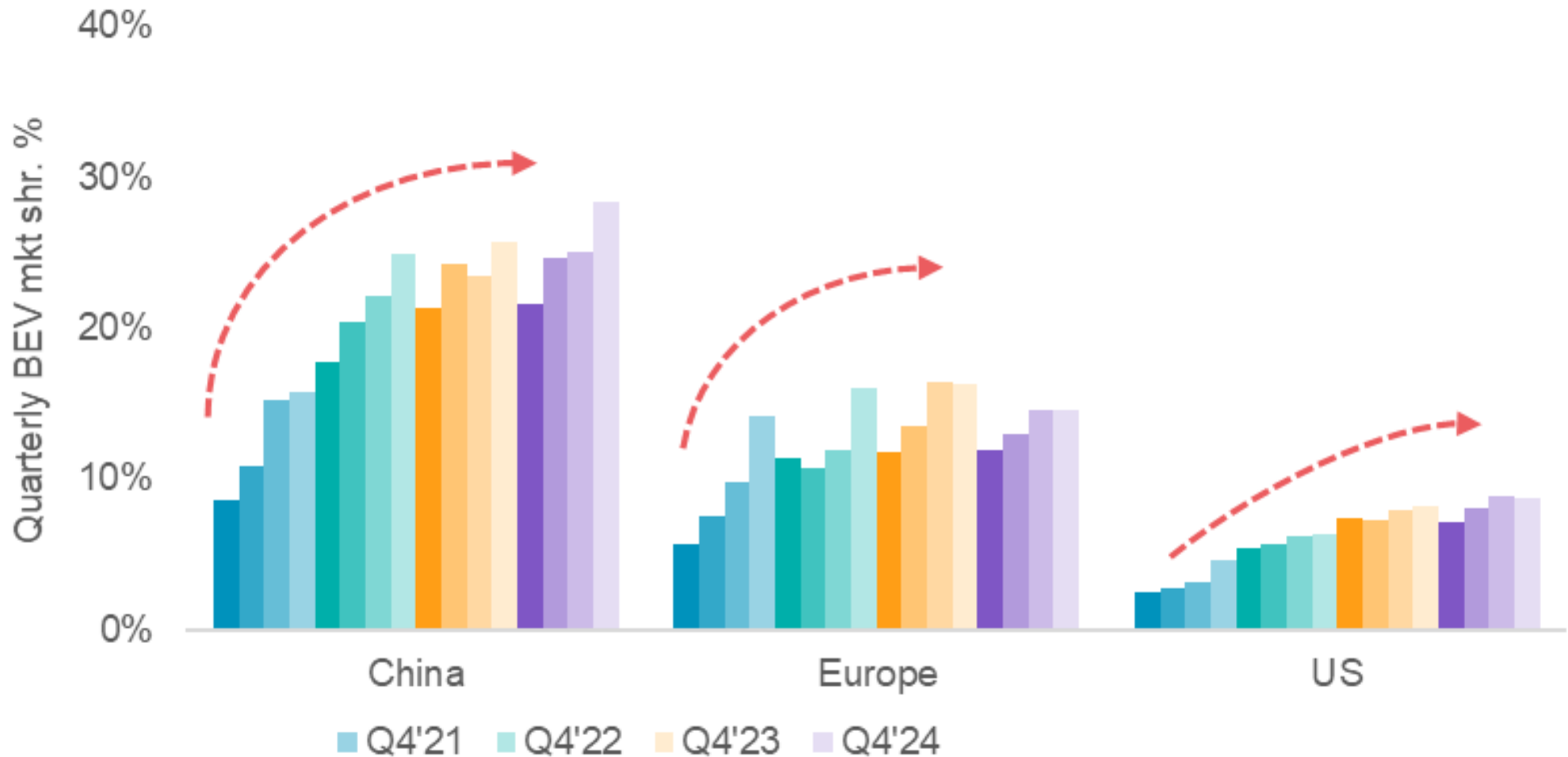


Potential policy impact on platinum demand



- Even with the Inflation Reduction Act, the US is an H₂ laggard versus the rest of the world
- Downside risks to US BEV penetration rates significantly exceed H₂ downside

EV TRENDS CONTINUE – ADOPTION RATE GROWTH CONTINUES BUT AT AN EVER-SLOWER PACE



EV TRENDS CONTINUE – EVEN MUSK IS TRYING TO PUT PEOPLE OFF TESLAS (UNINTENTIONALLY)

NEW MODEL Y - THE WORLD'S BEST SELLING VEHICLE IS NOW EVEN BETTER



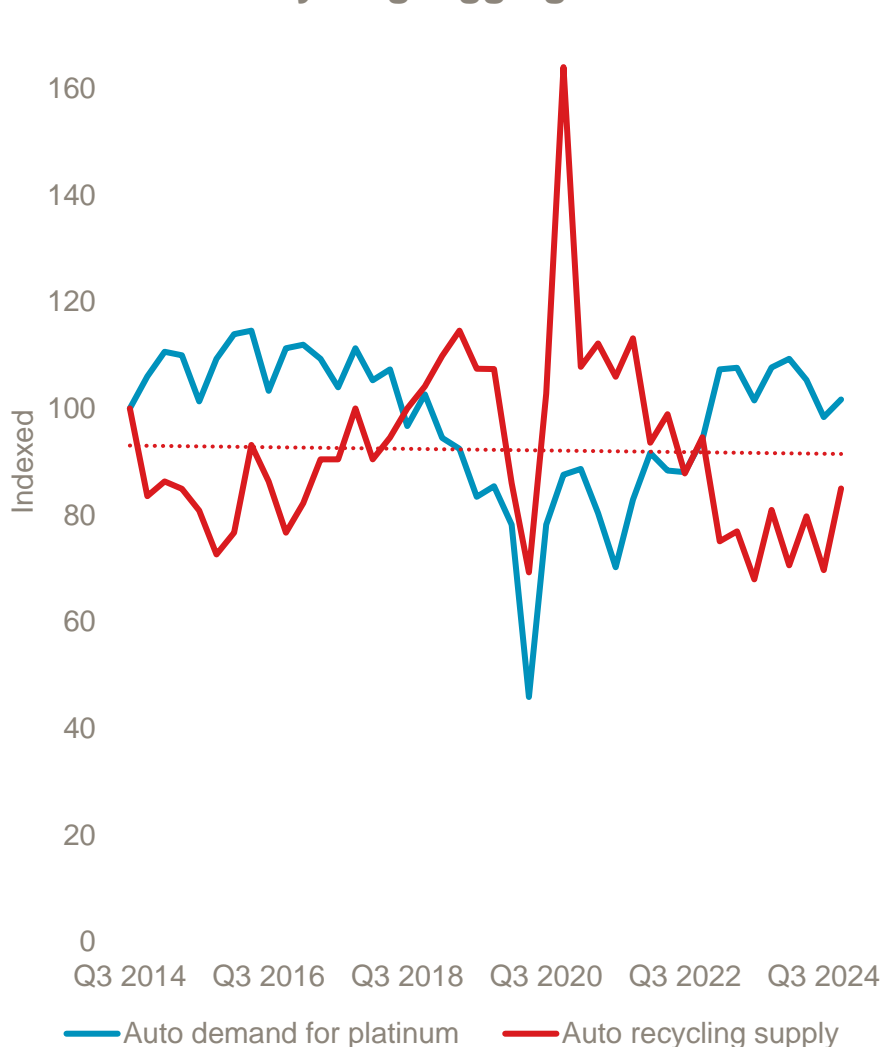
	Model Y	New Model Y
Trim	Long Range All-Wheel Drive	LAUNCH SERIES Long Range All-Wheel Drive
Delivery Timing	Available Now	Available starting March
Starting Price After Est. Savings	\$34,490	\$46,490 +35%
Range**	311 miles (EPA est.)	320 miles (est.)
Seating	First row: power recline and heated Second row: manual fold and heated	First row: power recline, heated and ventilated Second row: power two-way folding and heated
Displays	15.4" front-row touchscreen	15.4" front-row touchscreen 8" second-row touchscreen
Ride Comfort	First-generation suspension First-generation noise reduction hardware	Second-generation suspension Second-generation noise reduction hardware
Cameras	7 exterior cameras	8 exterior cameras (includes new front-facing camera)
Audio	13 speakers, 1 subwoofer	15 speakers, 1 subwoofer
Connectivity	First-generation hardware	Second-generation hardware
Trunk	Power open	Hands-free power open on approach
Interior	Footwell and door pocket ambient lighting Wooden detailing with black interior	Footwell and door pocket ambient lighting Wrap-around ambient lighting Aluminum detailing and premium textiles
Climate	Tinted and laminated safety glass Power-actuated first-row air vents Manual second-row air vents	Laminated safety glass on cabin windows and roof Tinted safety glass with metallic infrared reflective coating across the roof Power-actuated first- and second-row air vents

* Before estimated savings, Model Y Rear-Wheel Drive starts at ~~34,490~~ (U.S.) and New Model Y Launch Series Long Range All-Wheel Drive starts at ~~46,490~~ (U.S.). Prices include Destination and Order Fees, but exclude taxes and other fees. Subject to change. New Model Y Launch Series has upgrades that will increase the price. Estimated savings includes \$6,000 in gas savings estimated over five years and the \$7,500 Federal Tax Credit, available to eligible buyers and subject to MSRP caps. Not all vehicles, customers or finance options will be eligible. [Terms apply](#)

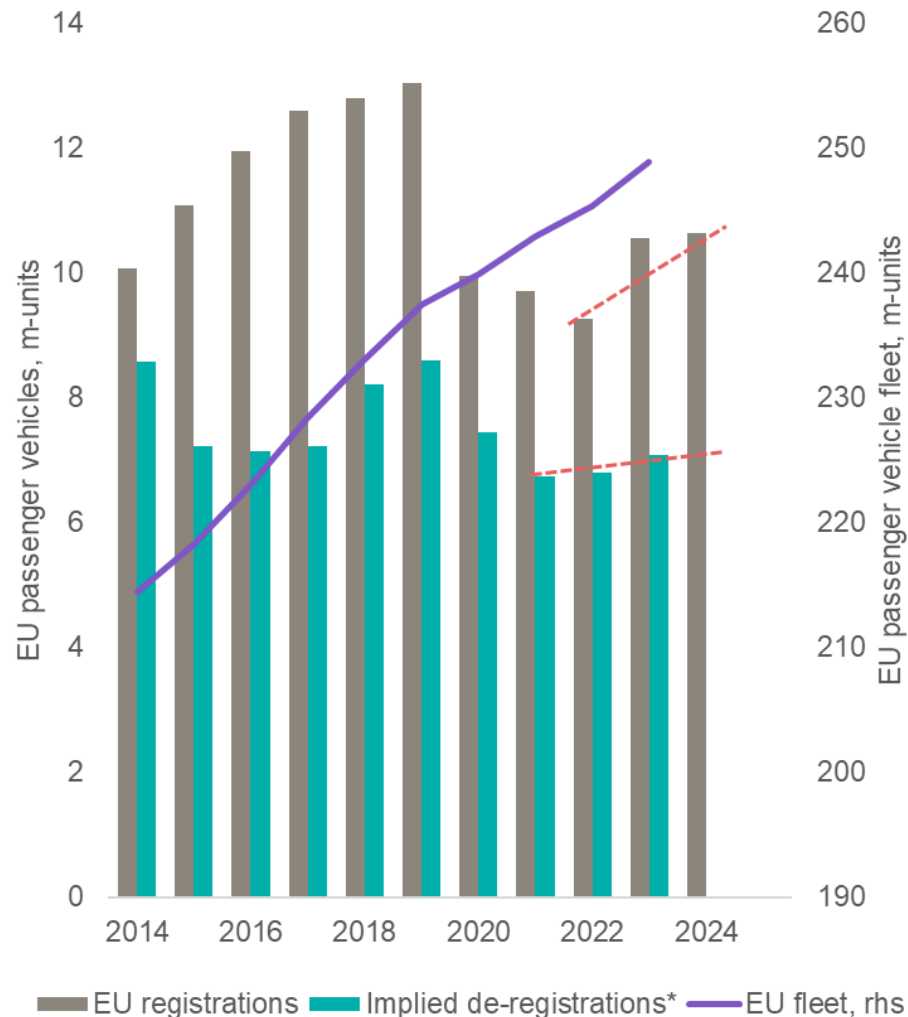
+32%

AUTOCATALYST RECYCLING REMAINS AT HISTORIC LOWS, RECOVERY MAY BE SLOWER THAN EXPECTED

Auto recycling lagging auto demand

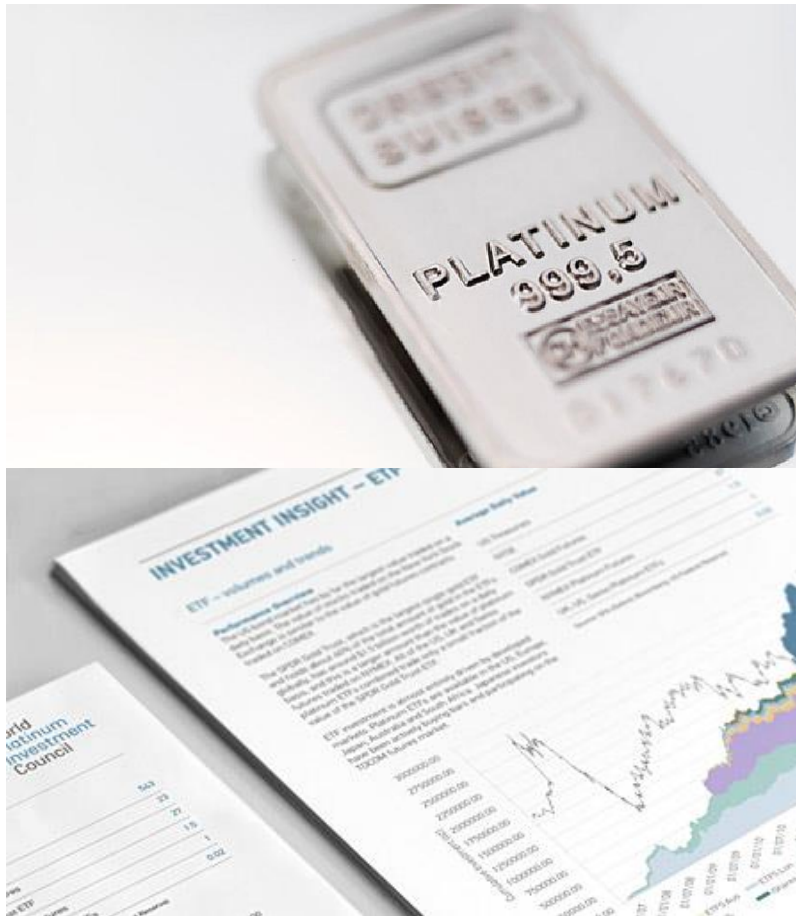


Divergent vehicle sales and de-registrations in Europe



Source: Metals Focus, ACEA, WPIC Research, *De-registrations is the difference between the starting fleet value plus new registration and the end of year fleet value

WHY INVEST IN PLATINUM?



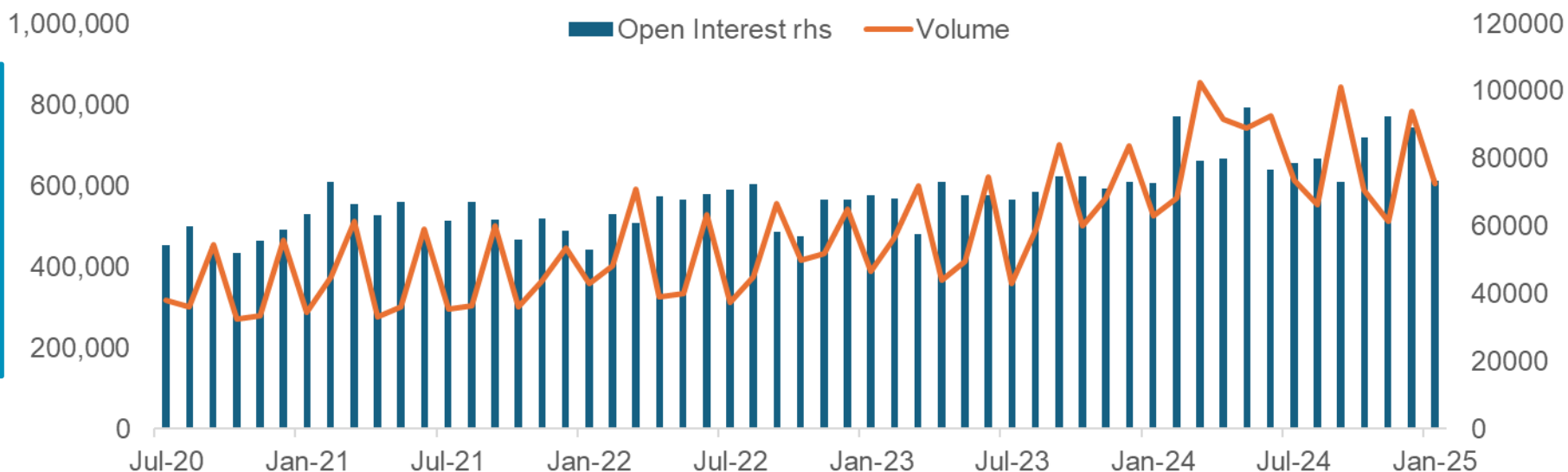
- Three years of entrenched platinum deficits
- Demand largely inelastic
- Rapid depletion of above ground stocks
- Tariff damages cannot eliminate deficits
- Strong investment interest

PLATINUM IN A NARROWING TRADING RANGE WITH TRADING VOLUMES CONTINUING TO INCREASE

The platinum price trading range is narrowing



Even as volumes continue to increase across futures (NYMEX shown here) options and ETFs



WPIC INITIATIVES, UPCOMING RESEARCH AND SHANGHAI PLATINUM WEEK



The Perth Mint's 2025 Lunar series and Kangaroo



WPIC initiatives:

- New partner in Japan – Noguchi Coin
- Regular release of platinum coins together with gold counterparts
- Using 2024 news flow from key new products to help further lift overall market; to continue in 2025
 - Costco platinum bars & coins
 - China Gold Coin Group's 1kg Fish to Dragon bar

Upcoming WPIC Research:

- Platinum price attribution model update
- Recycling assessment

Shanghai Platinum Week

Dates – 7-11 July

Costco: Fortuna bar, Maple coin

CGCG Panda, 1kg bar

NEW WPIC PRE-PRODUCTION MEMBERS BRAVO MINING CORP. AND PODIUM MINERALS



NEWS RELEASE
23 January 2025

Bravo Becomes a Member of the World Platinum Investment Council - WPIC®

Joins Some of World's Leading Platinum Producers

VANCOUVER, January 23, 2025 – Bravo Mining Corp. (TSX.V: BRVO, OTCQX: BRVMF), ("Bravo" or the "Company") is pleased to announce that it has received official approval from the Board of the World Platinum Investment Council - WPIC® to join the organization as a new member.

Bravo is the first pre-production member to join WPIC, alongside leading PGM producers Anglo American Platinum, Impala Platinum (Implats), Northam Platinum, Sedibelo Platinum and Tharisa ([WPIC members](#)).

The WPIC is a global market authority on physical platinum investment, providing investors with objective and reliable platinum market intelligence (<https://platinuminvestment.com/>). It is headquartered in London with offices in Shanghai and Shenzhen and was instrumental in establishing the annual Shanghai Platinum Week (SPW) for which it continues to be the co-organiser.

"Being the first pre-production platinum group metals (PGM) company to join the prestigious WPIC is a testament to Bravo's achievements with its Luanga PGM+Au+Ni Project," said Luis Azevedo, Chairman and CEO of Bravo. "Membership provides Bravo with the opportunity to stay aligned with developments in the PGM sector, gain access to valuable market intelligence, and engage with the global PGM sector, both downstream and upstream. It also presents an opportunity for Bravo to raise awareness of the Luanga Project qualities and its strategic location. I extend my sincere gratitude to the WPIC Board and team for welcoming us as a member, and I look forward to engaging in constructive discussions that will benefit the industry and Bravo alike."

Trevor Raymond, CEO of the World Platinum Investment Council, commented: *"We are delighted to welcome Bravo to WPIC as our first pre-production member. This new category of membership will enable more platinum advocates to distribute quality platinum insights to a wider global investment community. This will in turn enhance WPIC's effectiveness in increasing awareness, understanding and ownership of platinum as an investment."*

About Bravo Mining Corp.

Bravo is a Canadian and Brazil-based mineral exploration and development company focused on advancing its PGM+Au+Ni Luanga Project, as well as our Cu-Au exploration opportunities in the world-class Carajás Mineral Province, Para State, Brazil.

Bravo is one of the most active explorers in Carajás. The team, comprising of local and international geologists, has a proven track record of PGM, nickel, and copper discoveries in the region. They have successfully taken a past IOCG greenfield project from discovery to development and production in the Carajás.

The Luanga Project is situated on mature freehold farming land and benefits from being located close to operating mines and a mining-experienced workforce, with excellent access and proximity to existing infrastructure, including road, rail, ports, and hydroelectric grid power. A fully funded +70,000 infill, step out and exploration drilling and trenching program was completed in 2024. Bravo's current Environmental, Social and Governance activities includes planting more than 30,000 high-value trees in and around the project area, while hiring and contracting locally.

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ASX Announcement
3 February 2025



PODIUM JOINS WORLD PLATINUM INVESTMENT COUNCIL

Podium Minerals Limited (ASX: POD, 'Podium' or 'the Company') is pleased to announce that it has become the first Australian PGM developer to join the World Platinum Investment Council ('WPIC®'), as a pre-production member.

HIGHLIGHTS

- First Australian PGM Company to become a member of the World Platinum Investment Council.
- WPIC was founded by the leading PGM miners and producers, and is a global authority on platinum market intelligence and physical platinum investment.
- WPIC members include Anglo American Platinum, Impala Platinum (Implats), Northam Platinum, Sedibelo Platinum and Tharisa as well as Bravo Mining.
- Membership will provide Podium with access to WPIC's extensive research and comprehensive market intelligence, and expand opportunities for engagement across the global PGM sector.
- WPIC is headquartered in London, with offices in Shanghai and Shenzhen.

Executive Chairman, Rod Baxter, commented:

"I am excited that Podium is the first Australian PGM developer to join the World Platinum Investment Council. Becoming a pre-production member of the WPIC delivers one of the key Corporate building blocks which underpin our strategy to develop Parks Reef PGM Project ('Parks Reef Project' or 'Project').

Our membership of the WPIC will provide quality global market intelligence and valuable insights to inform our strategy and our decision making, and will position Podium to stay at the forefront of PGM sector developments. Furthermore, our membership of this highly regarded organisation will unlock opportunities for engagement with the global PGM sector, and will provide avenues to promote Podium, our Parks Reef Project, and Western Australia as a future supplier of PGMs.

We look forward to working with the WPIC, and engaging in insightful industry discussions."

Trevor Raymond, CEO of the World Platinum Investment Council, commented:

"We are delighted to welcome Podium as the first Australian pre-production member of the WPIC. WPIC's new pre-production membership category will enable more platinum advocates to distribute quality platinum insights to a wider global community. This will in turn enhance WPIC's effectiveness in increasing awareness, understanding and ownership of platinum as an investment."

This announcement has been approved for release by the Board of Podium Minerals Ltd

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AGENDA: PLATINUM QUARTERLY: Q4 2024, FINAL 2024 ESTIMATES AND UPDATED 2025 OUTLOOK

1. Introduction

Trevor Raymond

2. Platinum Quarterly, fundamentals review

Edward Sterck

3. Current thematics

Edward Sterck

4. Questions

Trevor Raymond, CEO

Edward Sterck, Director of Research



Platinum Quarterly ([link](#))

Platinum Essentials ([link](#)):

- WPIC's platinum price attribution model examines the factors that establish platinum value in the market.
- 16 Jan'25, Jewellery market growth returns as China's decline halts, strong ex-China growth continues and platinum's discount to gold results in price parity with white gold.
- 6 Feb'25, Five-year supply/demand outlook; platinum deficits persist, palladium's are deeper and last longer.

Platinum Perspectives ([link](#)):

- US policies and the PGM markets Parts 1, 2 and 3. Trade tariffs, economic policies, and rolling back environmental commitments.



