



World Silver Survey 2025

The Silver Institute/ Metals Focus



Launch of World Silver Survey 2025

Philip Newman and Sarah Tomlinson, Metals Focus

April 16th, 2025

The Global Source
THE SILVER INSTITUTE

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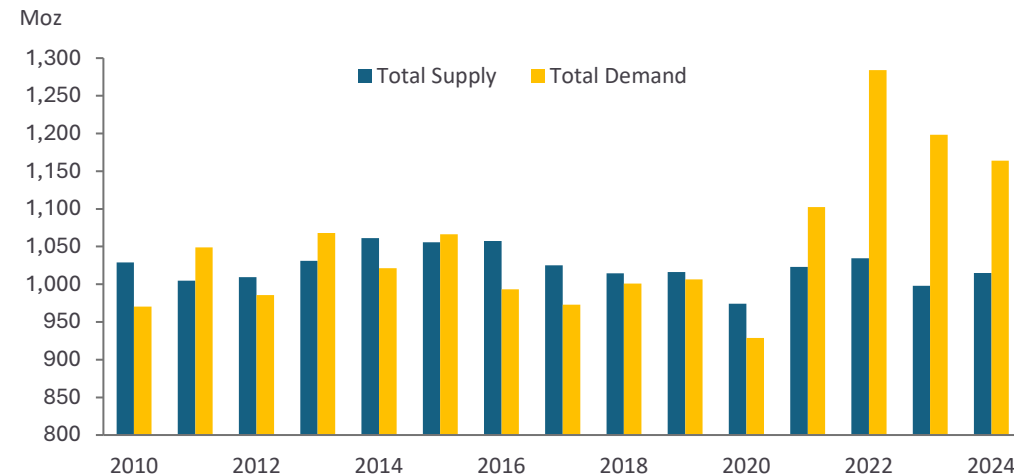
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Tanaka Precious Metal Technologies Co., Ltd.
Valcambi sa



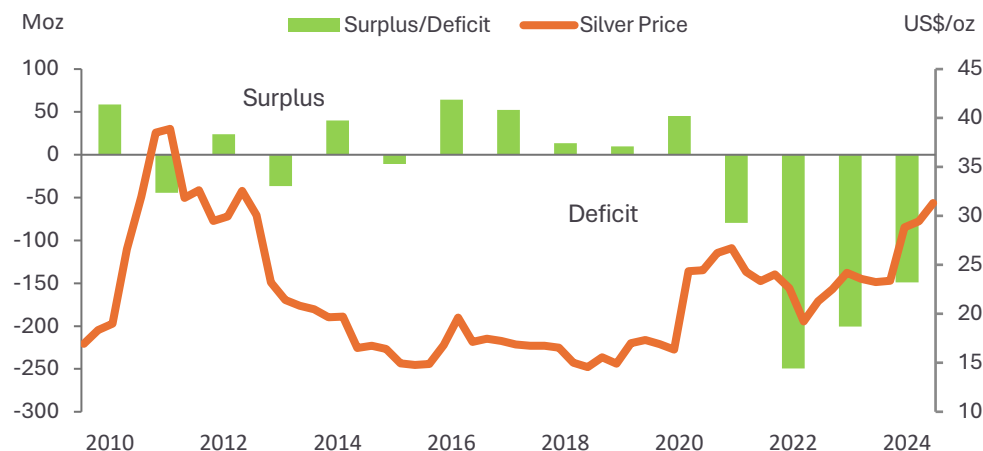
Market fundamentals have been healthy for some time

- Overall, silver supply remains broadly stable
 - 2010-2019: -0.1%
 - 2020-2024: +0.0%
- A step-change for demand since 2021
 - 2010-2019: +0.6%
 - 2020-2024: +3.6%

Global Silver Supply & Demand



The fourth successive, and sizable deficit



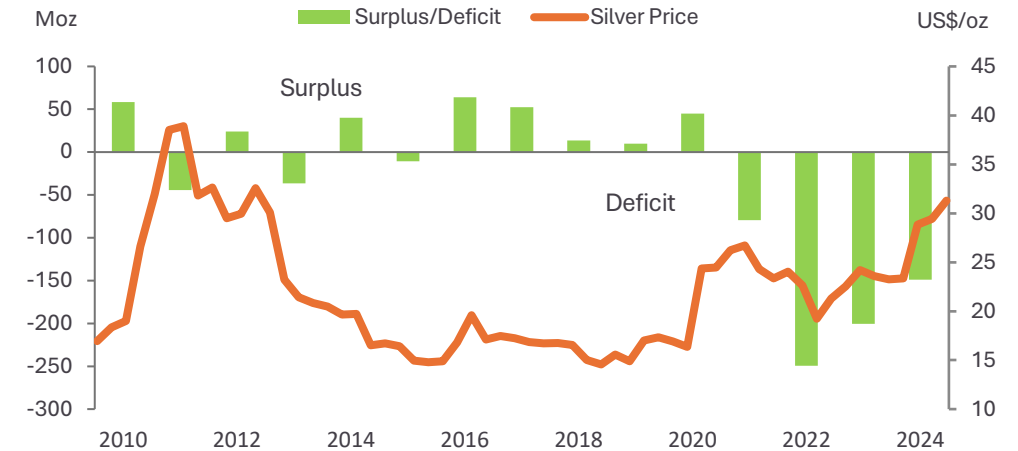
Source: Metals Focus



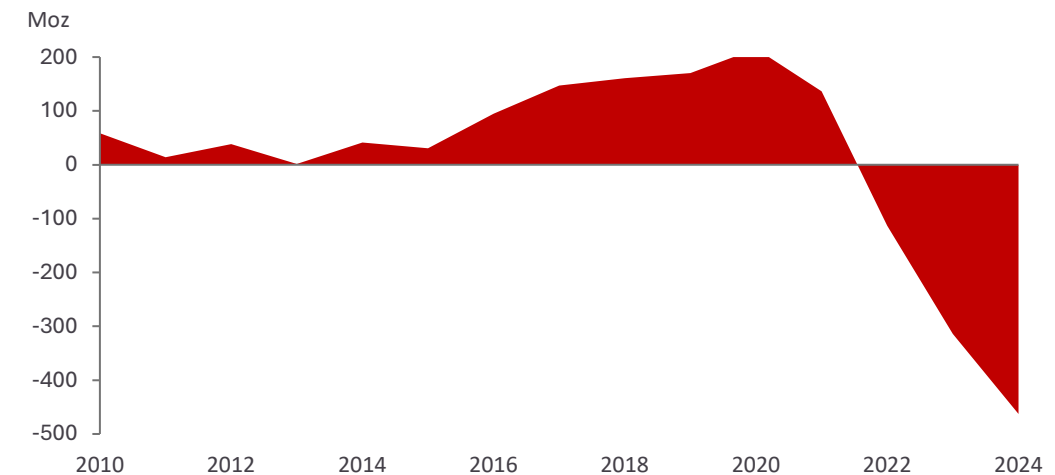
Market fundamentals have been healthy for some time

- Fourth, successive, sizable deficit
- Cumulative stock rundown of 678Moz in four years.

The fourth successive, and sizable deficit



Cumulative stock change, since 2010



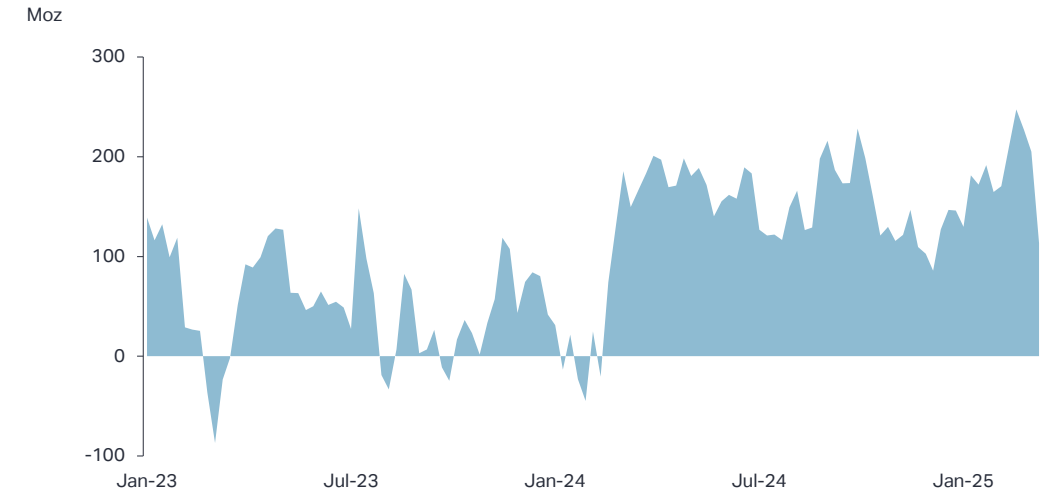
Source: Metals Focus



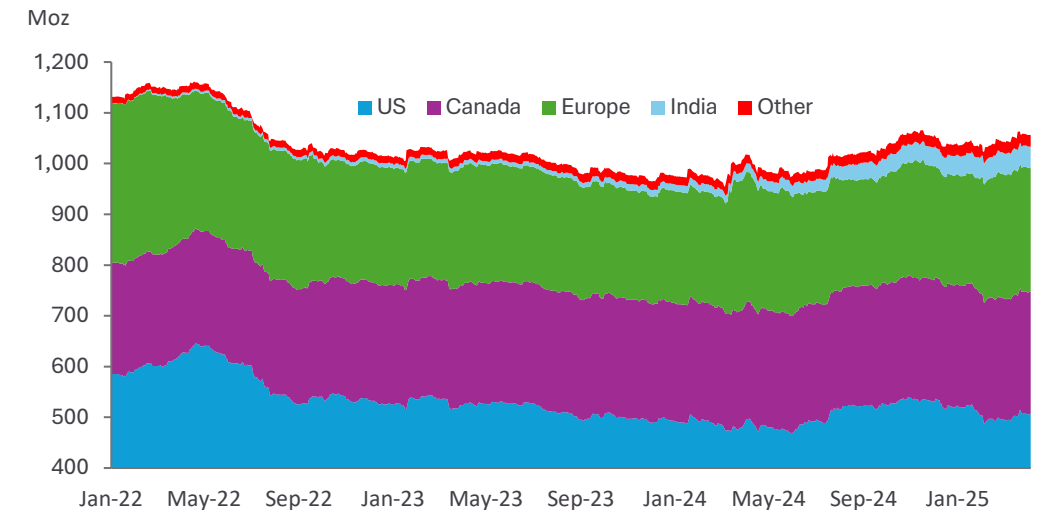
Still relatively strong investment indicators

- Net managed money positions down sharply last week
- Prior to that, the ytd was up massively on early 2024
- ETP holdings turned the corner last year, rising by 62Moz
- First annual, positive inflows since 2021
- This ytd (to April 7), they are up 18Moz

Net-managed money positions remain firmly net long



Partial recovery in global ETP holdings



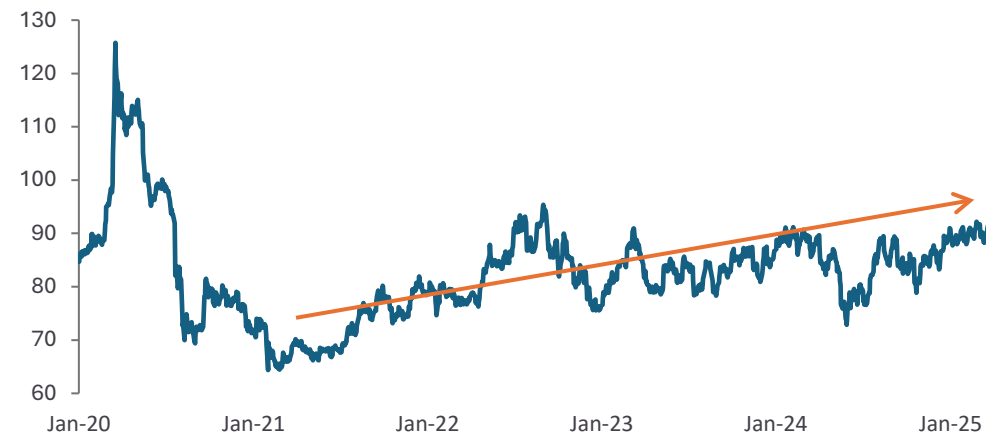
Source: Bloomberg



The gold:silver ratio has still trended higher, before spiking

- As gold has hit new highs, silver would have been expected to outperform, to the upside
- However, the gold:silver ratio has trended higher over the past three years:
 - Gold attracting the safe-haven bid
 - Gold also benefiting from record/near record central bank demand
 - Ongoing concerns about the Chinese economy
 - Exacerbated by escalating China:US trade war and broader tariff uncertainty

Gold:silver ratio spikes, after trending higher



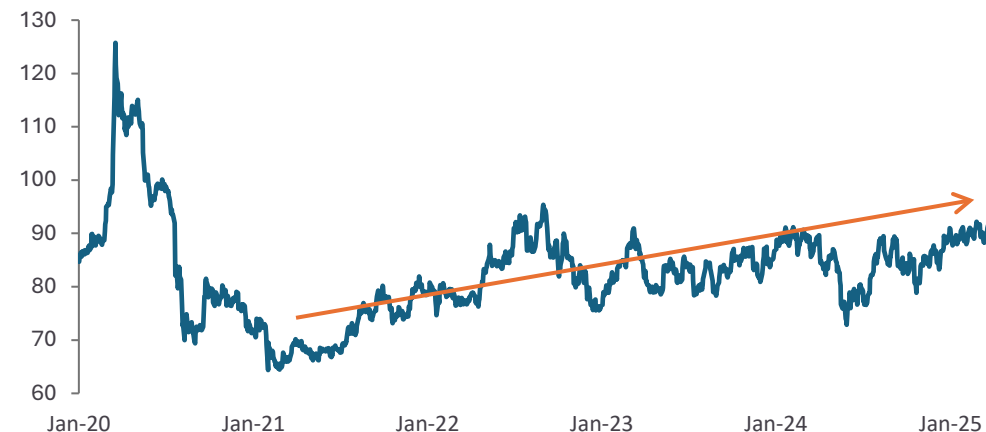
Source: Bloomberg



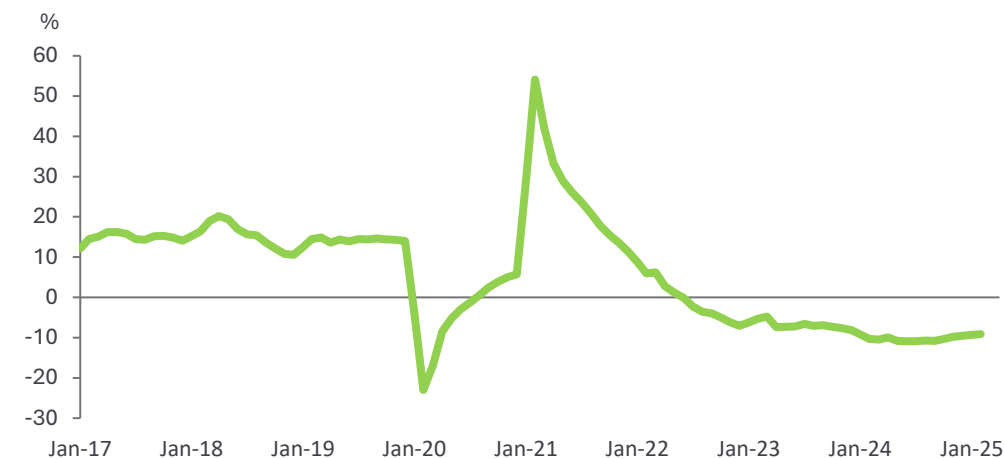
Reflecting contrasting gold, silver dynamics

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- However, the gold:silver ratio has trended higher over the past three years:
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Gold:silver ratio spikes, after trending higher



Chinese investment in real estate development still struggling

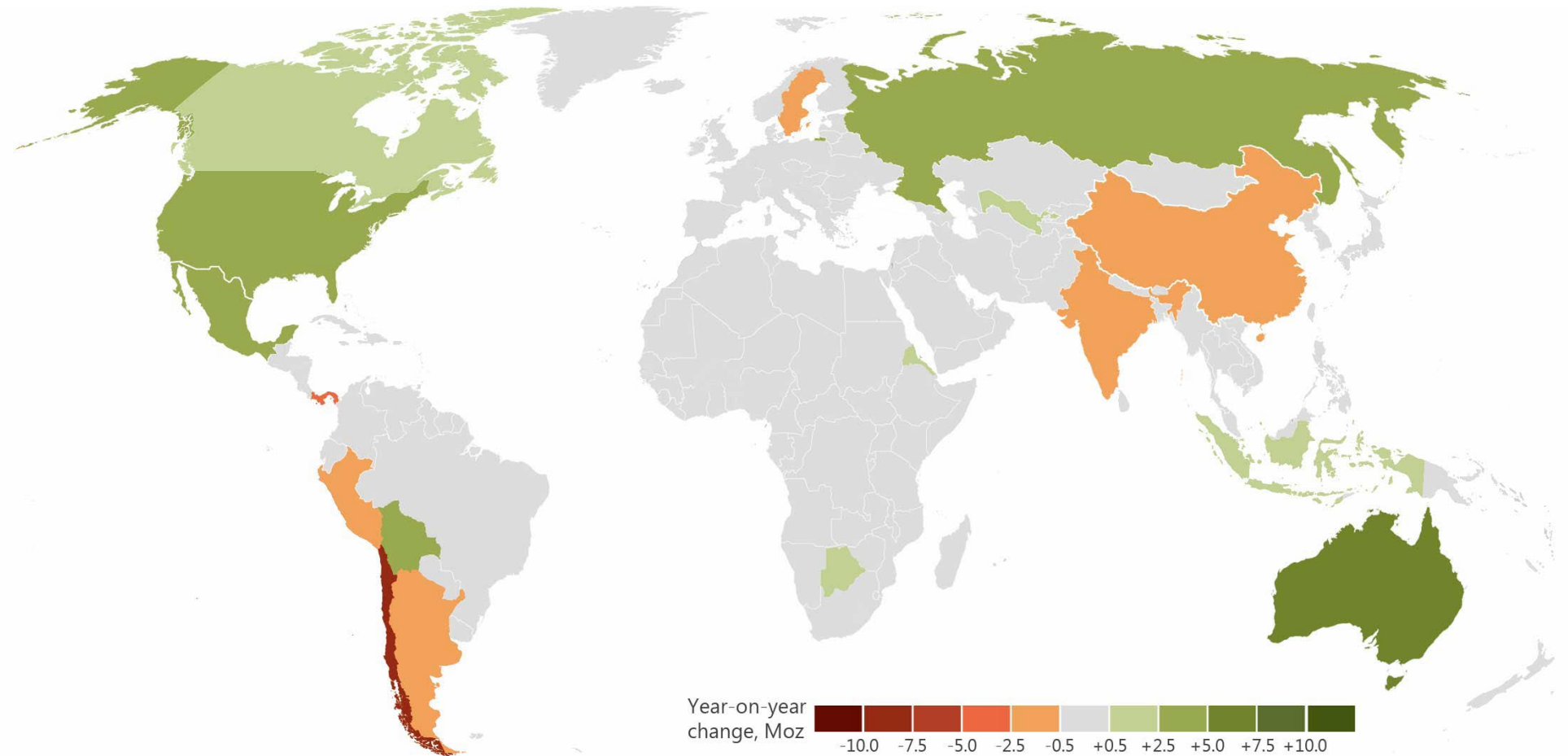


Source: Bloomberg



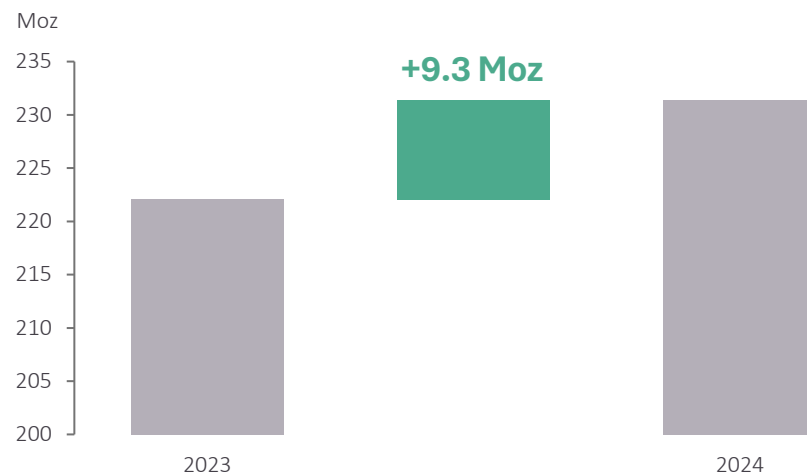
Global mined silver production rose to 819.7Moz in 2024

Growth in production from Australia, Mexico, Russia and the US outweighed lower supply from Chile and minor declines from other countries.

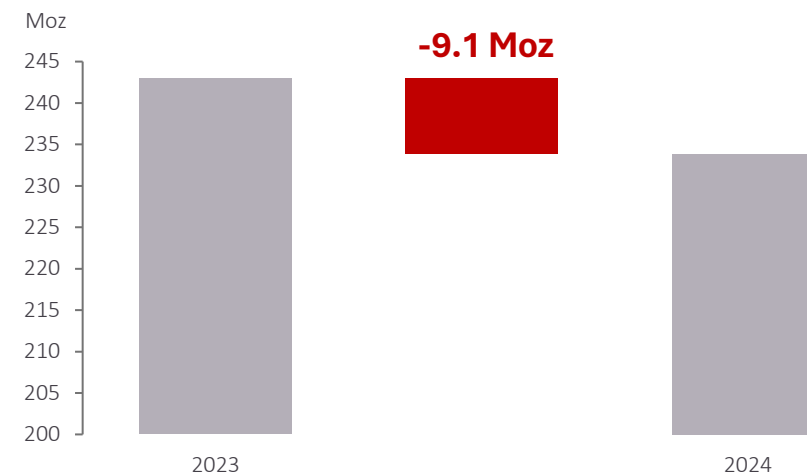


Supply growth driven by North America and Oceania

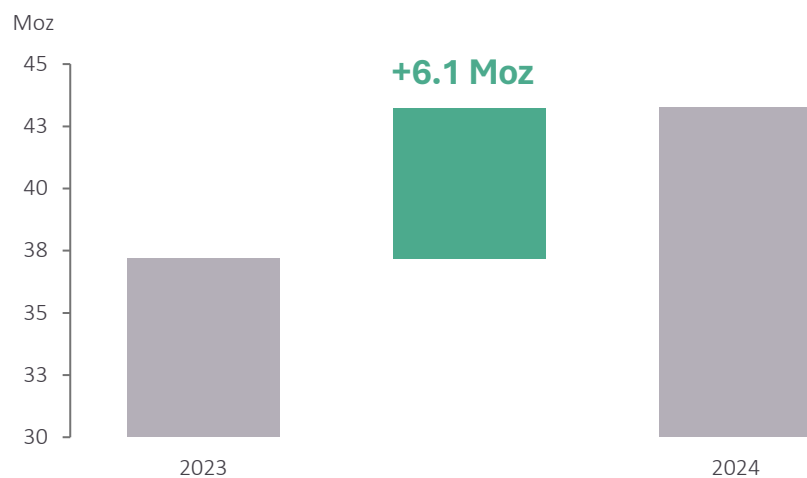
North America



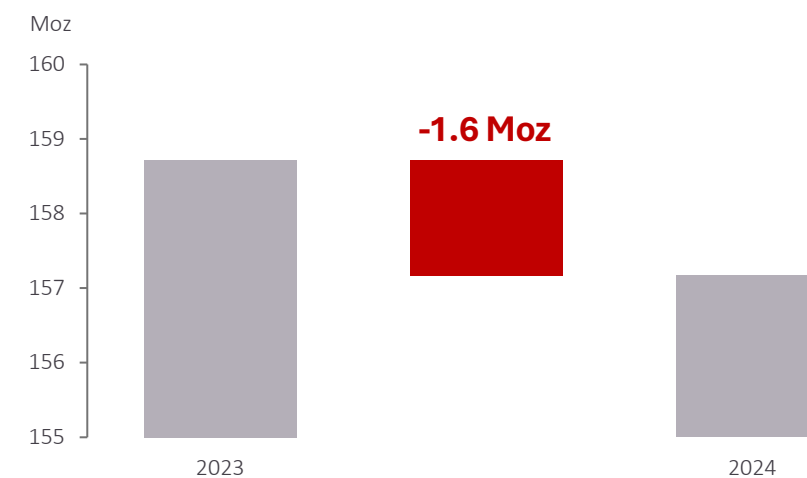
Central & South America



Oceania

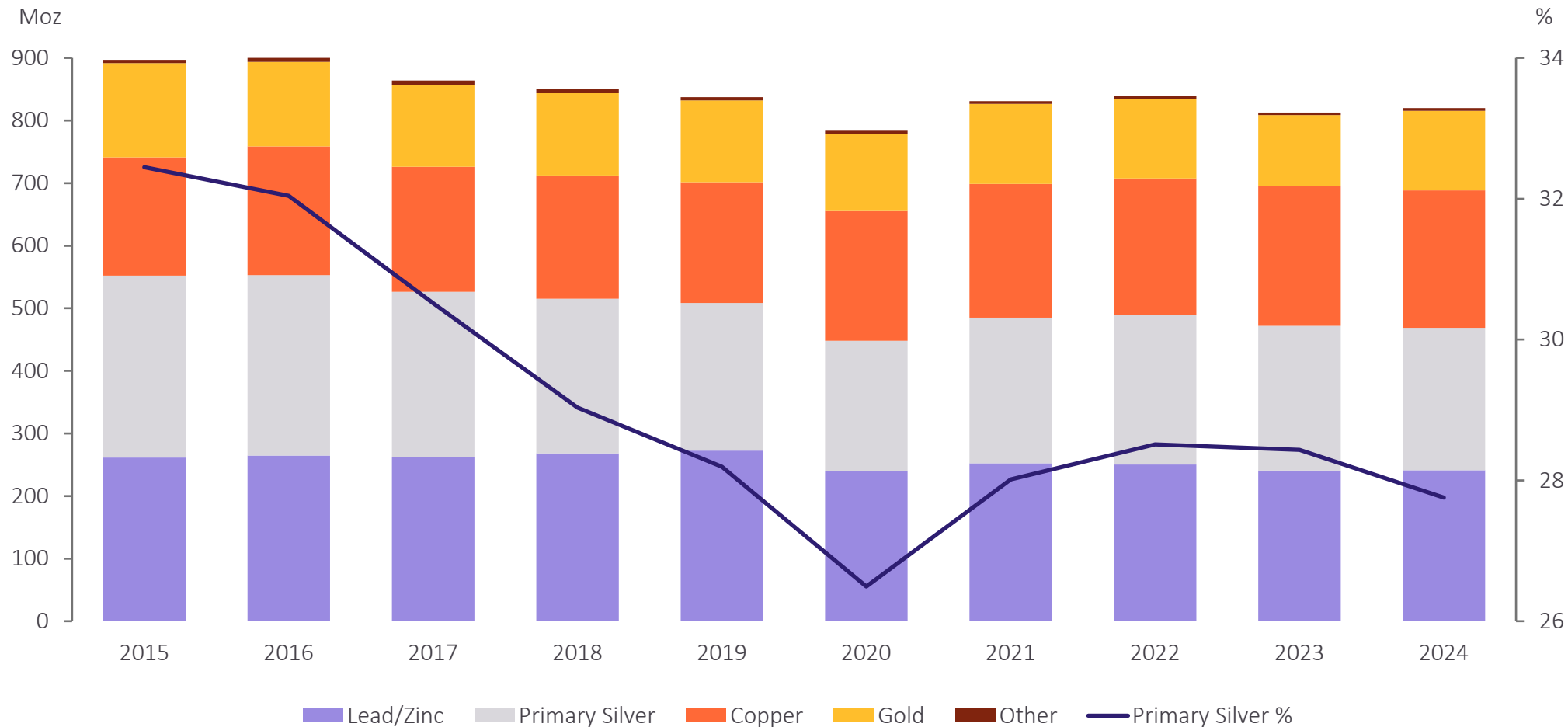


Asia



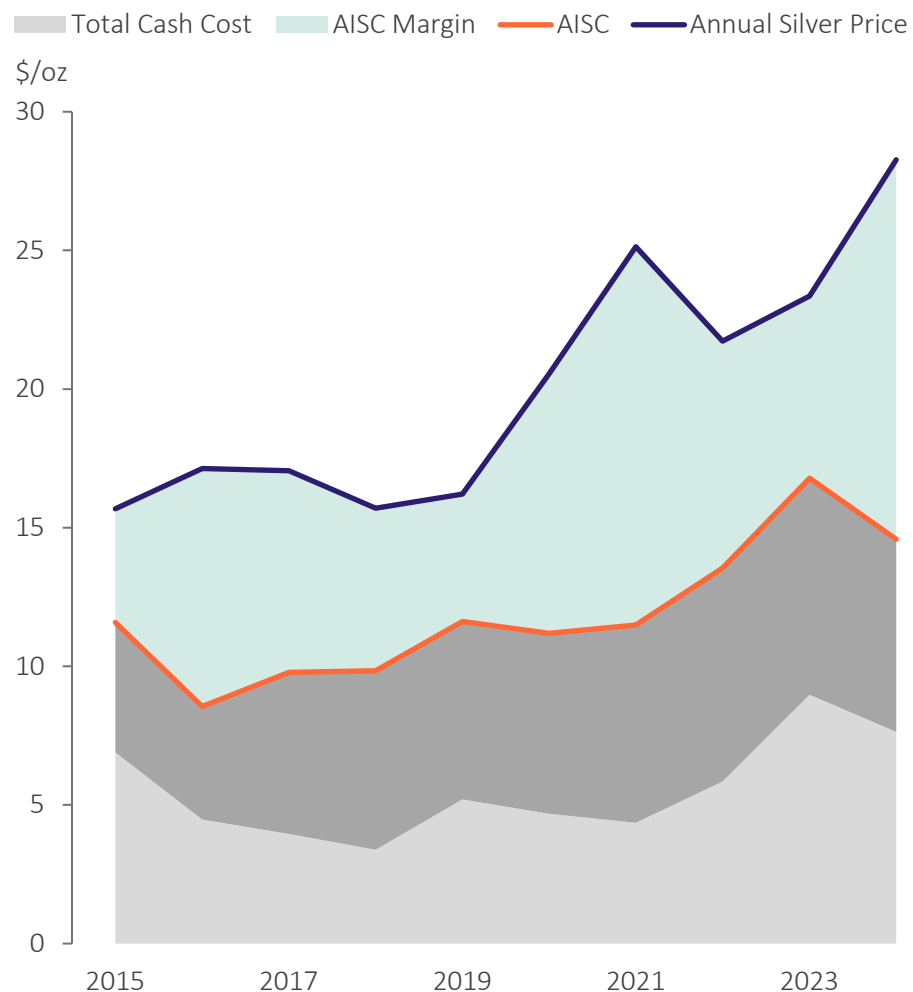
Production from primary silver mines fell

Output from lead/zinc mines remained broadly flat, but silver production from gold mines increased by 12.3% y/y.



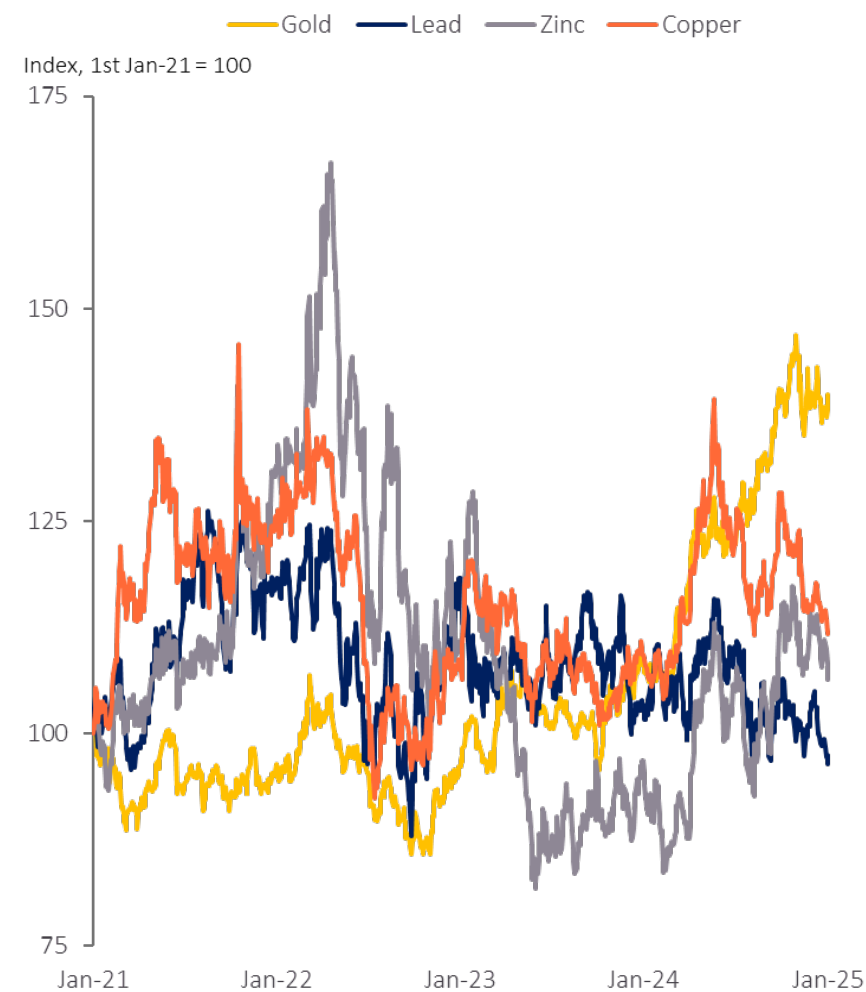
AISC fell for the first time since 2020

In 2024, TCC and AISC fell by 13% and 15% y/y.



Note: * Costs shown on a by-product accounting basis
Source: Metals Focus Silver Mine Cost Service

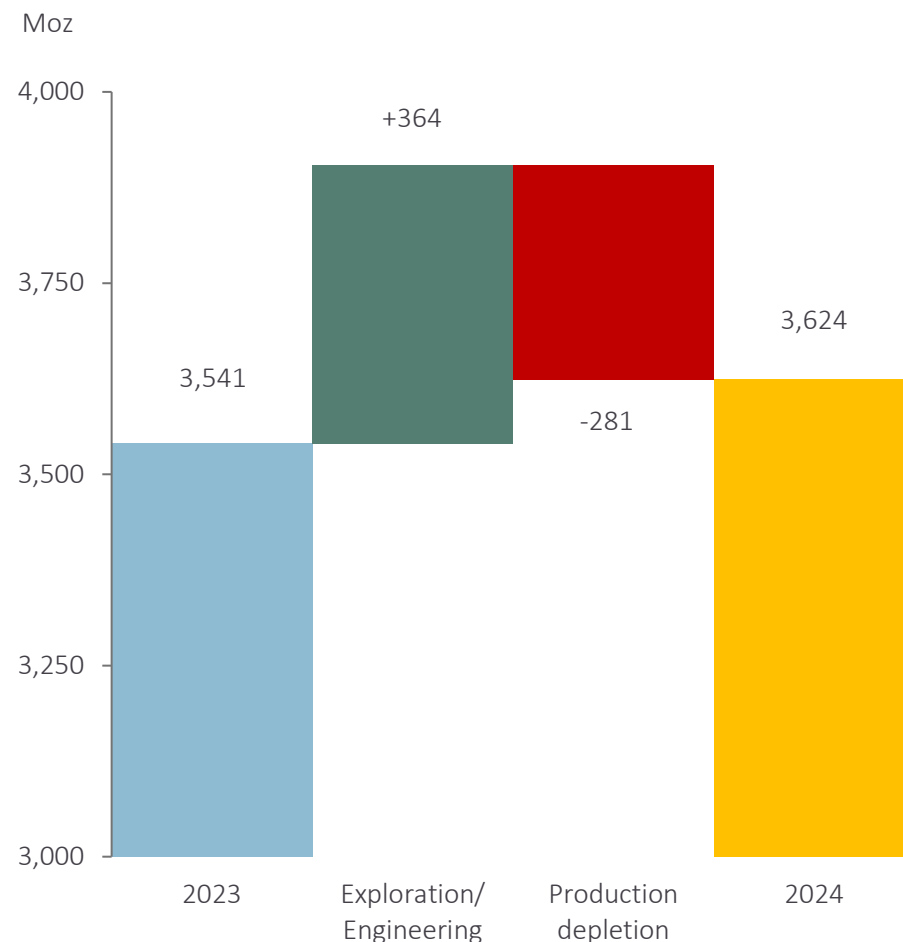
By-product credits contributed the most to AISC



Source: Bloomberg, Metals Focus

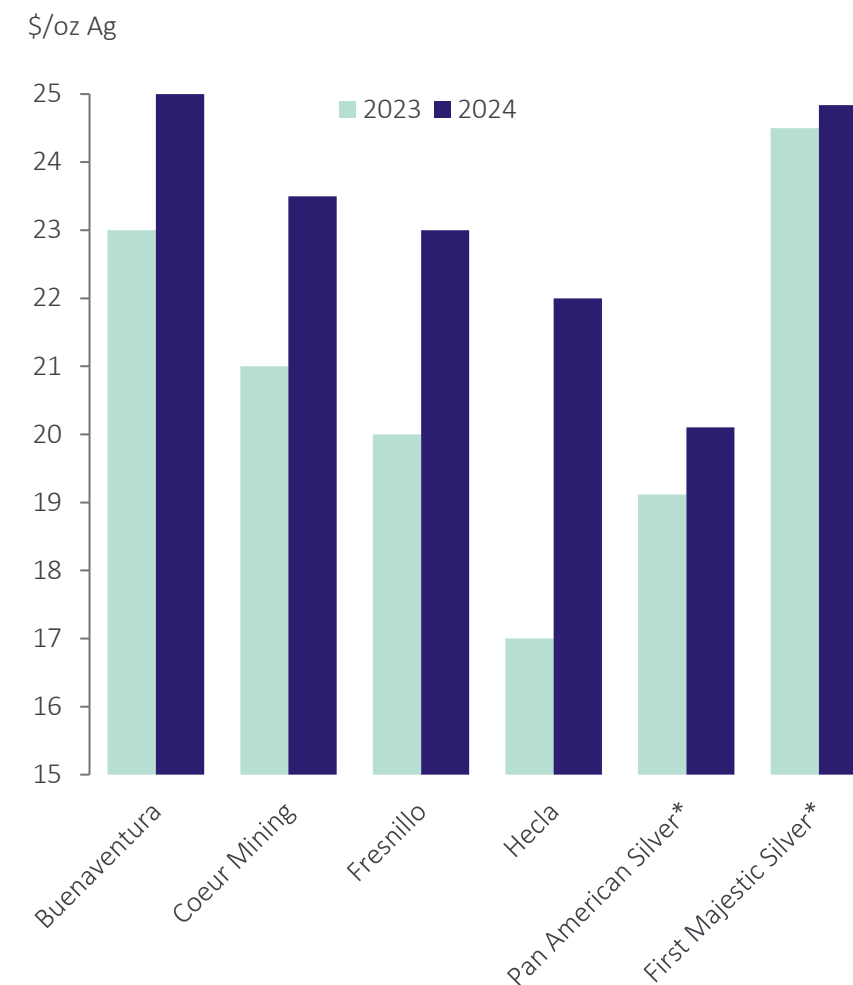
Global silver reserves increased last year

Primary silver reserves increased 2.4% y/y.



Note: M&A values aggregated in year deals are announced
Source: Metals Focus, Bloomberg

Silver prices for reserve estimates also up y/y, enabling the addition of previously uneconomic material into ore reserve estimates.



Note: * Silver reserve price calculated
Source: Metals Focus, Company reports

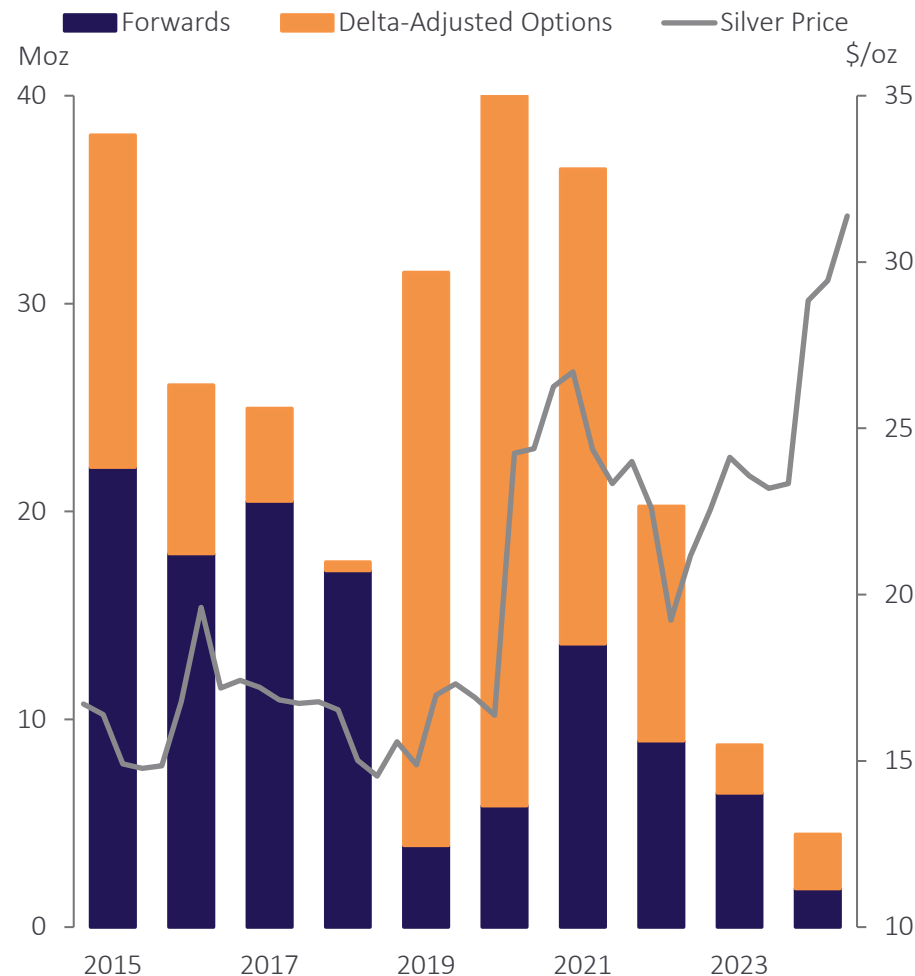
M&A activity surged in 2024, with deals totaling \$3.0Bn



M&A values aggregated in year deals are announced
Source: Metals Focus, Bloomberg

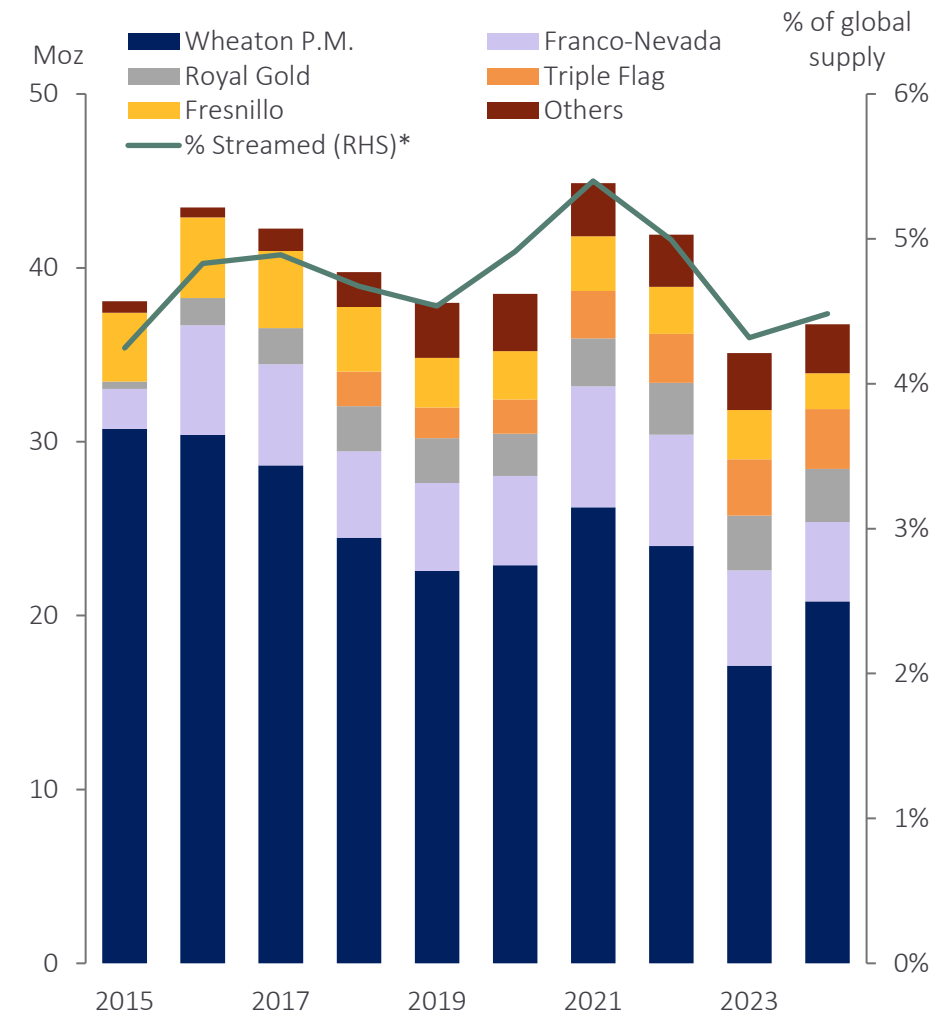
Hedging continued to fall, while streaming rose

Producer hedging fell to a multi-decade low.



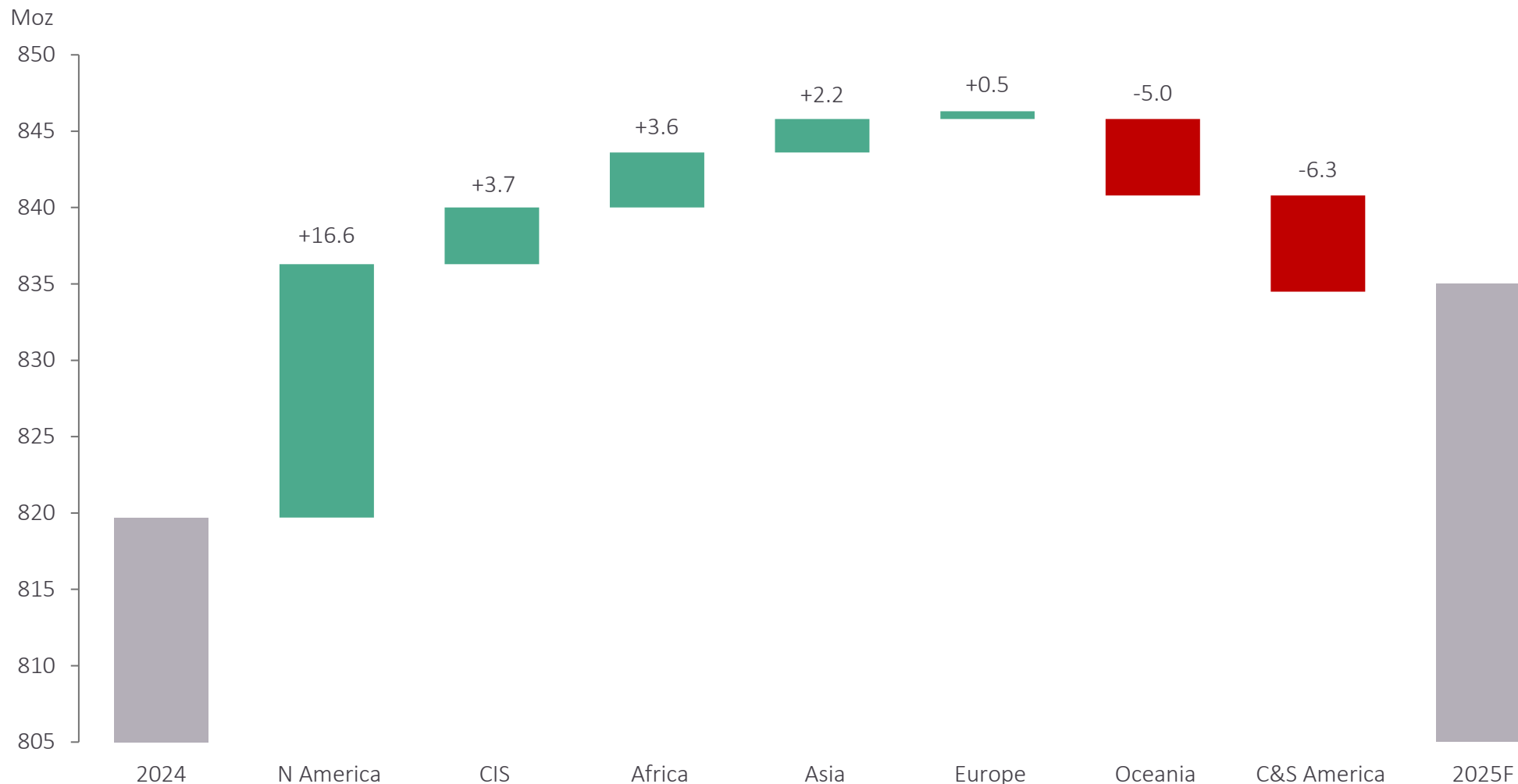
Hedge book chart shows delta adjusted position at year-end.
Source: Metals Focus, Company reports

Streaming and royalty contracts rose 5% y/y.



Mined silver supply forecast to rise in 2025

Global silver production is expected to marginally increase by 1.9% y/y to 835.0Moz.

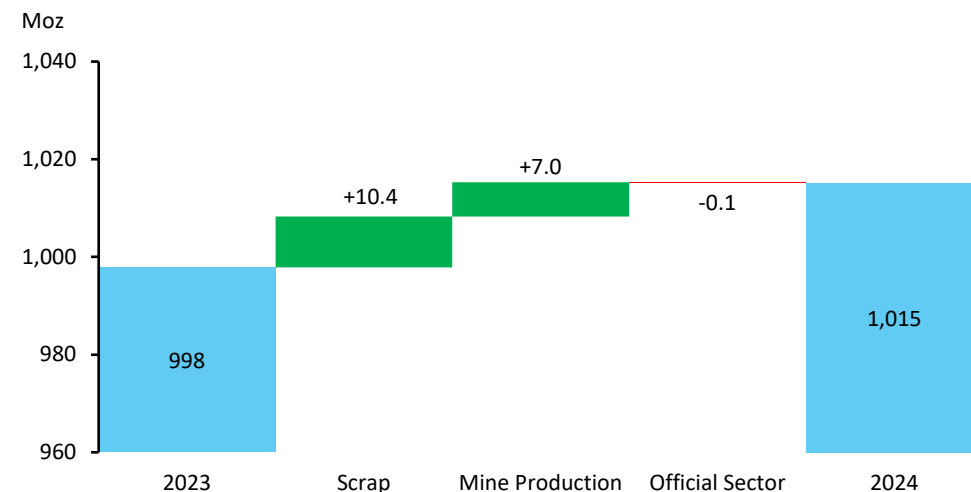


Source: Metals Focus

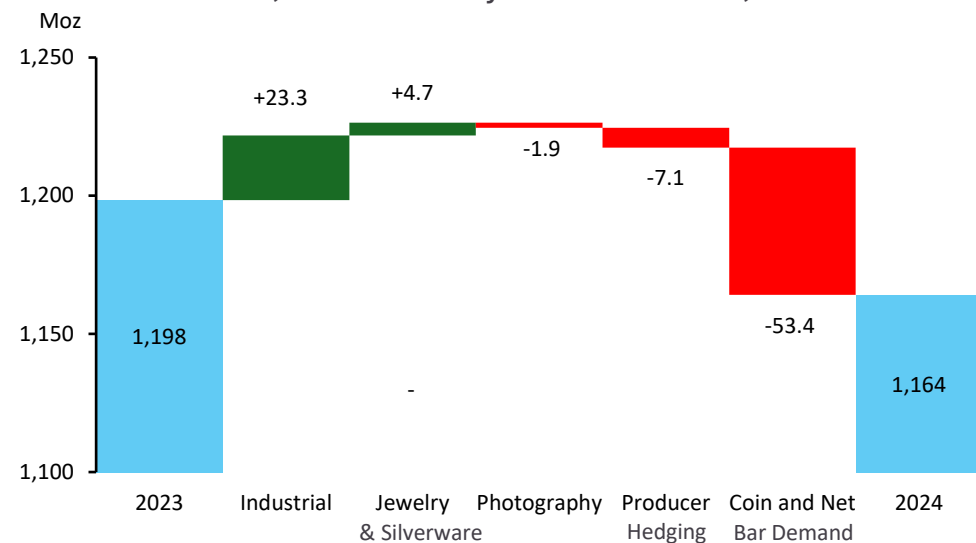
Key supply/demand changes: 2023 versus 2024

- Global demand down for the second year
- But losses not as acute as in 2023
- Even so, another record high for industrial offtake`
- While coin and net bar demand falls to a 5-year low
- Jewelry partially recovers while silverware slips back

Global Supply, recovers by 2% in 2024 to 1,015Moz



Global Demand, eases back by 3% in 2024 to 1,164Moz



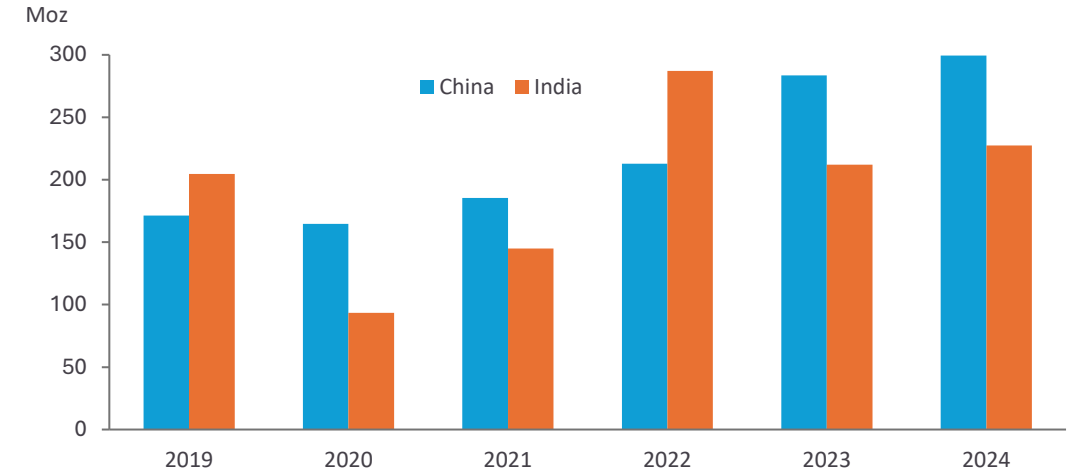
Source: Metals Focus



Where are the gains & losses for demand concentrated?

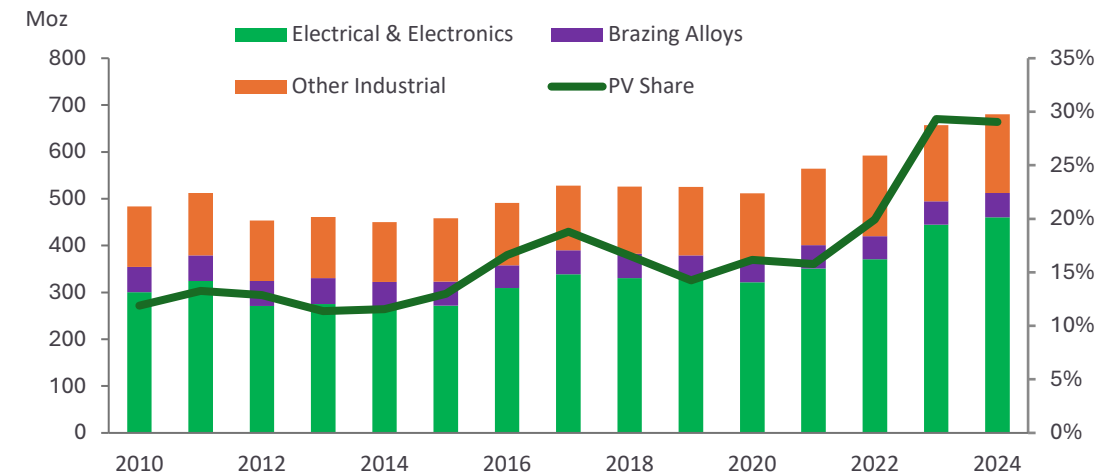
- Chinese demand eases back to +6%, but still achieves another record total (+16Moz)
- Indian demand up 7% (+15Moz) to a two-year high

Key countries: changes concentrated in China & India



- Another record high for E&E
- Adding 90Moz in just 2 years
- PV demand also at a new high, but with just 3% growth y/y

Key segments: gains dominated by electrical/electronics

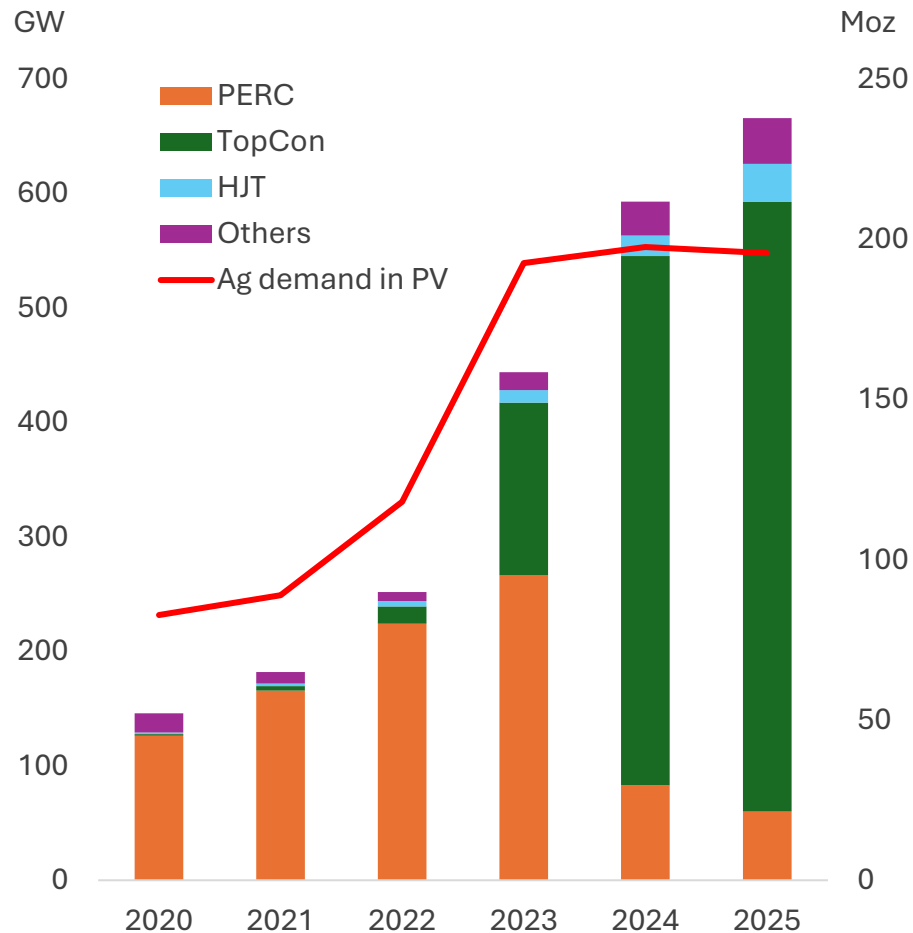


Source: Metals Focus

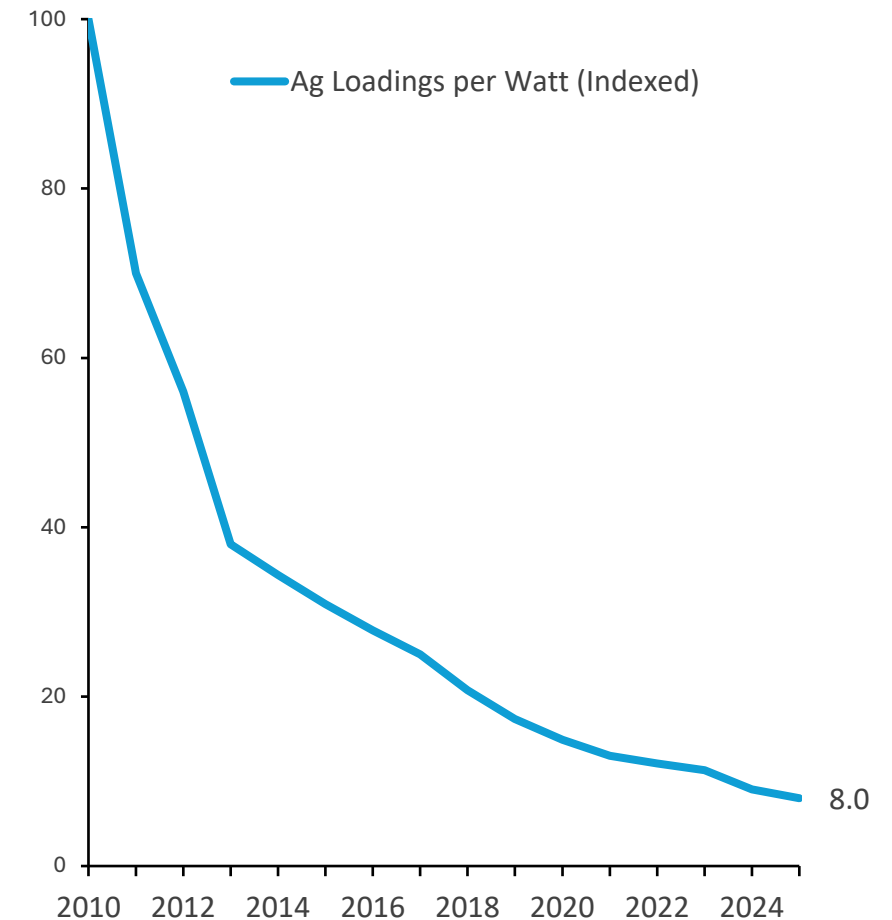


Global PV installations – demand set to plateau?

Silver loadings down sharply last year



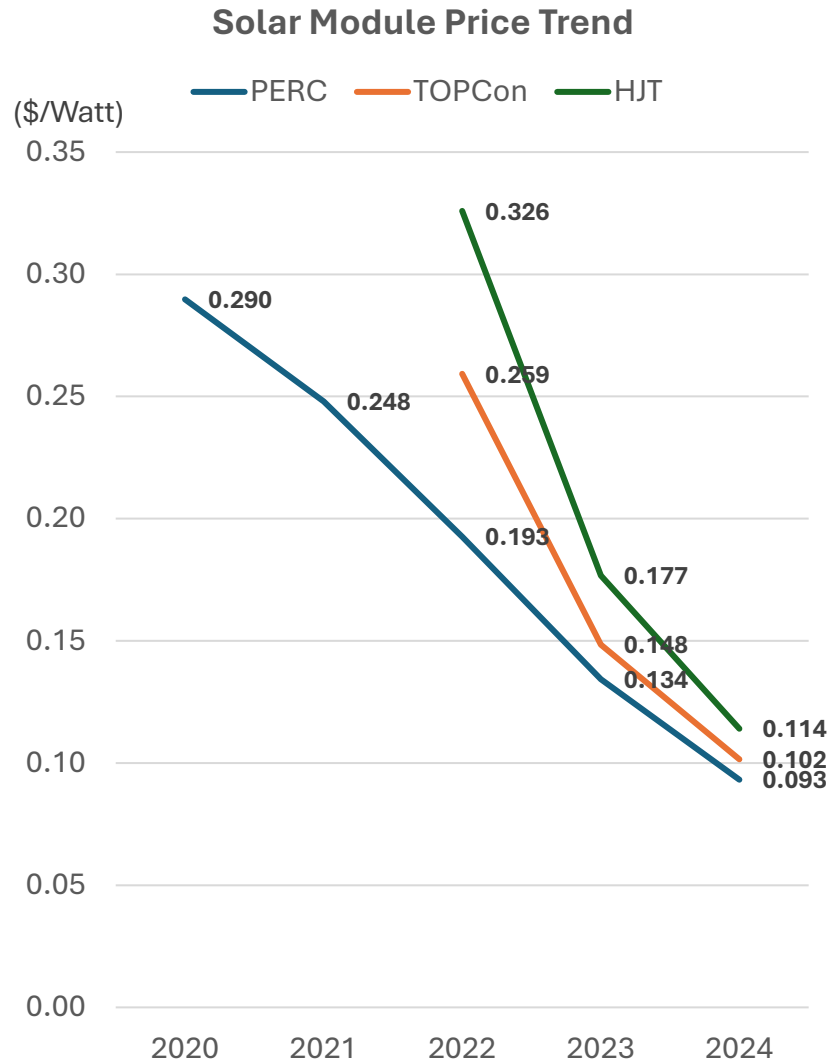
Silver loadings down sharply last year



Source: Metals Focus; *PERC Passivated Emitter and Rear Cell; TOPCon Tunnel Oxide Passivated Contact; HJT Heterojunction



PV cost pressures accelerated thrifting and substitution



Source: Metals Focus



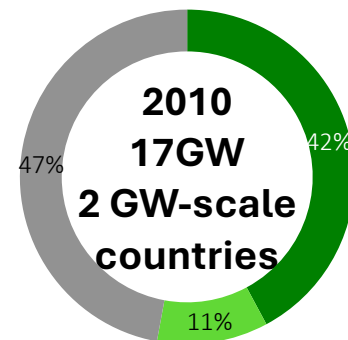
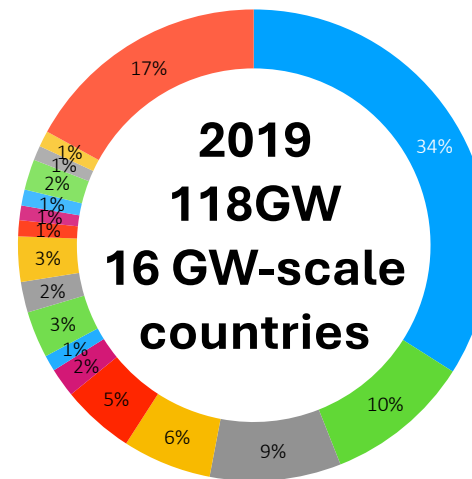
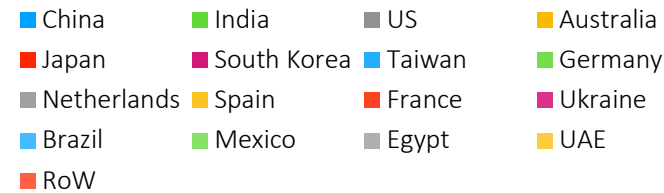
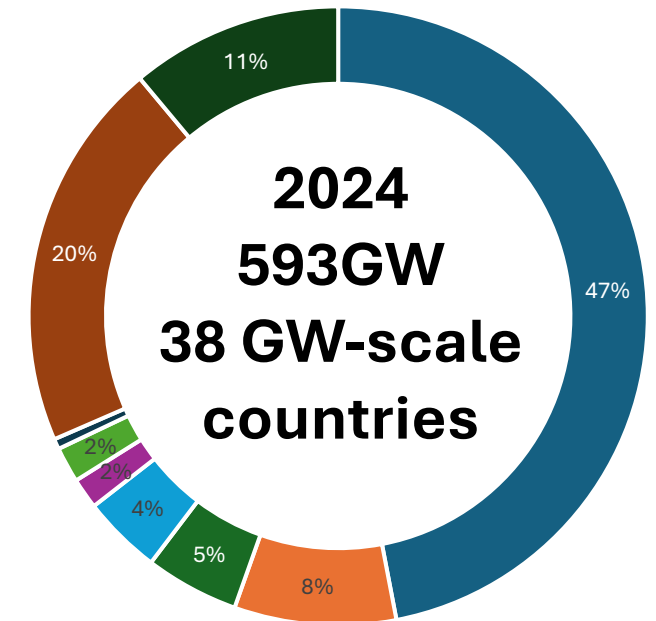
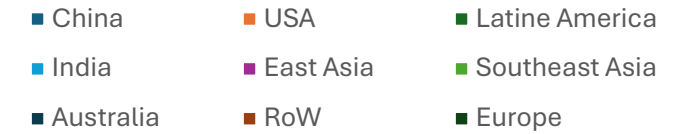
Average silver loadings dropped over 20% in 2024 through the following measures:

- **Laser enhanced contact optimization (LECO)**
 - replaced laser doping selective emitter as the industrial standard
- **SMBB to 0BB (Zero Busbar)**
 - 0BB is expected to become the mainstream in H2.25
- **Silver reduction and alternative s**
 - silver coated copper powder with 30% silver content in HJT
 - Copper electroplating
- **Screen printing to stencil printing**
 - reduce figure width

Conservatively estimated, silver loadings are likely to further drop by 10-12% in 2025.



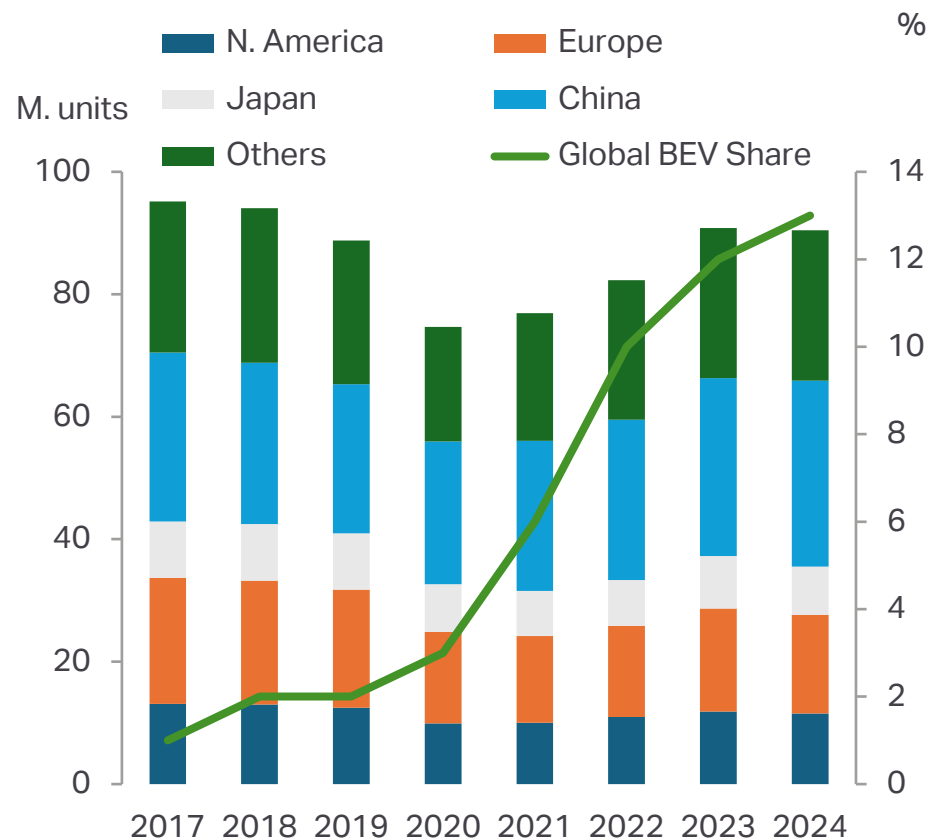
Photovoltaics: 38 countries part of the “1GW” club



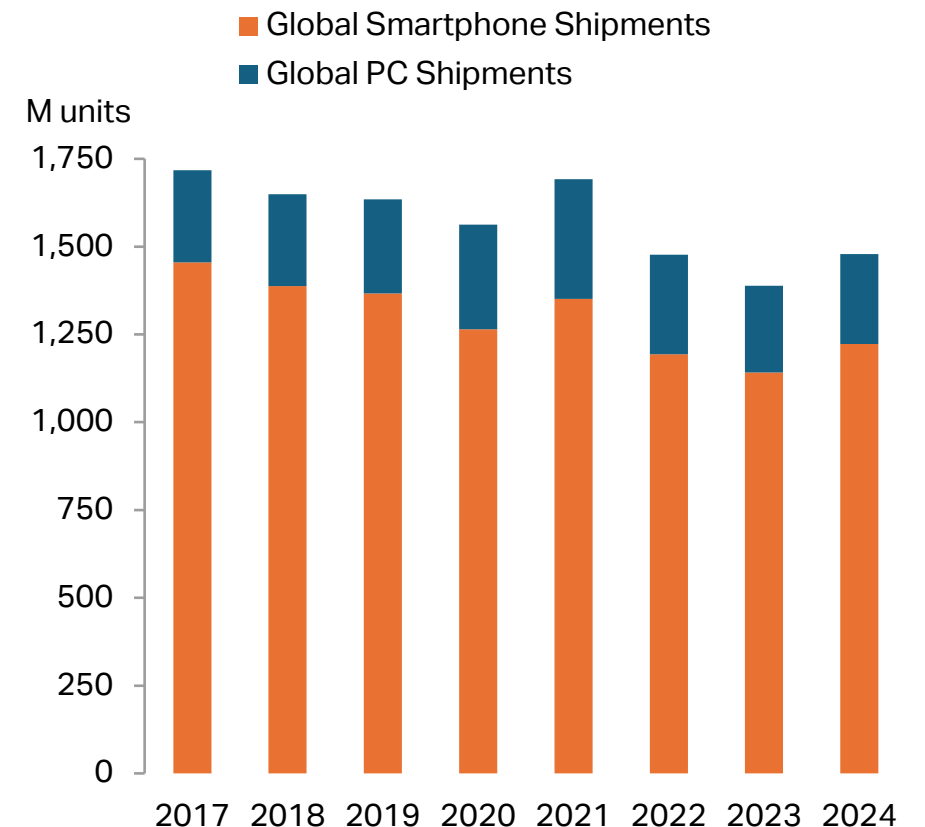
Automotive and consumer electronics key growth areas



Automotive:
increasing electrification and
rising BEV penetration



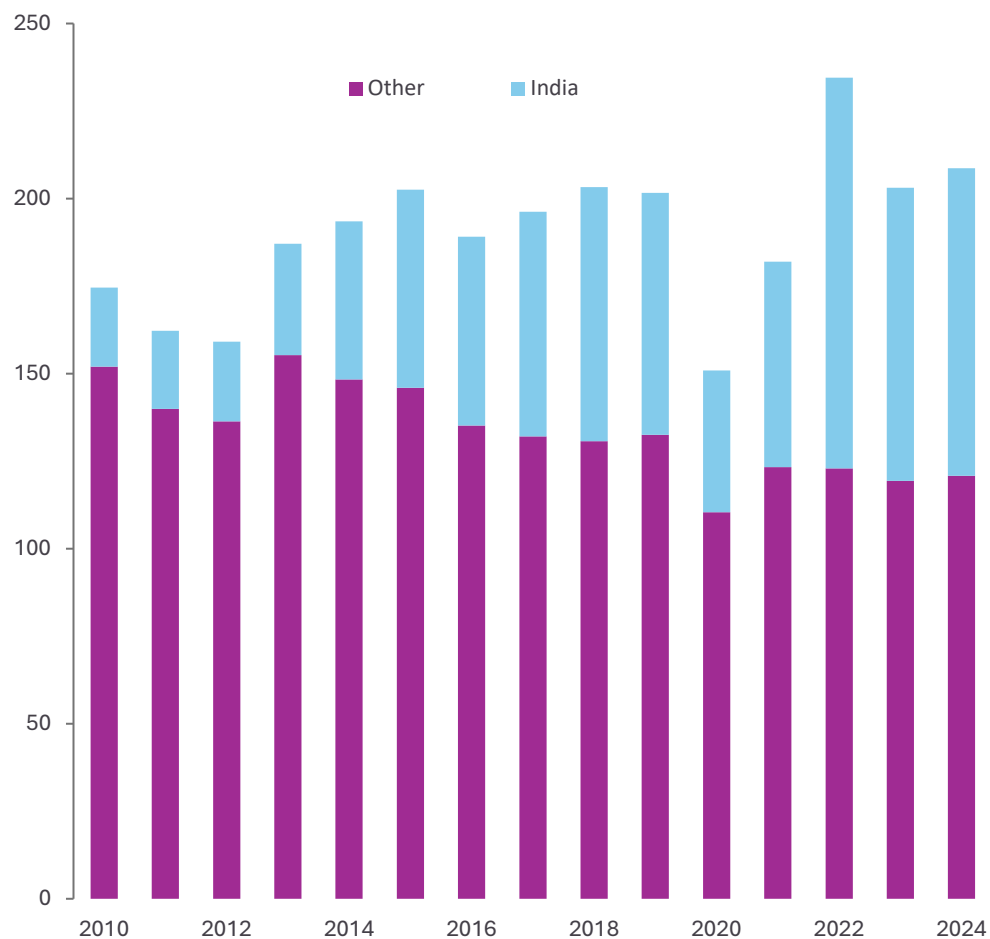
Consumer Electronics:
Stronger shipments of
mainstream products



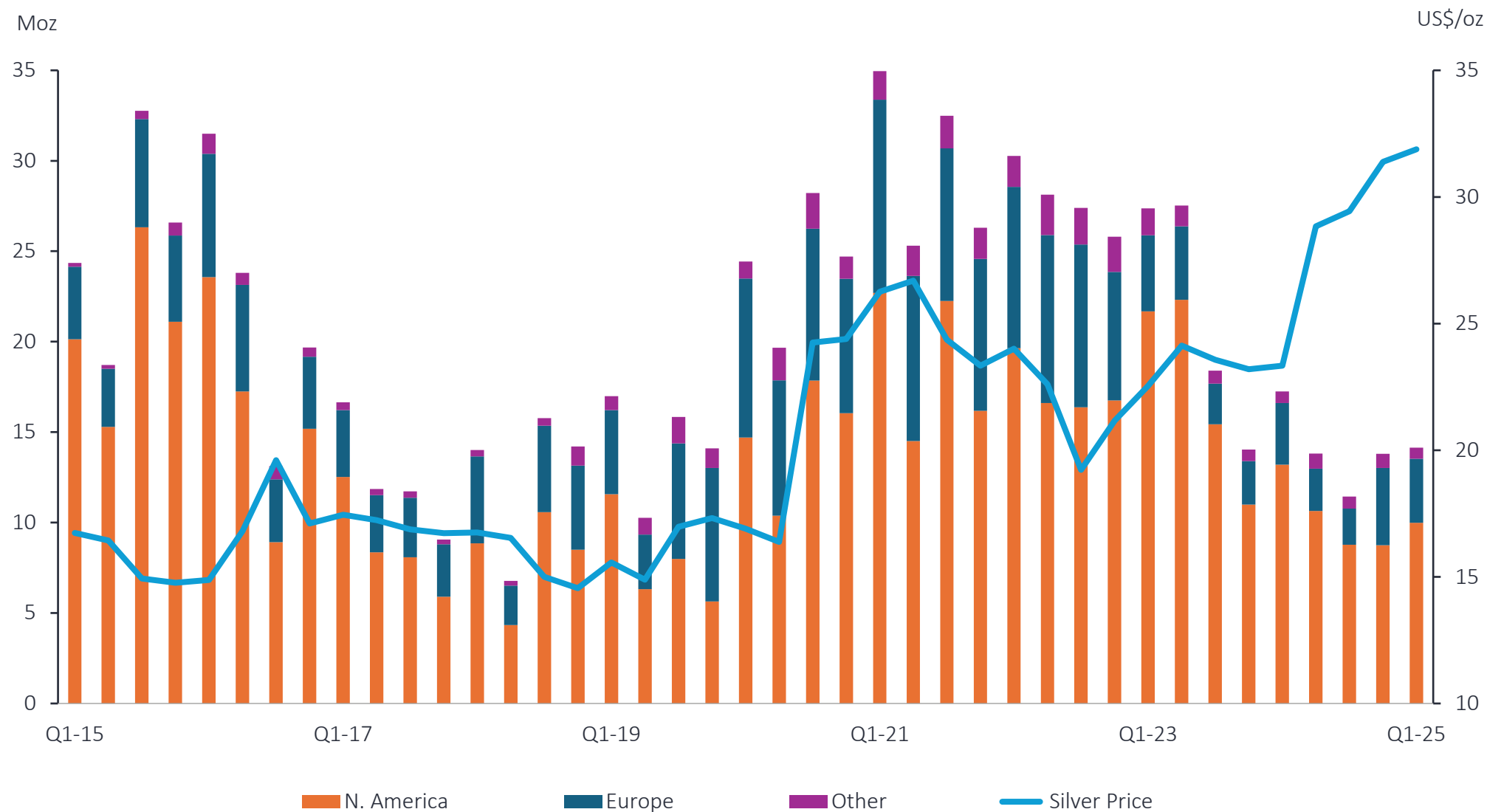
Jewelry edges higher, while silverware slips back

Jewelry: 2024 total +3%; excluding India, +1%

Silverware: 2024 total -2%; excluding India, -1%

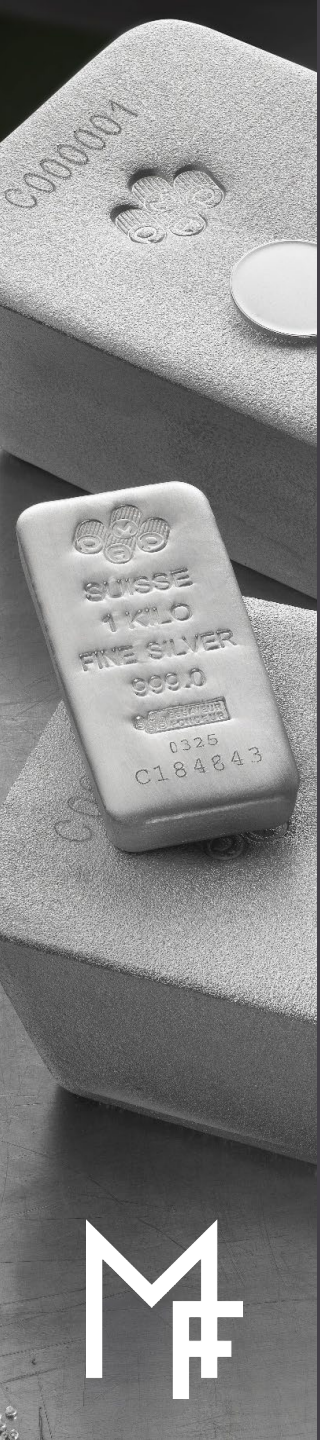


New silver bullion coin sales continue to struggle

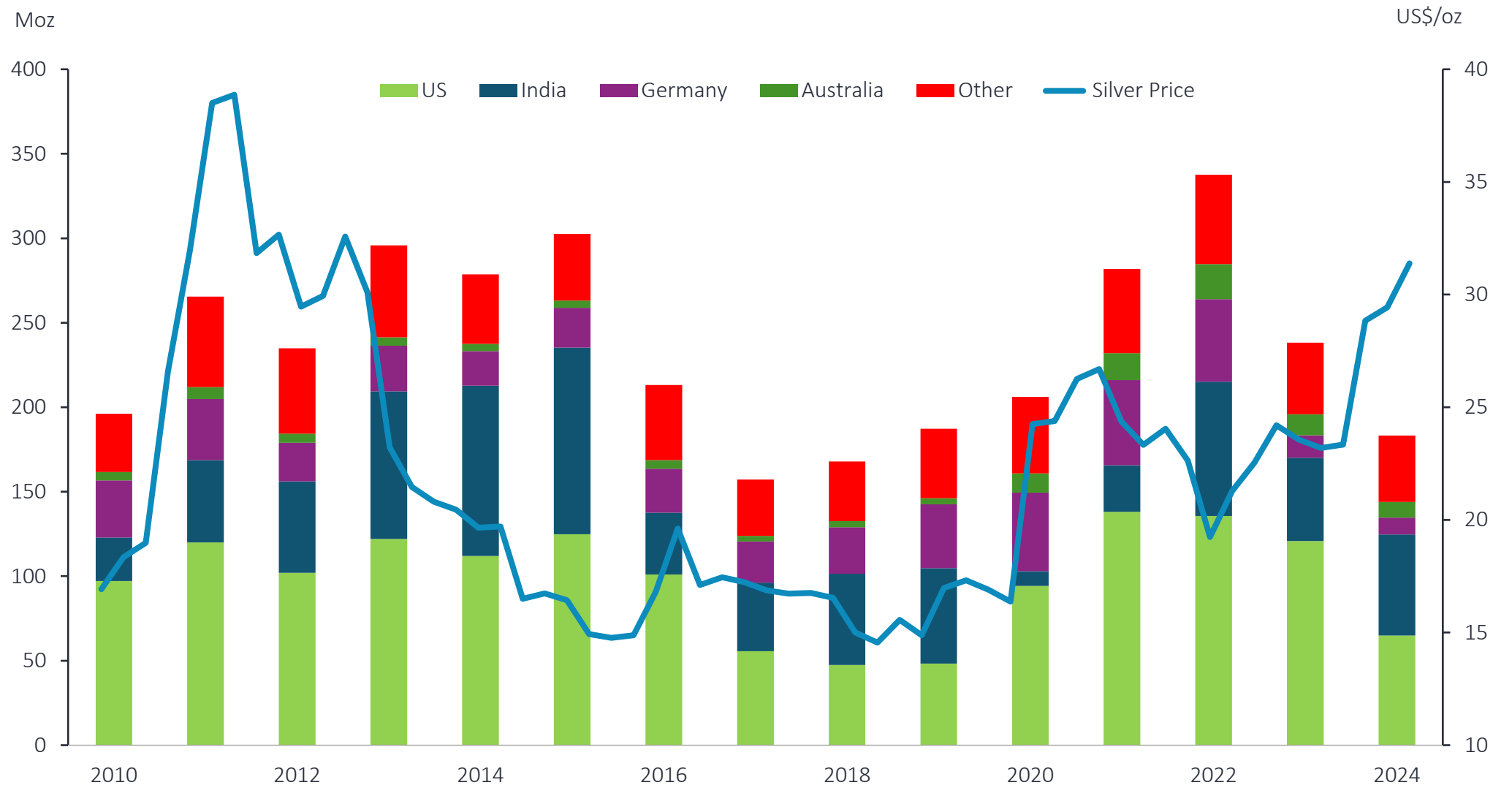


Source: Metals Focus Quarterly Bullion Coin Survey





Coin & bar demand fell again in 2024, led by US weakness

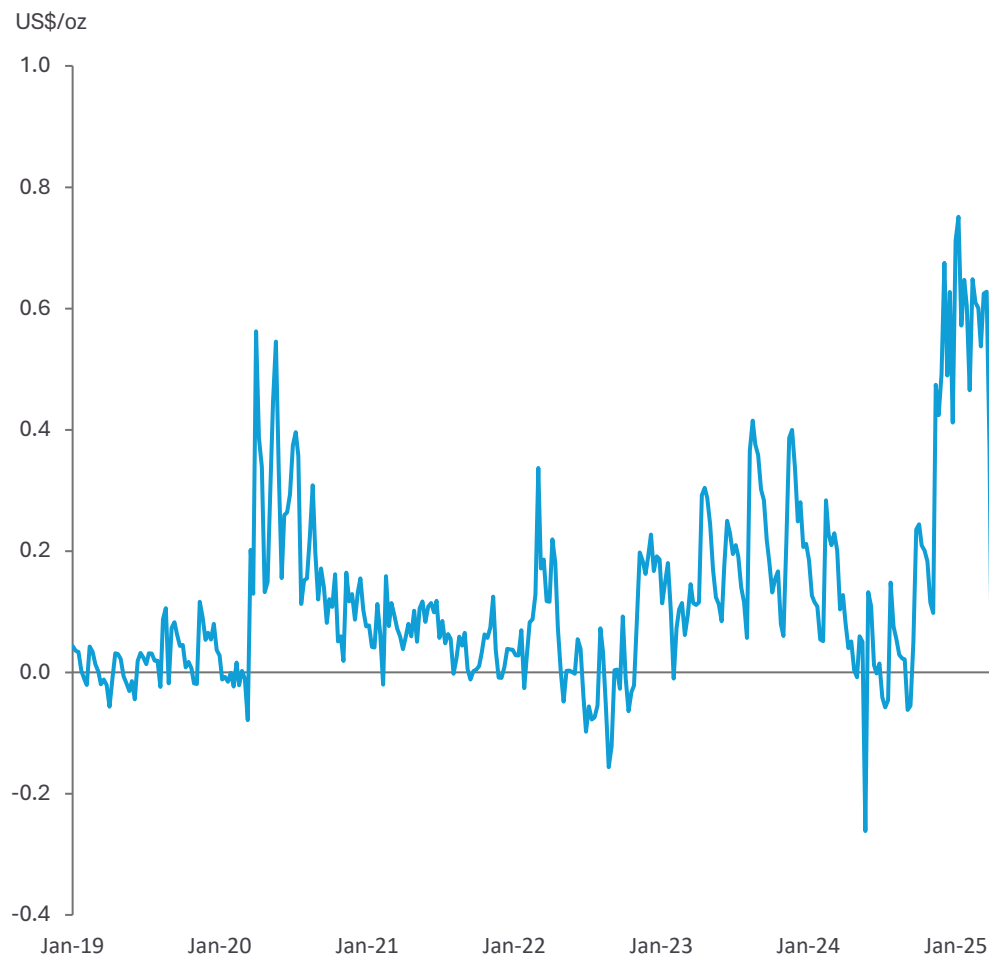


Source: Metals Focus

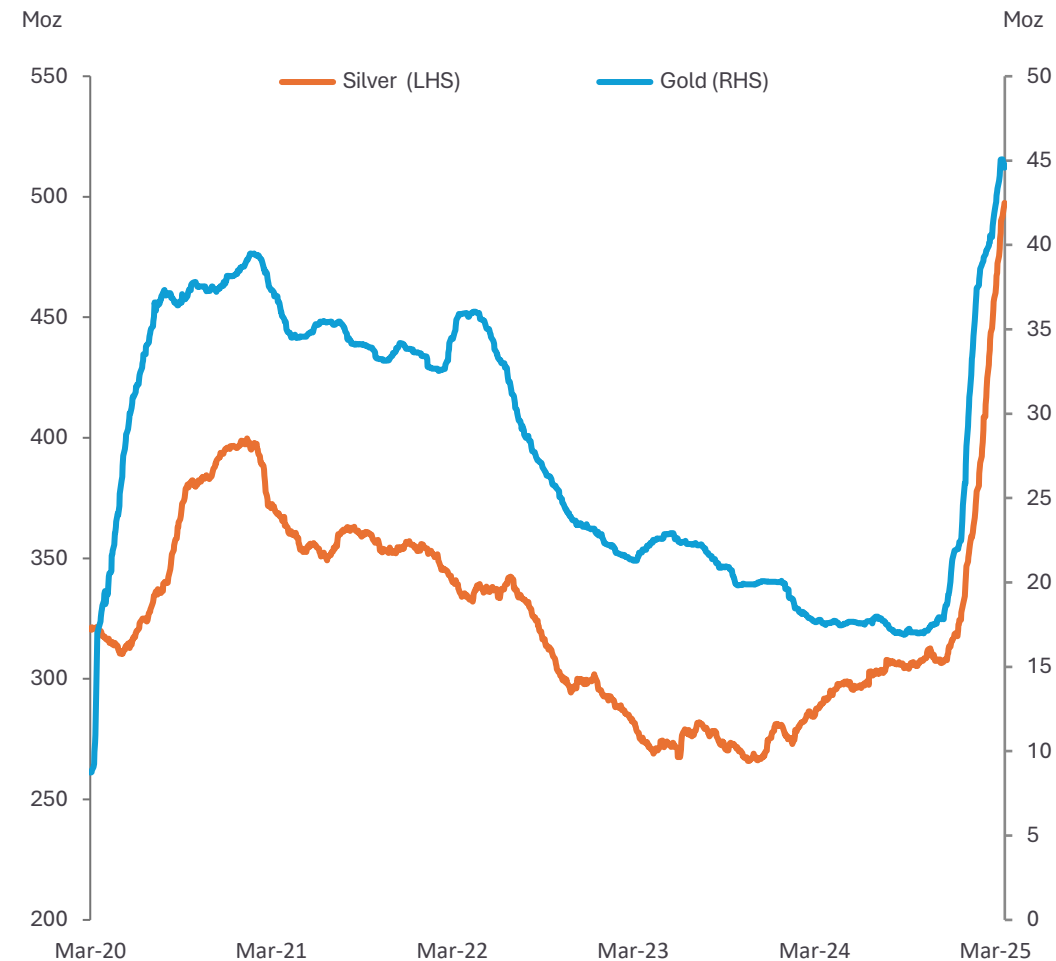


The fall-out from tariffs

Silver EFP at record highs, before collapsing



CME stocks at record highs

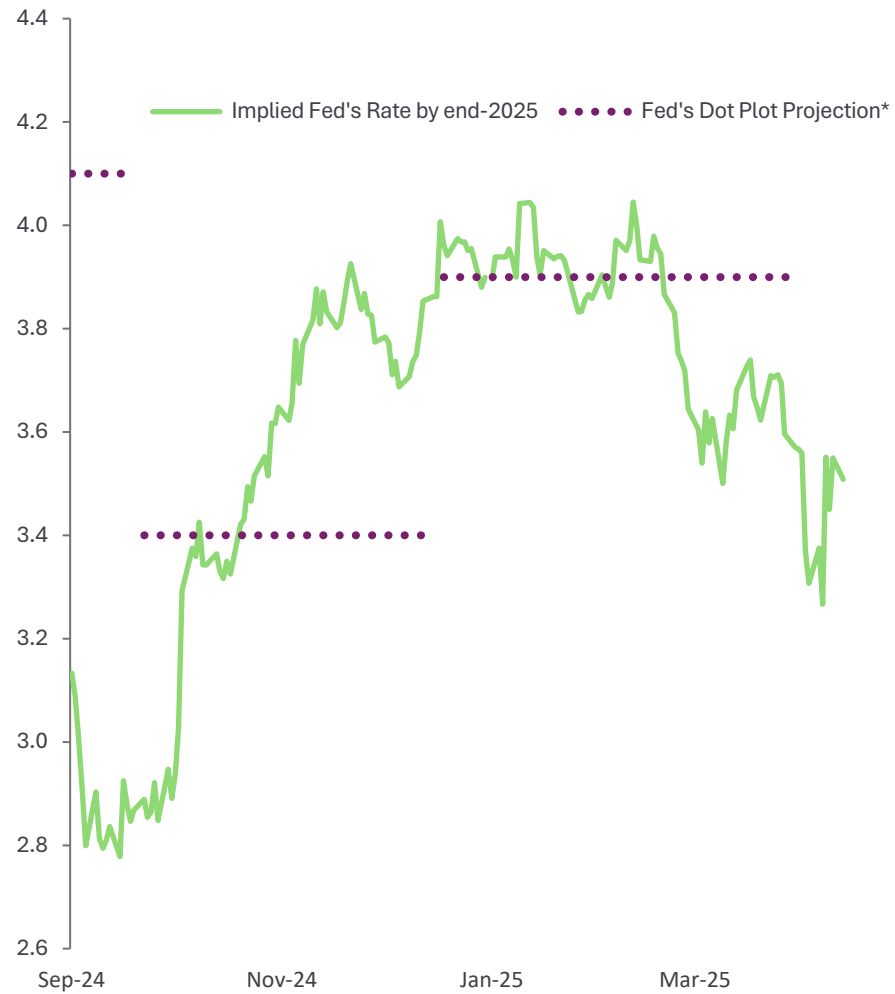


Source: Bloomberg



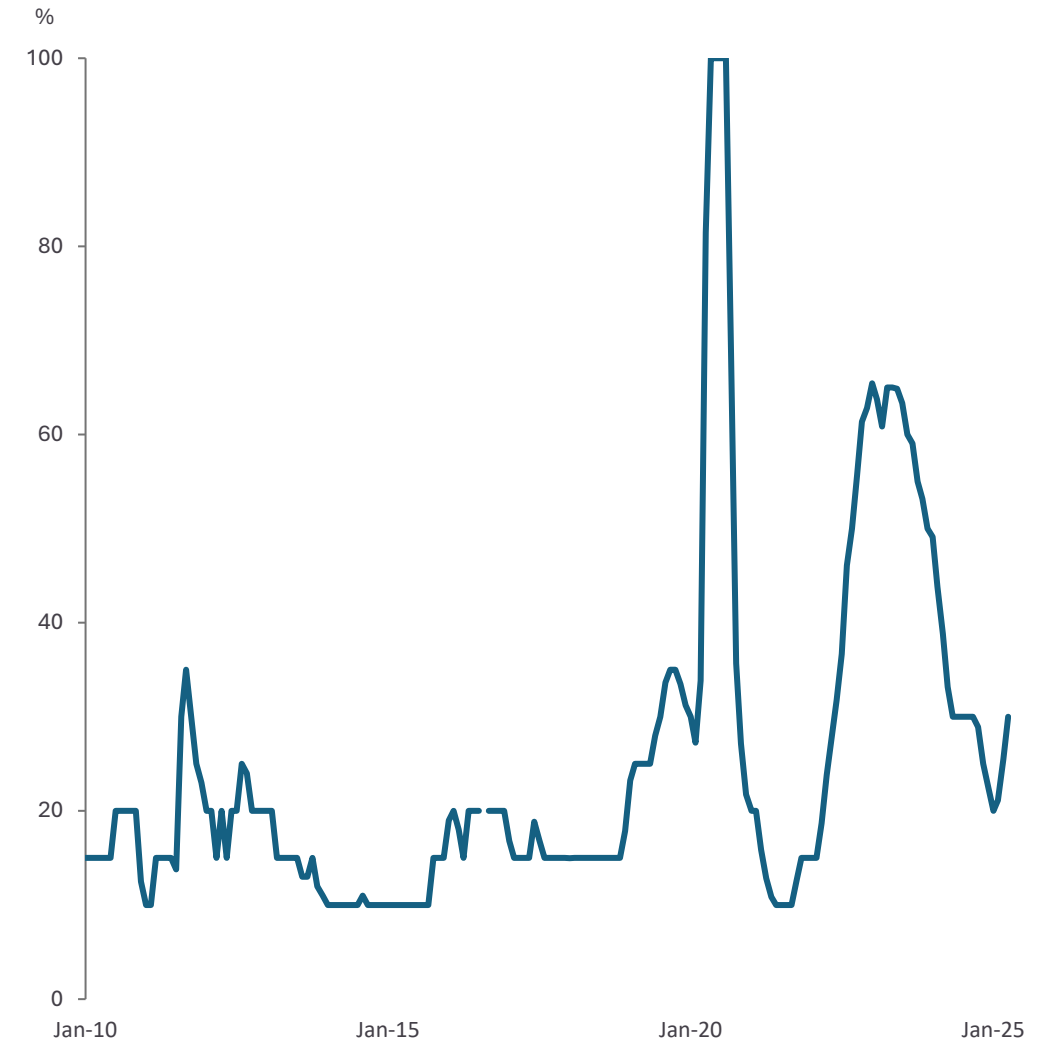
The fall-out from tariffs

US rate expectations for end-2025 becoming more hawkish



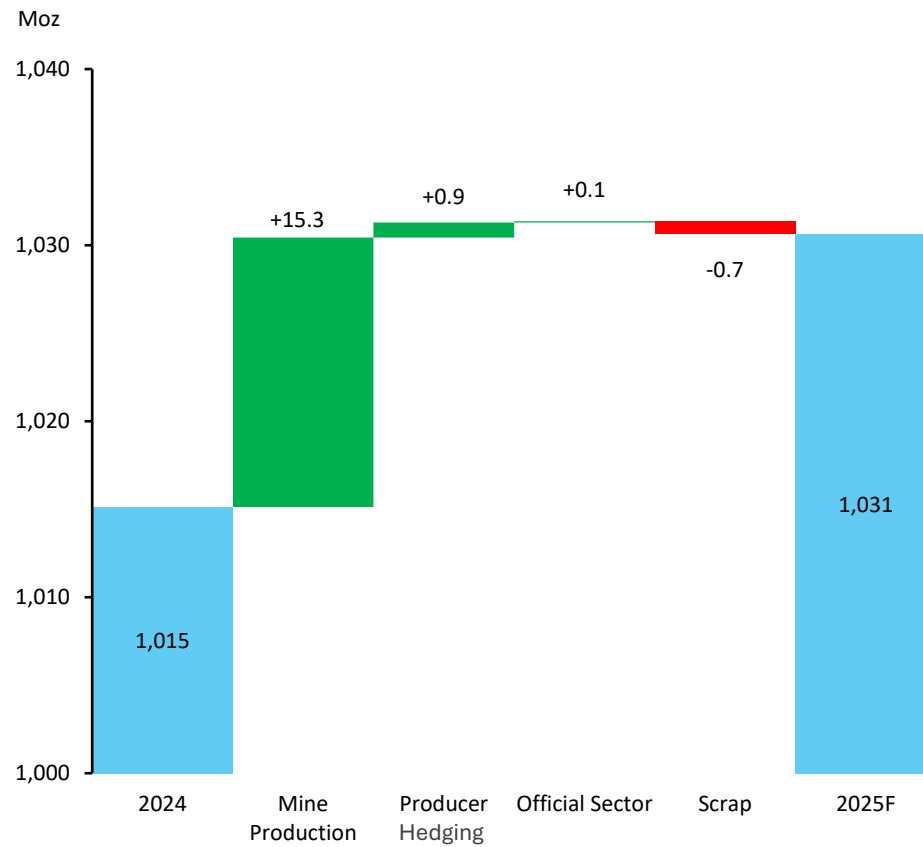
Source: Bloomberg

Probability of a US recession edges higher

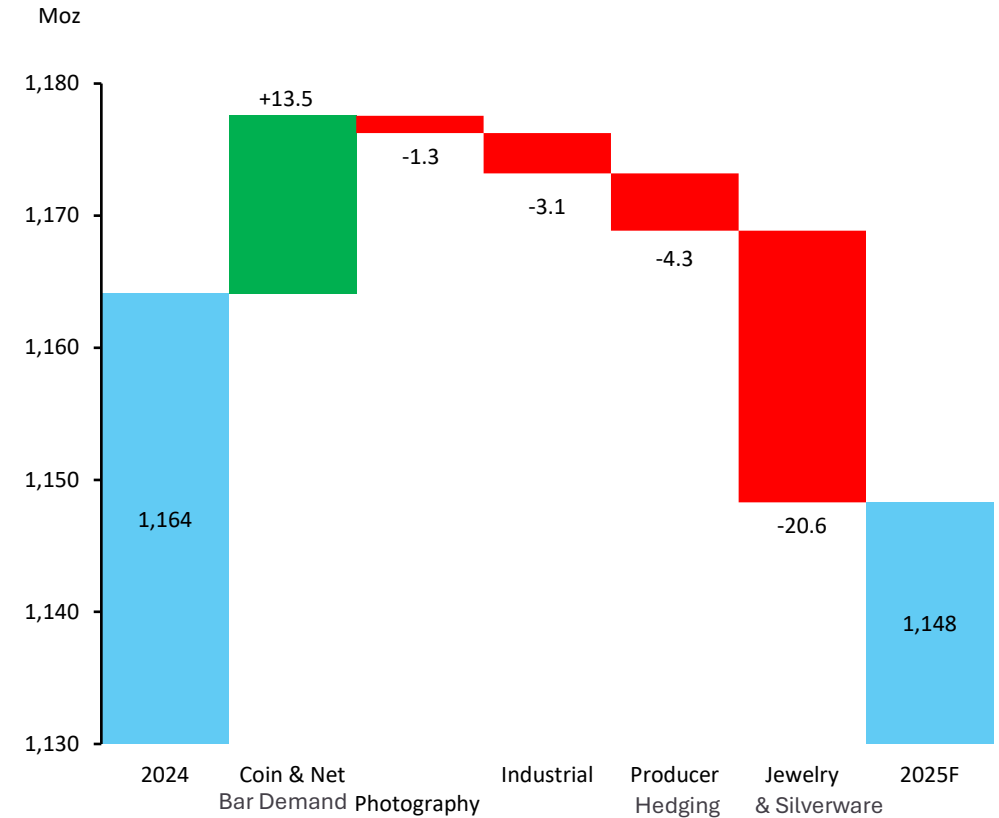


2025 Supply/Demand Outlook

Global Supply: 2025 up 2% to a three-year high

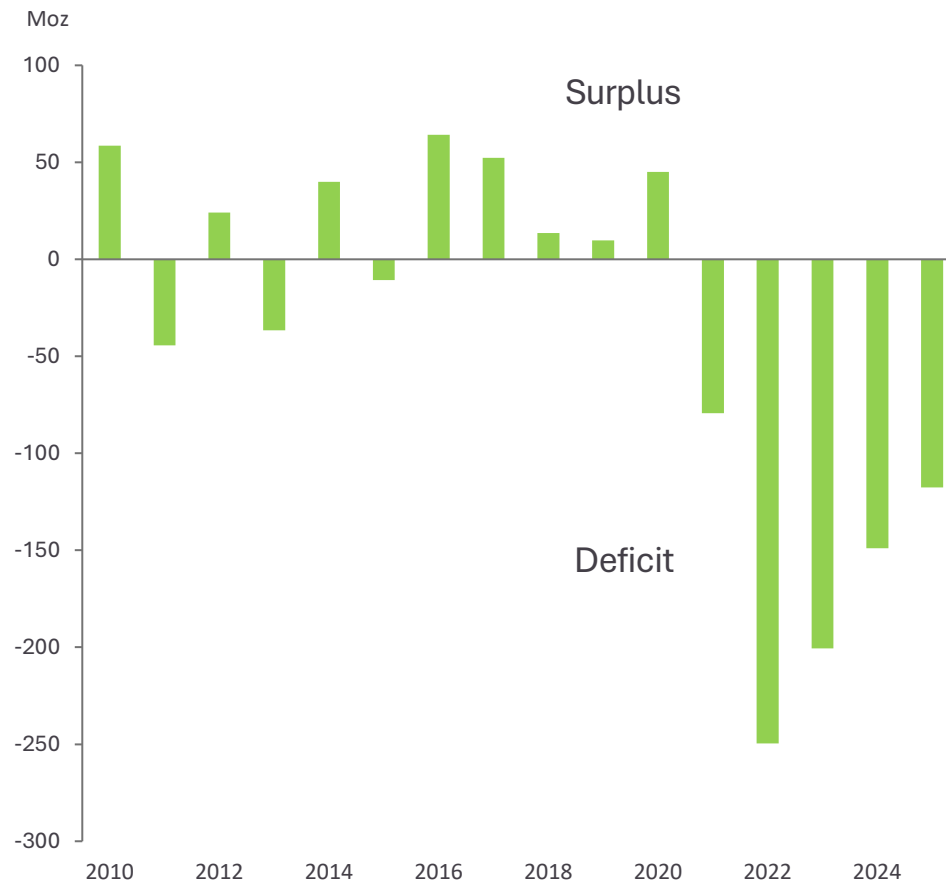


Global Demand: 2025 eases back 1% to a four-year low

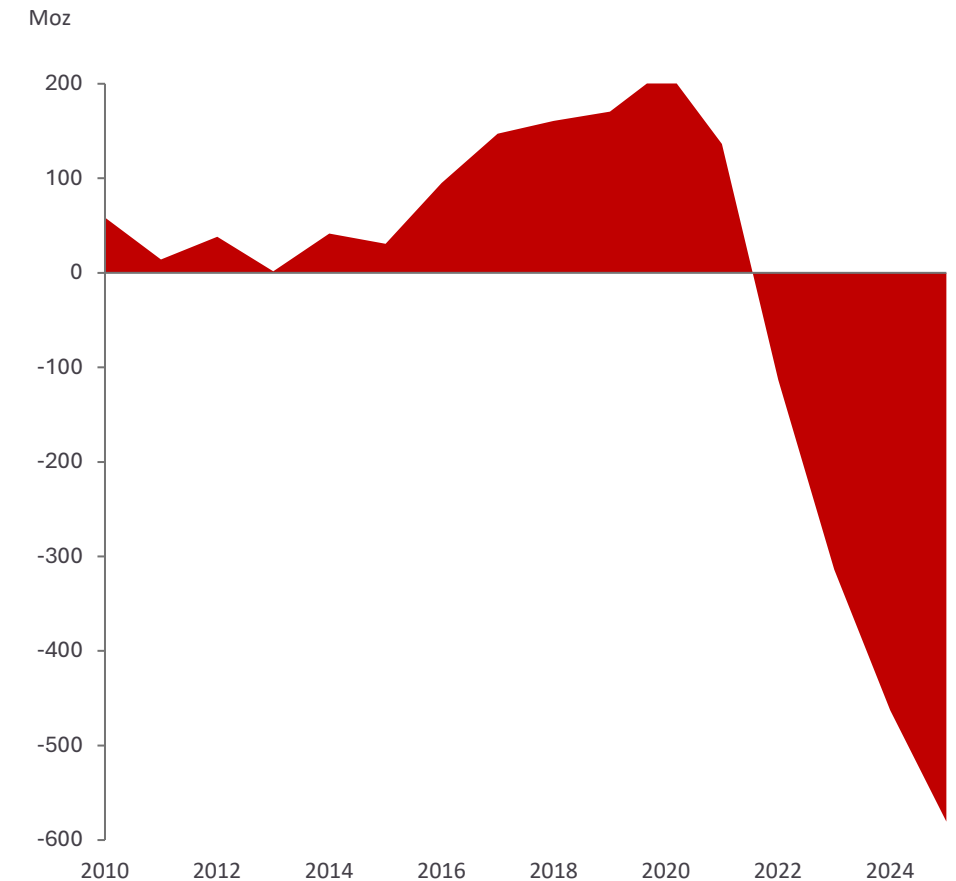


2025 Outlook, supply/demand gap narrows but still material

Another hefty deficit this year



Stock drawdown continues, 796Moz over 2021-2025F





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