



# Silver Supply & Demand: In the Crosshairs of Record Prices

3<sup>rd</sup> December 2025

Philip Newman, Metals Focus



# One of the most dramatic years for silver in living memory

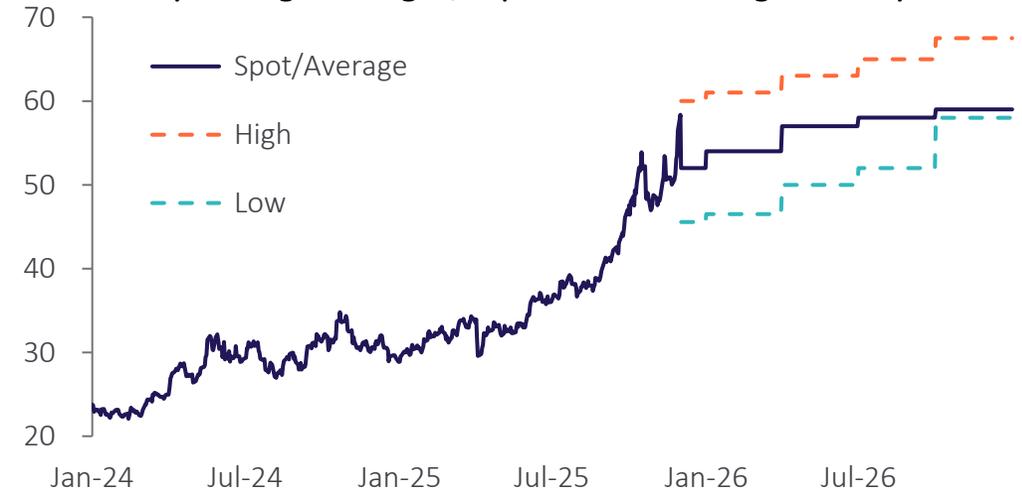
How did we get here?

- Tariff concerns lead to a ramp-up in CME deliveries
- EFP surge eclipses that of COVID
- Liquidity squeeze develops in London, lease rates at unprecedented highs
- Geopolitical backdrop, dollar under pressure and its safe-haven status being questioned
- This has all contributed to record high silver prices

Gold remains close to its record high, set to eclipse this in 2026



Silver already setting new highs, expected to do so again next year



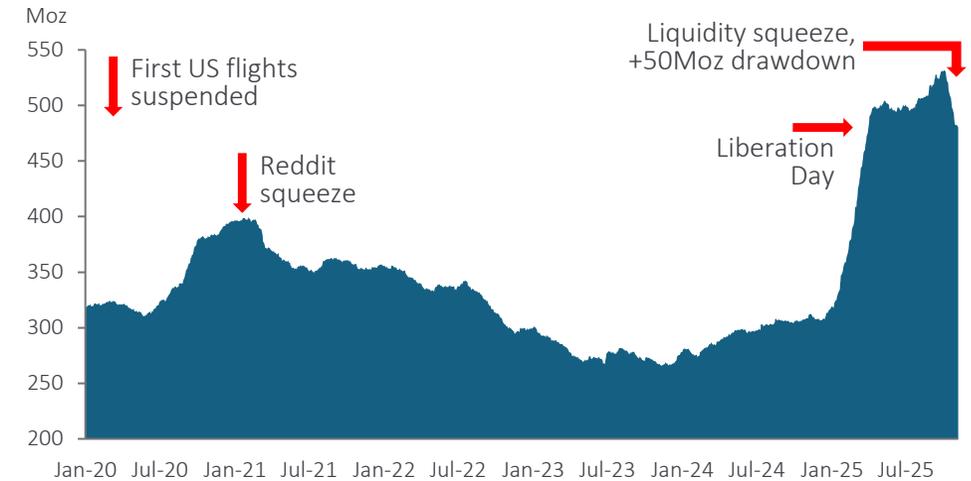
Source: Bloomberg, Metals Focus

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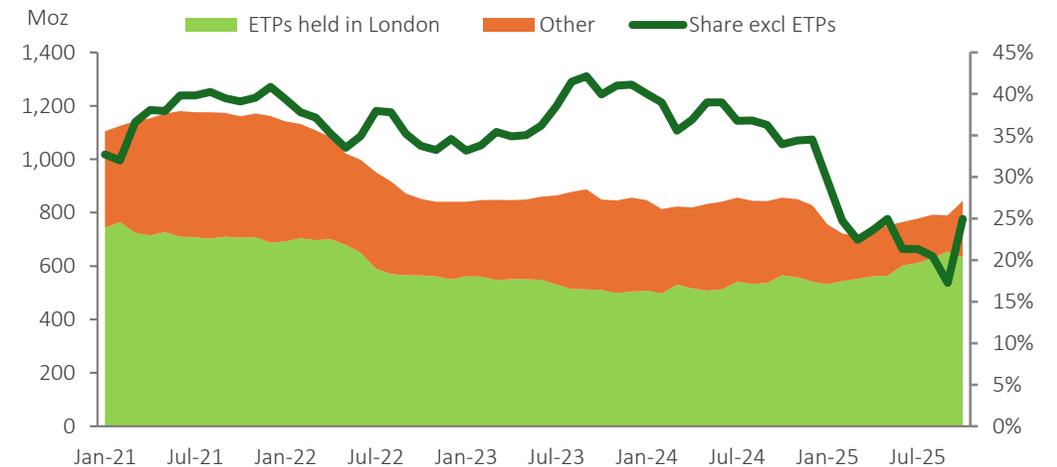
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CME warehouse stocks off from record highs



London vault holdings were increasingly allocated to ETPs

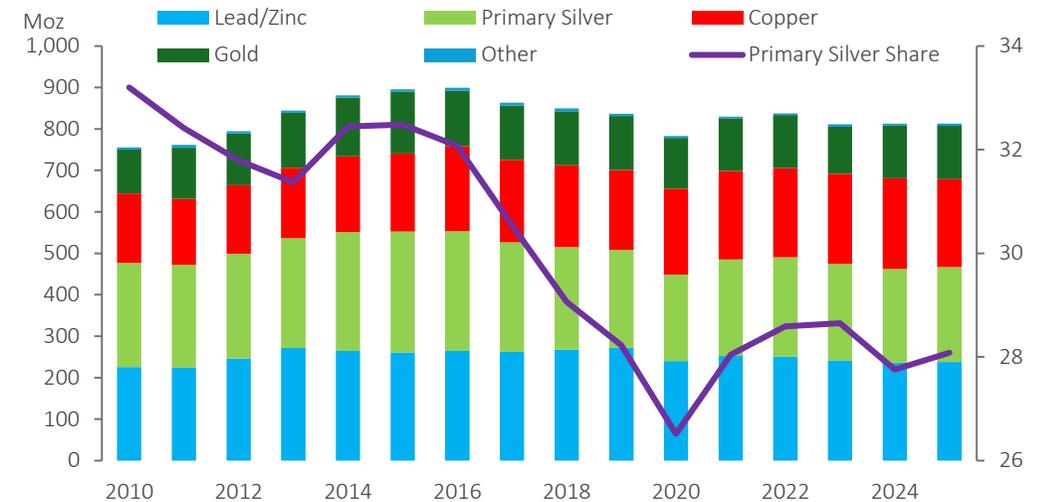


Source: Bloomberg, LBMA, Metals Focus

# How is silver mining responding to +\$50 silver?

- Little response expected from global supply
- Primary miners benefiting from rising margins
- Improved cashflow
  - Paying down debt
  - Signs of increased M&A
- Reserve expansion as well?

Primary silver mining accounts for 28% of the global total



Longer-term, little apparent response to high silver prices

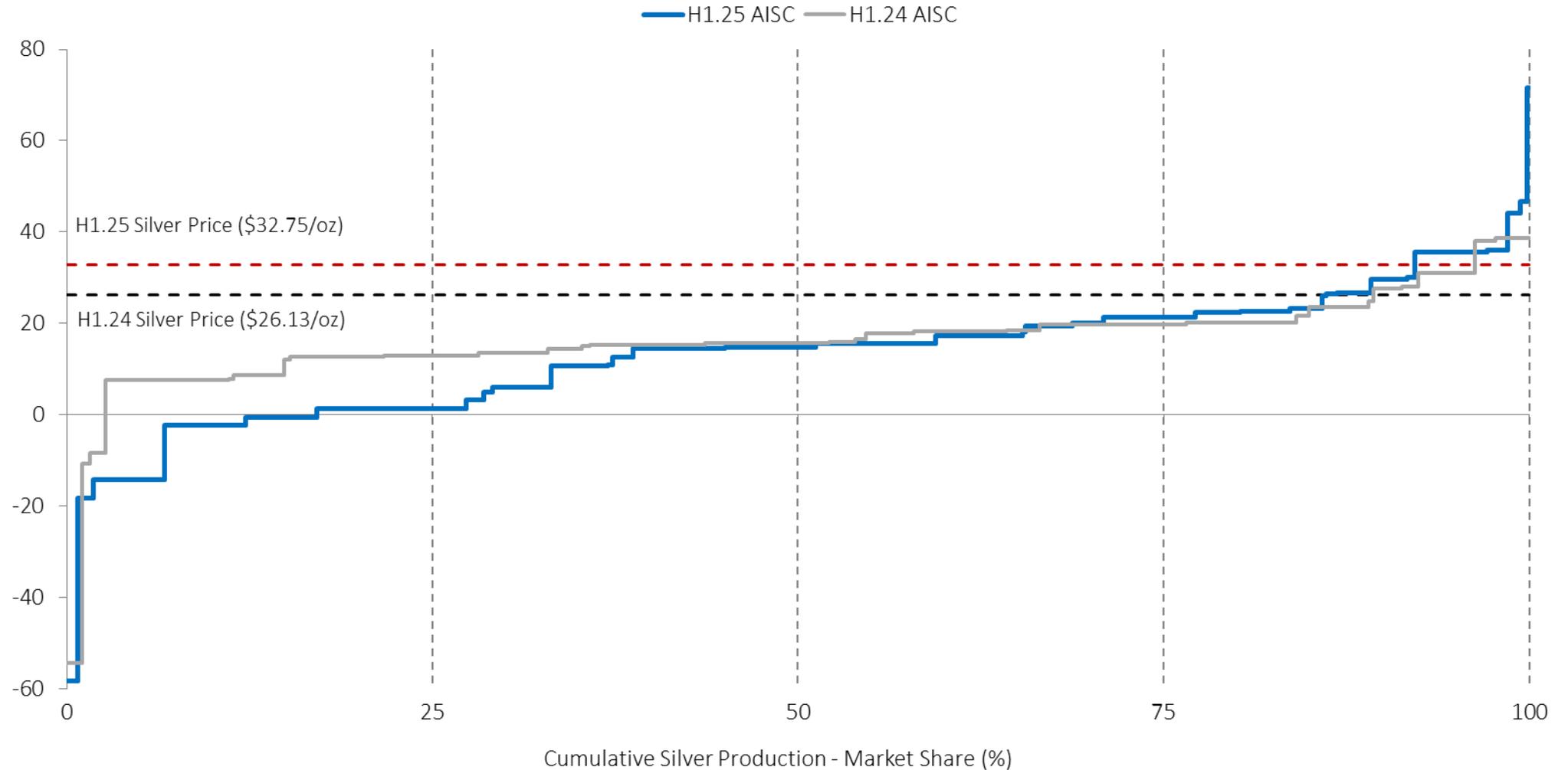


Source: Metals Focus

# Primary silver miners' AISC fell by 7% y/y in H1.25

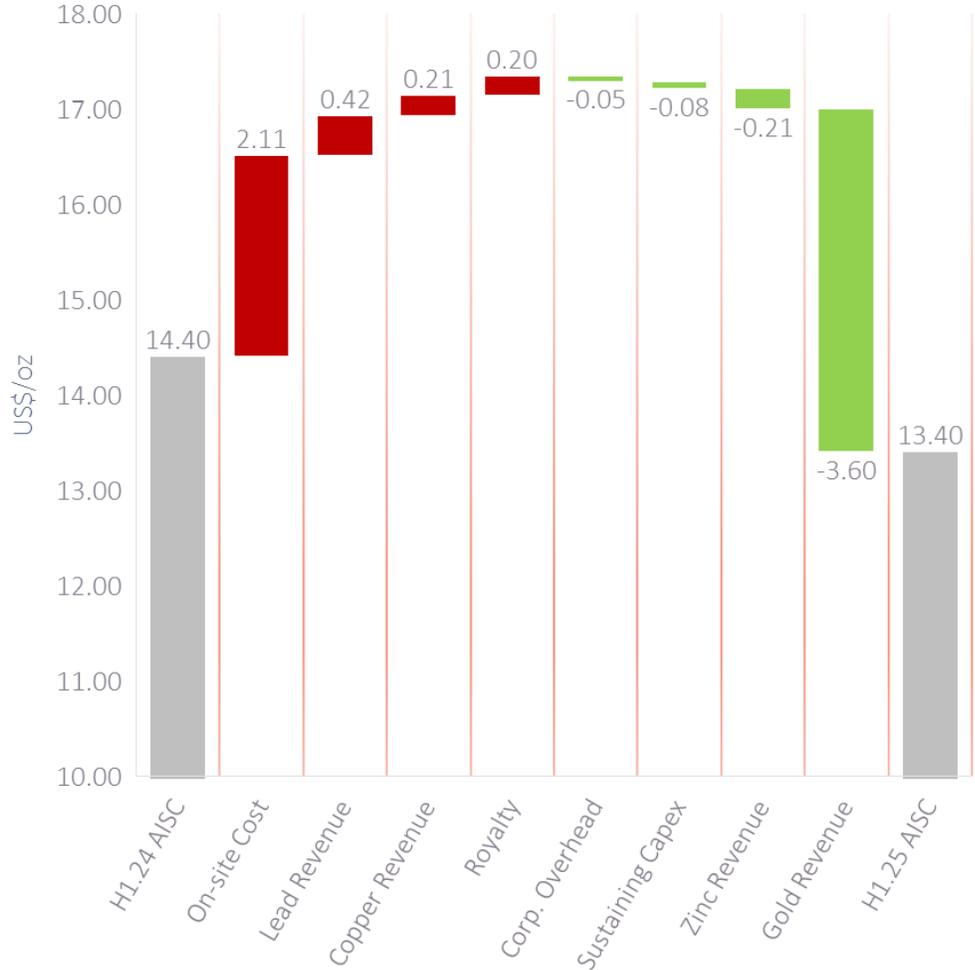
By-product credits, particularly gold, underpinned the drop in primary miners' AISC

US\$/oz



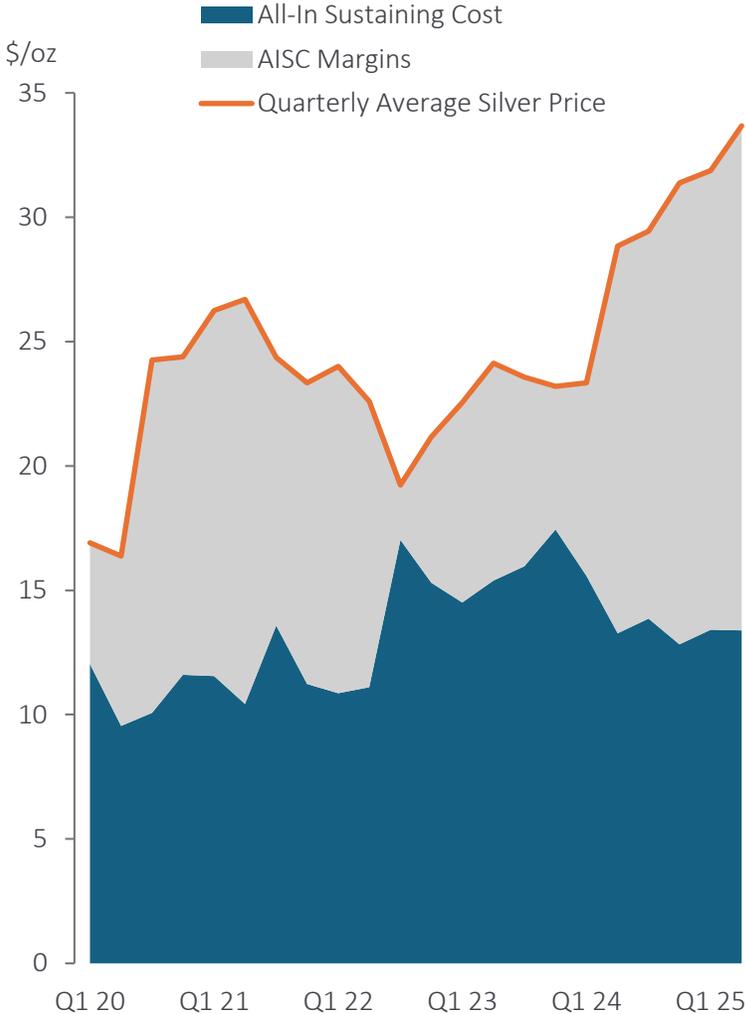
# Average AISC margins climbed to \$19.4/oz in H1.25

By-product credits outweigh rising on-site costs



Source: Metals Focus Silver Mine Cost Service

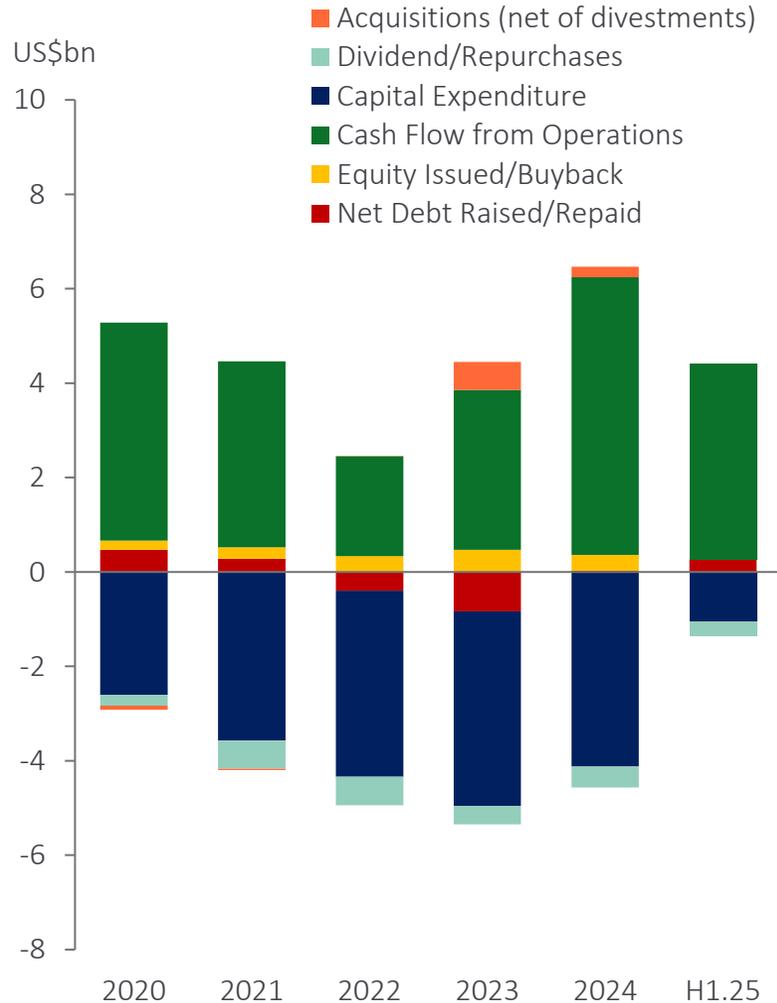
AISC margins reach highest point in over a decade



Source: Bloomberg, Metals Focus Silver Mine Cost Service

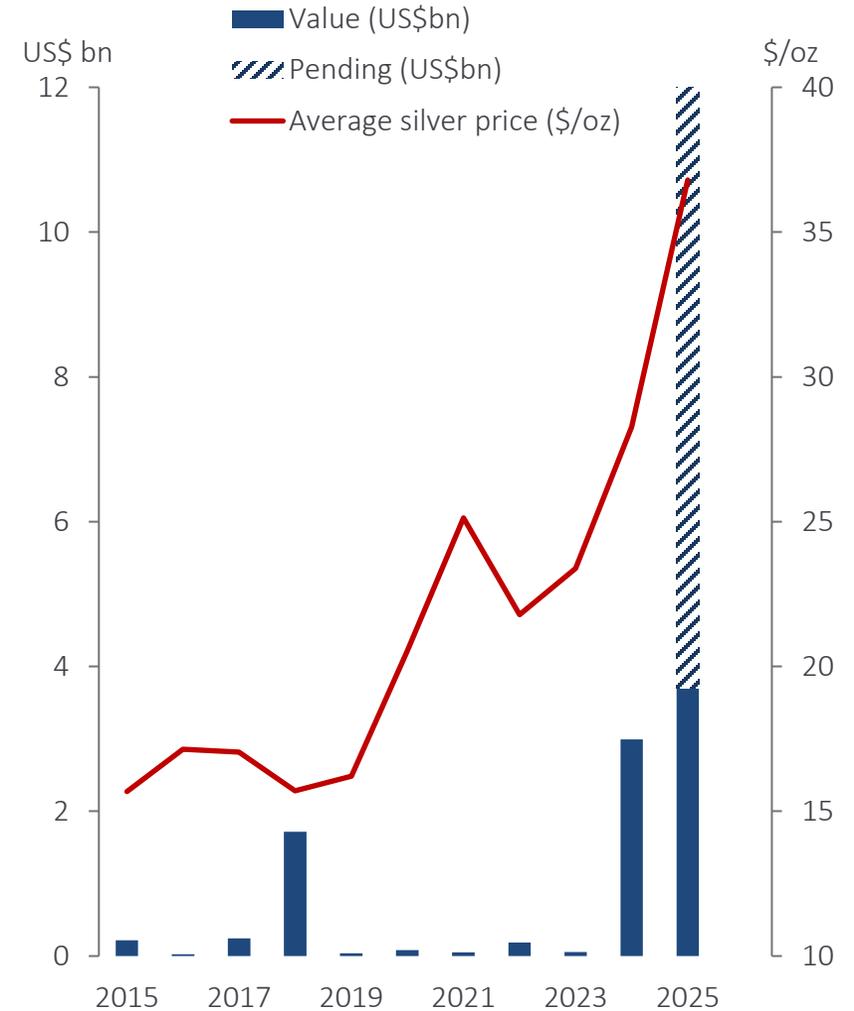
# Value of M&A activity at a multi-decade high

Cash flow from operations looks set to rise significantly in 2025



Source: Bloomberg, Metals Focus

M&A activity remains buoyant

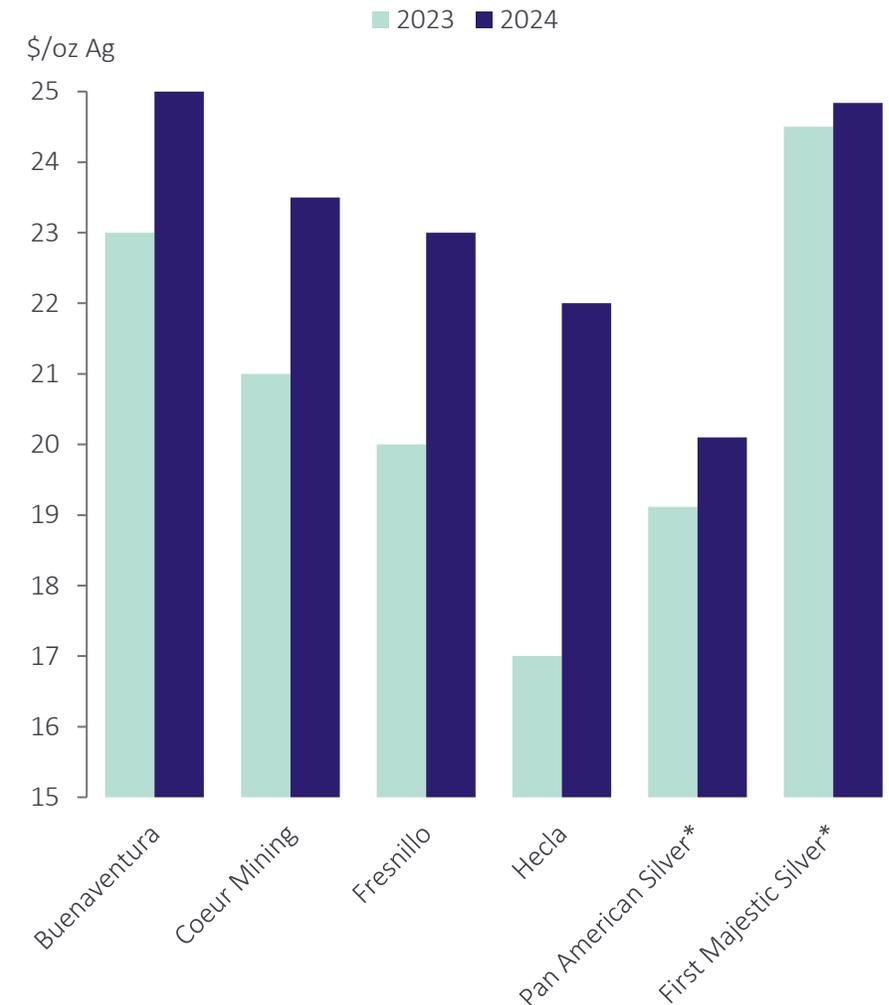


Source: Bloomberg, Metals Focus

# Reserve cut-off prices raised last year

- Companies adjusted their reserve cut-off prices in response to higher silver prices in 2024, allowing mining of high-cost ores to be economically viable.
- The average cut-off price for six leading silver producers increased from \$20.8/oz to \$23.1/oz.
- The most notable changes came from Buenaventura, Coeur Mining, Fresnillo and Hecla Mining.

Change in reserve prices 2024 vs. 2023

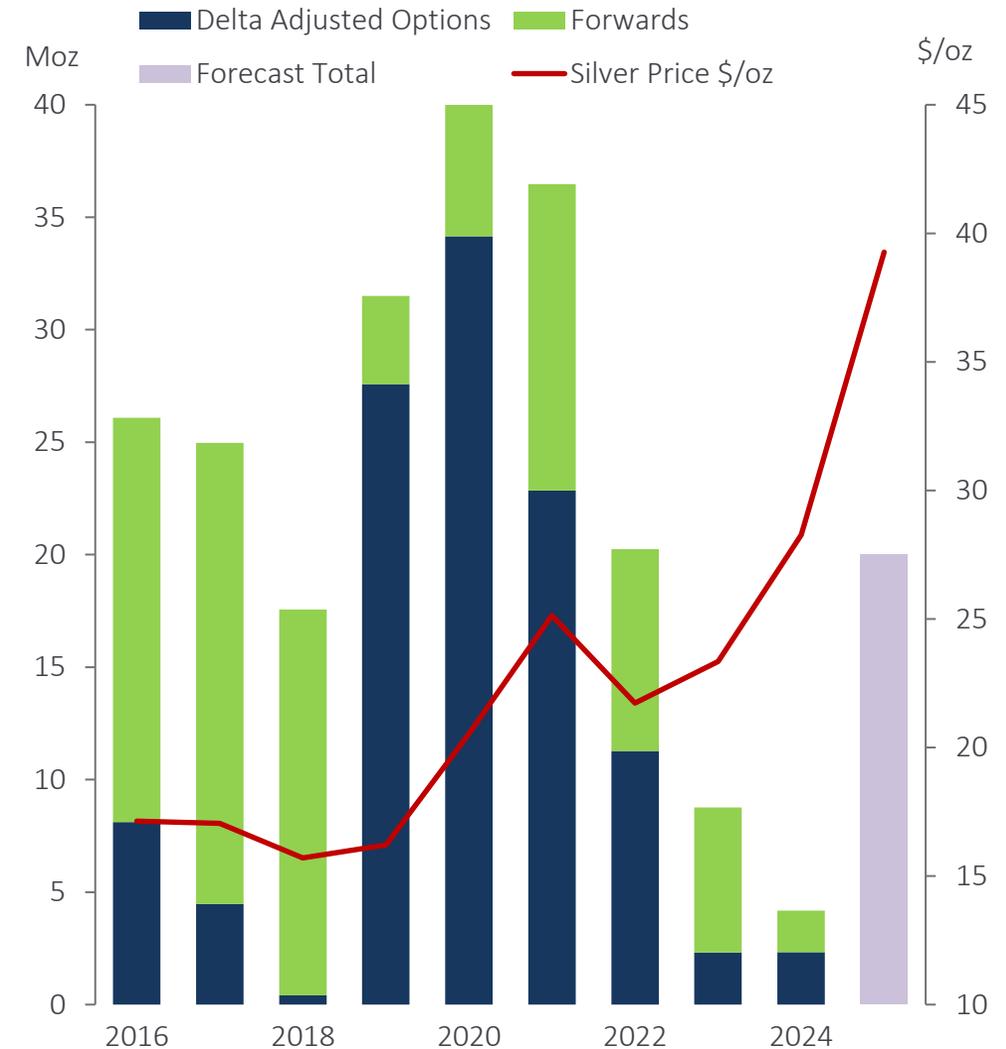


Source: Bloomberg, Metals Focus

# Net hedging for the first time since 2020

- This year, so far we have seen Increased hedging from Harmony Gold, KGHM, and Hecla Mining.
- Majority of hedge book was in options at end of Q2.25 – delta was almost zero with increasing price
- All contracts were out of the money at over \$50.
- Q3.25 - additional hedging, delta-adjusted hedge book now stands at 20.2Moz

By end-H1.25, options accounted for 89% of the hedge book



Source: Bloomberg, Metals Focus

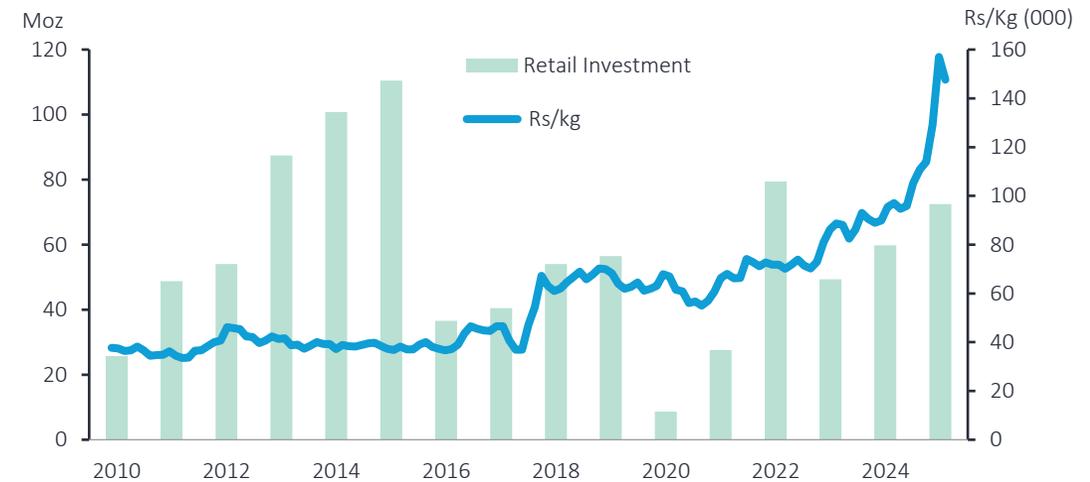
# Resilience of Indian jewellery demand & retail investment

- Indian silver bullion imports exceed 180Moz over first 10 months
- Down 17% y/y, but have surged in recent months
- Air freighting silver in, in response to elevated premiums
- Urgency of demand sees free trade zones by-passed

Growing commitment by Indian consumers to jewellery



Indian retail investors respond positively to price gains

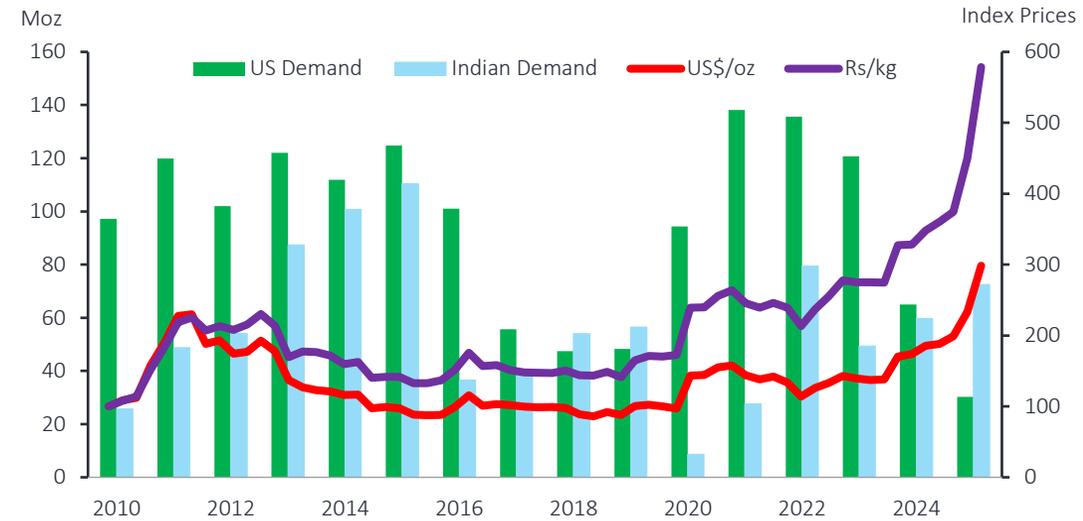


Source: Metals Focus

# Resilience of Indian bar & coin demand contrasts with the US

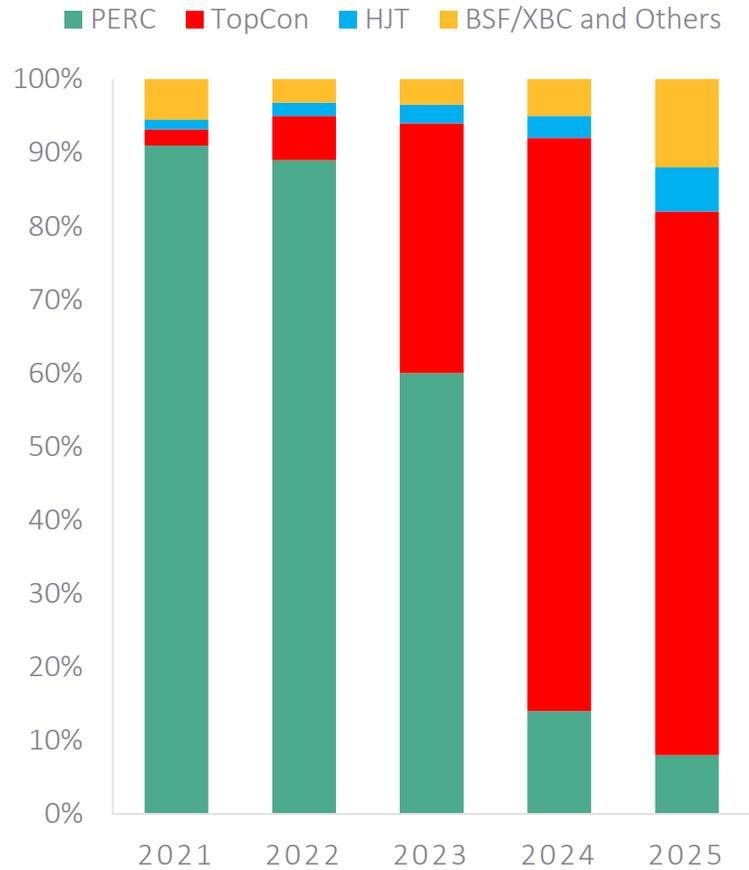
- Both \$ and Rs prices have effectively doubled this year-to-date
- However, sharply contrasting responses between US and India retail investors, the two heavyweights in the silver coin/bar market

Putting the gains in rupee terms into context

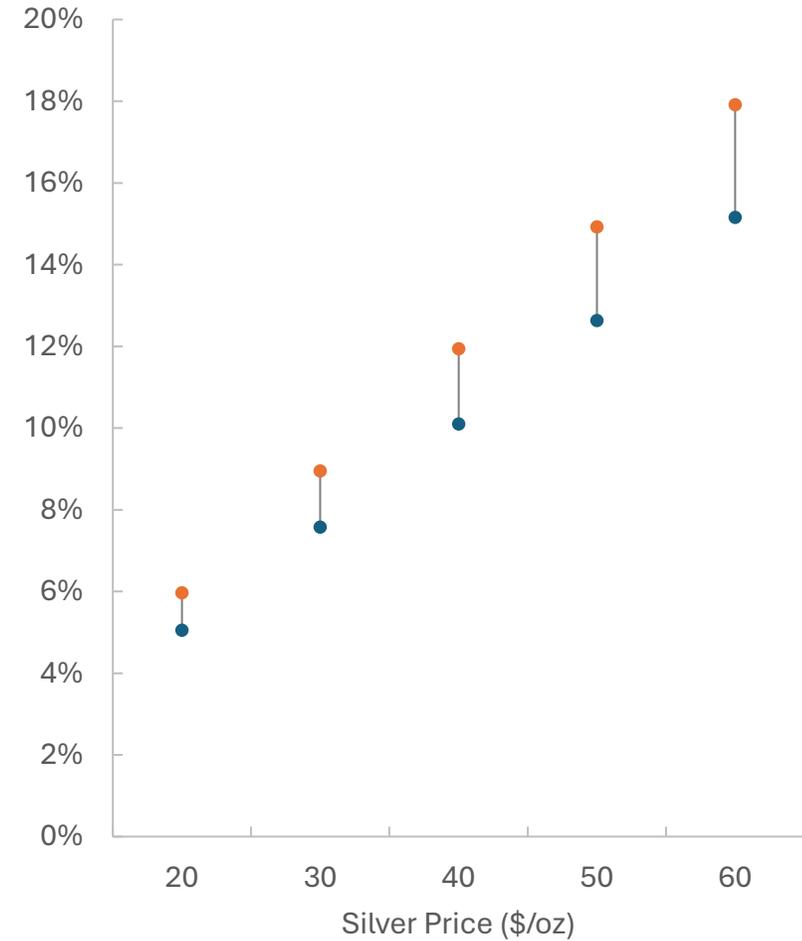


# Reduced silver loadings across various PV technologies

## Share of each PV technology

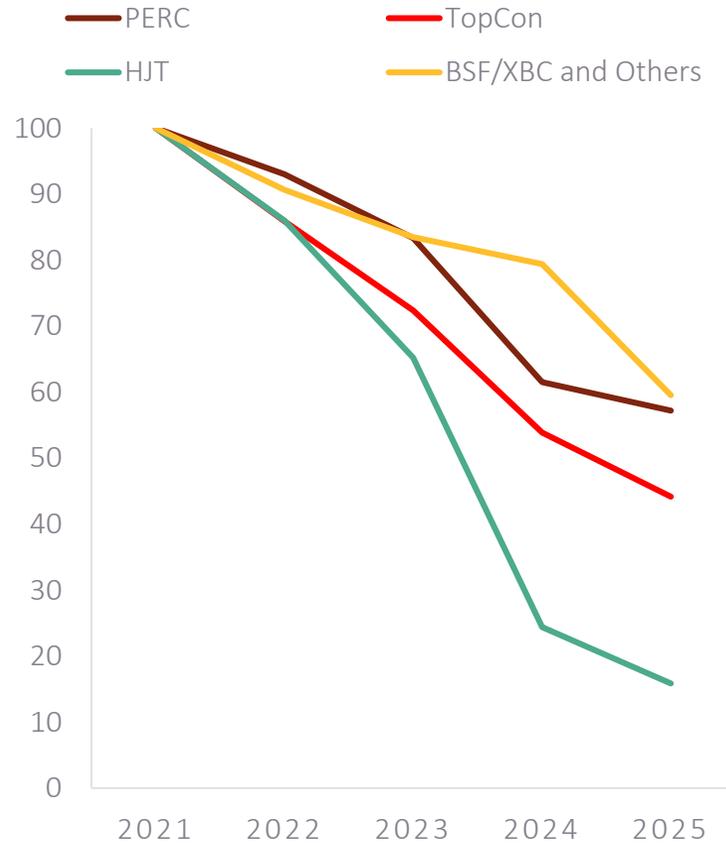


## Silver Cost Ratio in TOPCon



# PV cost pressures driving those silver loadings lower

Indexed silver loading per watt, by technology



Note: Index is based on silver loadings per cell, 2021 = 100%



**Progressive thrifting:** optimizing silver usage through grid-line design, process enhancement and material innovation.

➤ **Grid-line design:**

- SMBB to OBB (Zero Busbar)

➤ **Process enhancement:**

- Laser enhanced contact optimization (LECO)
- Fine-line printing technology

➤ **Material Innovation:**

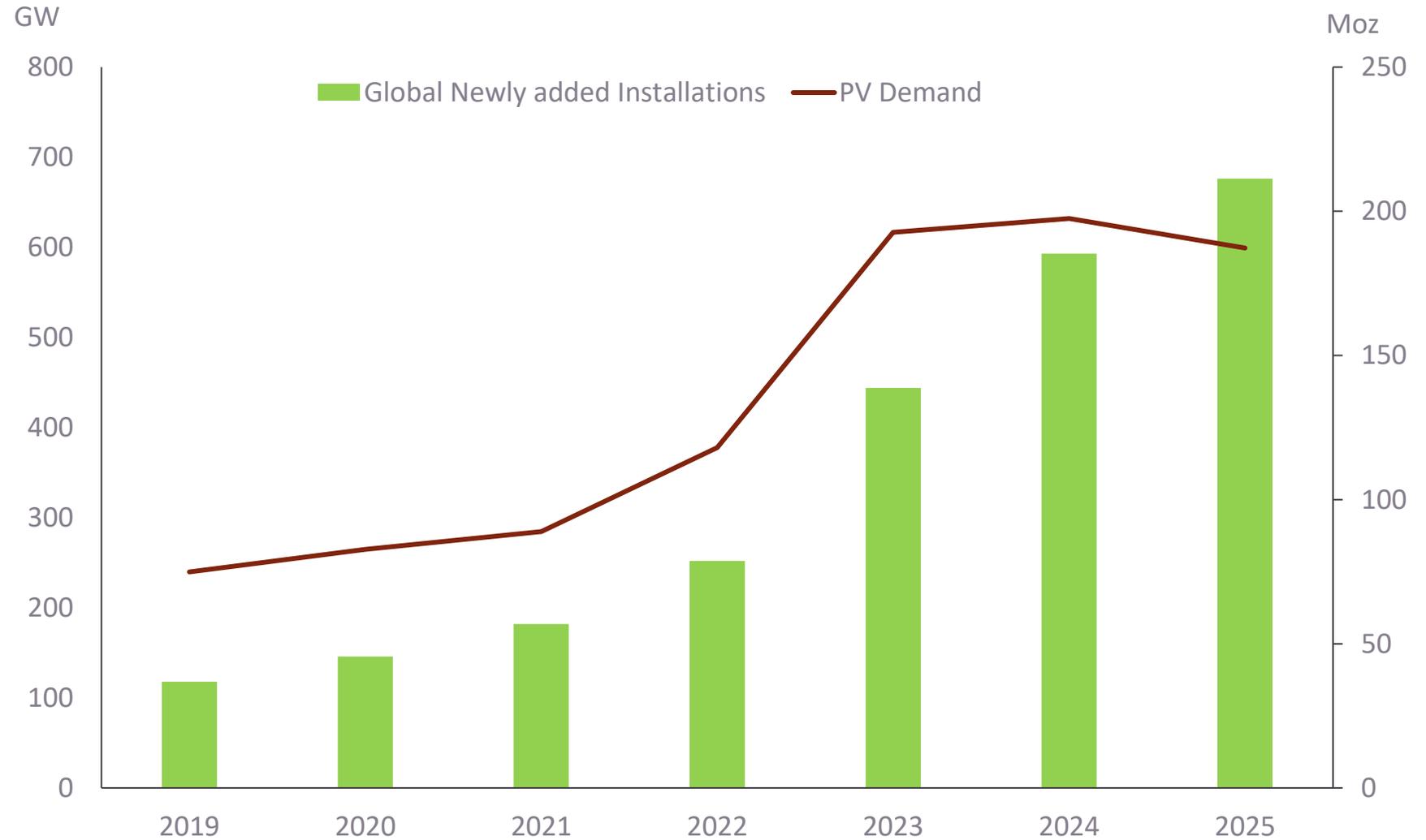
- Ag-Cu Paste

**Substitution:** using copper as a viable pathway to eliminate silver usage.

➤ **Copper plating**

➤ **Silver-Free Pastes**

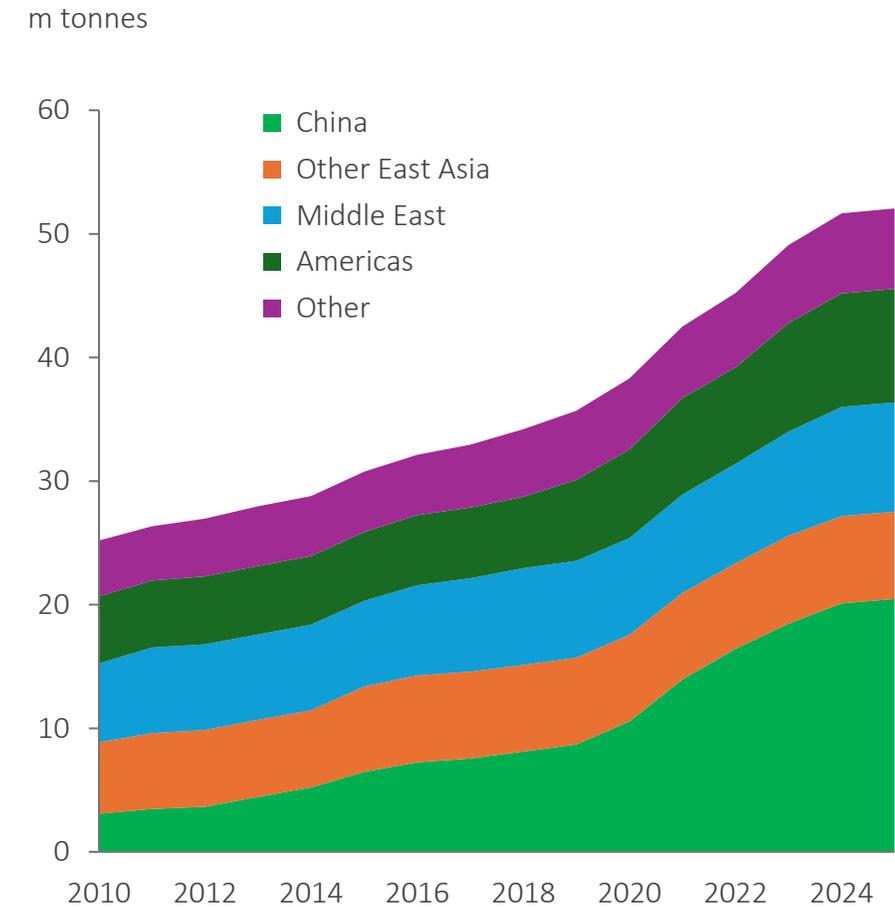
# PV silver demand to ease back from record high



# Contrast with short-term response in the EO market

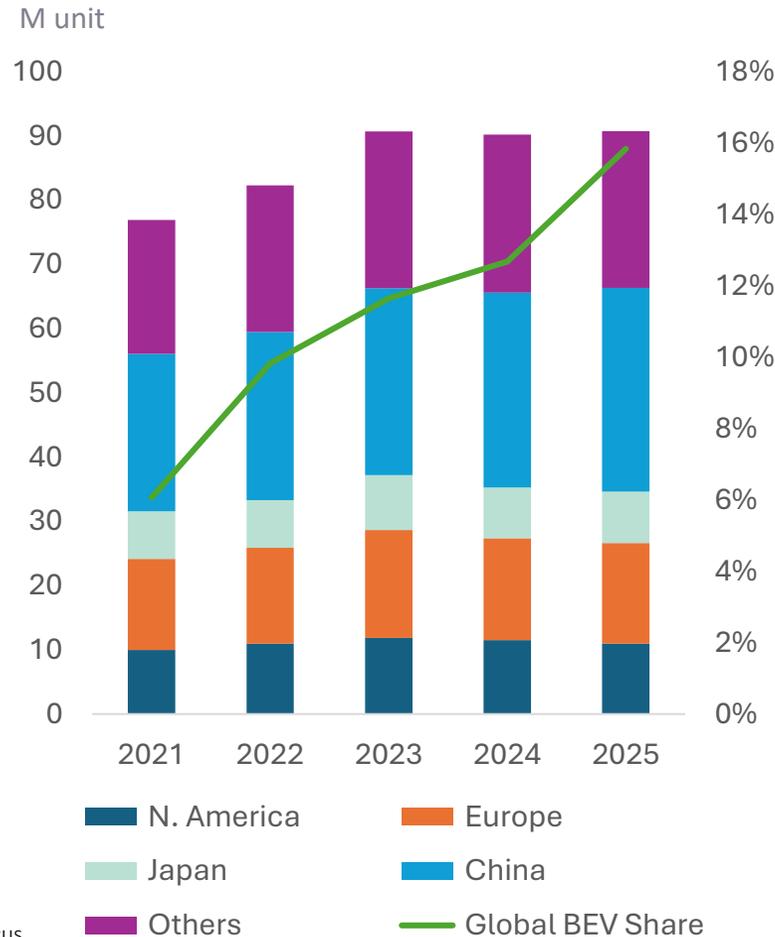
- Since 2010, global ethylene oxide capacity has doubled
- Most silver demand due to plant change-outs, rather than new capacity
- Response to price surge and high lease rates
  - Partial reverse of long-term trend to high silver concentrations
  - Postponed change-outs
  - Transition to shorter-term tenors
- In contrast to photovoltaics, no sign of a longer-term downturn in silver demand.

Ongoing gains for ethylene oxide capacity

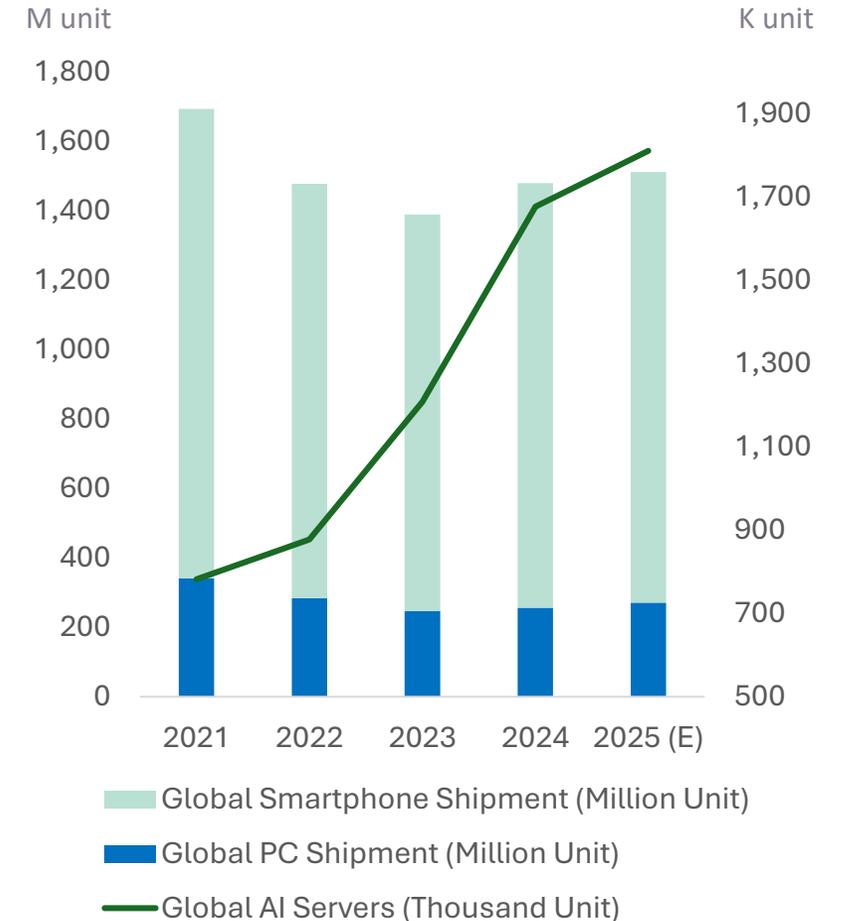


# Automotive and AI markets – mixed response to price upside

 Automotive:  
increasing electrification and rising  
BEV penetration

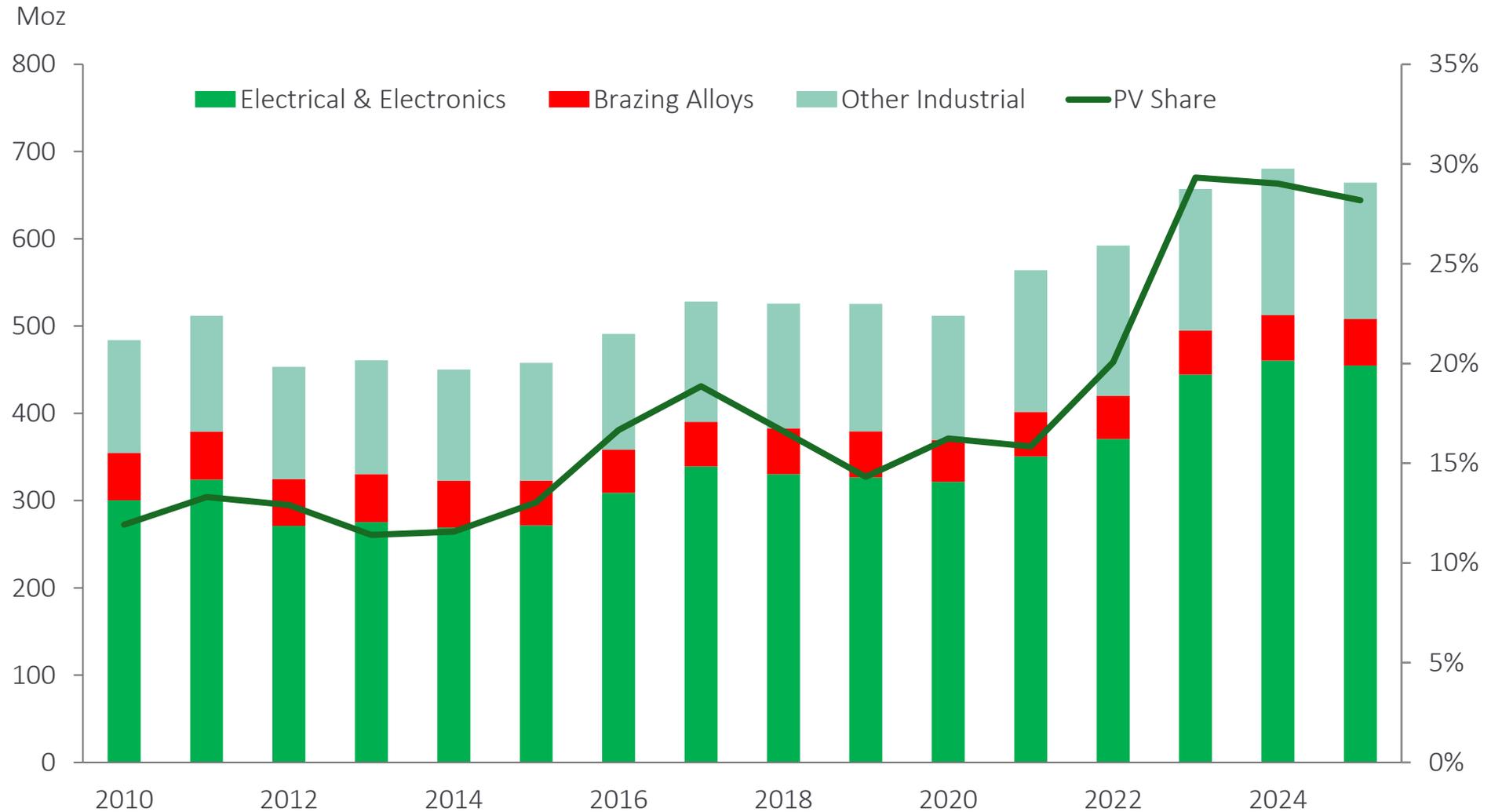


 AI investment:  
supporting the recovery of  
consumer electronics



Source: Metals Focus

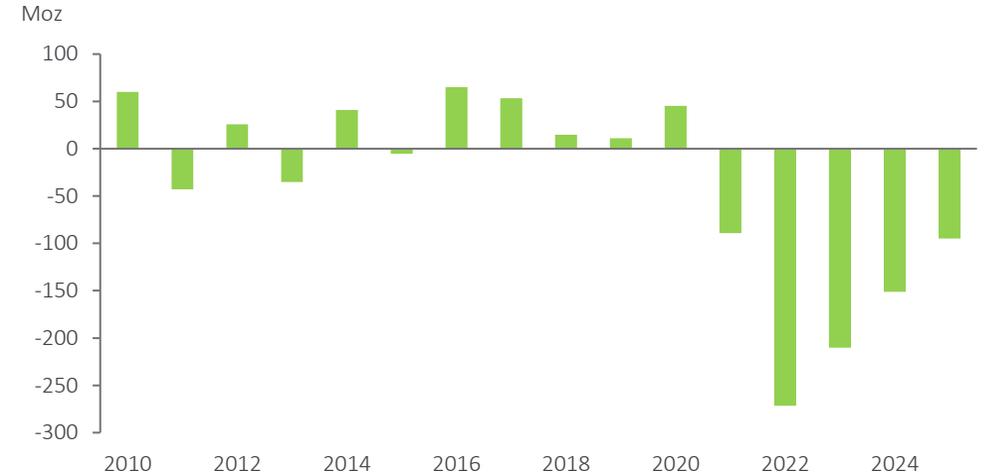
# 2025 industrial demand still the second highest on record



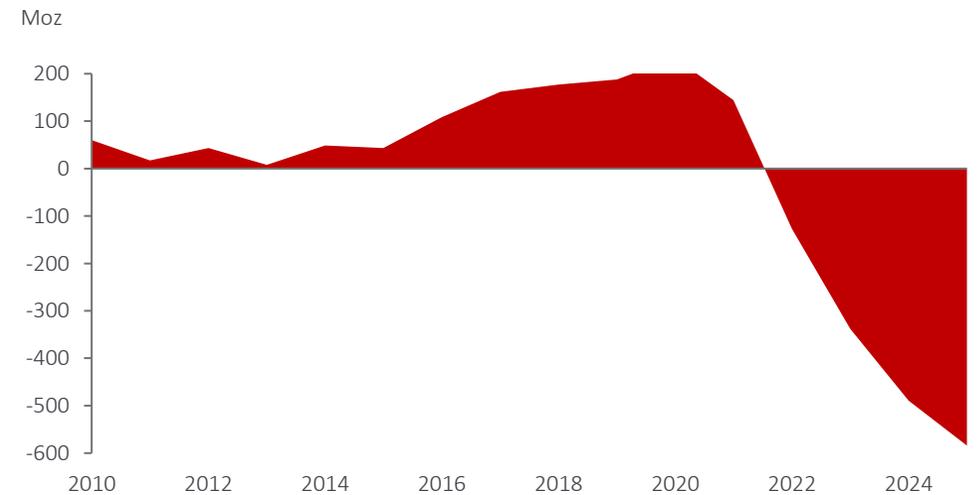
# Underlying tightness remains

- Impact of record high prices seemingly having a greater impact on the demand side, rather than supply
- Industrial demand
  - Combination of long-term impact in photovoltaics
  - Other areas such as EO likely to see only a short-term response
  - Contrast with AI, with little immediate response
- Market to remain in a deficit, but the scale of this appears to be heading lower

### Five years of sizeable, uninterrupted deficits



### Cumulative stock drawdown of ~580Moz during 2010-2025



Source: Metals Focus



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