

Executive Summary

Strategic Rationale for Global Theme Allocation –

At Pravia, our investment philosophy centres on agility and opportunistic capital deployment across structural trends – domestic and global. We reiterate our conviction that this decade will be one of **real assets** – where tangible, supply-constrained resources with pricing power benefit in an era of fiscal expansion, energy transition, and technological disruption.

Indian markets offer **limited direct exposure** to several transformative global themes. **Copper mining** sits at the intersection of multiple irreversible trends – **electrification, AI infrastructure, defence modernization, and emerging market urbanization.**

Our thesis is based on the following:

- Copper being a systemically important metal due to its practically irreplaceable properties
 - Substituting copper with Silver or Aluminium is very difficult **given cost and space constraints.**
- **An impending demand-supply mismatch in the copper market.**
 - Global copper demand is projected to surge **50% from 28 million metric tons (MMT) in 2025 to 42 MMT by 2040** (*Source: S&P Global*)
 - Without meaningful supply expansion, a **10 MMT annual shortfall** emerges by 2040.
- **4 main drivers for Copper Demand:**



- **3 main sources of Copper Supply:**



- **Copper miners being able to generate strong margins due to elevated copper prices**

We initiate investment into **copper mining companies** via the **COPX UCITS ETF**, a vehicle providing diversified, liquid exposure to global copper miners. We remain bullish on Copper for a long-term perspective and position as a high-risk allocation.

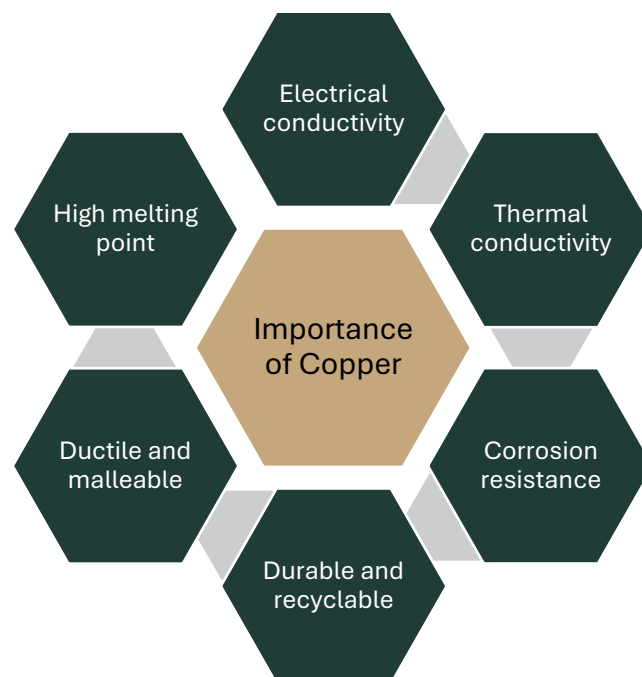
Detailed Note

Why is copper important?

Copper is the essential conductor of electricity – exceeded only by silver. Its unique combination of properties makes it irreplaceable across multiple critical systems. Silver and Aluminium are 2 of the closest metals which Copper can be replaced with – however,

- Silver, while being a better conductor of electricity and heat, is significantly more expensive
- Aluminium has only 60% of Copper's conductivity, worse thermal conductivity, lower density and is not corrosion resistant.

Copper is the metal that's perfectly suited in terms of price, scale and application:

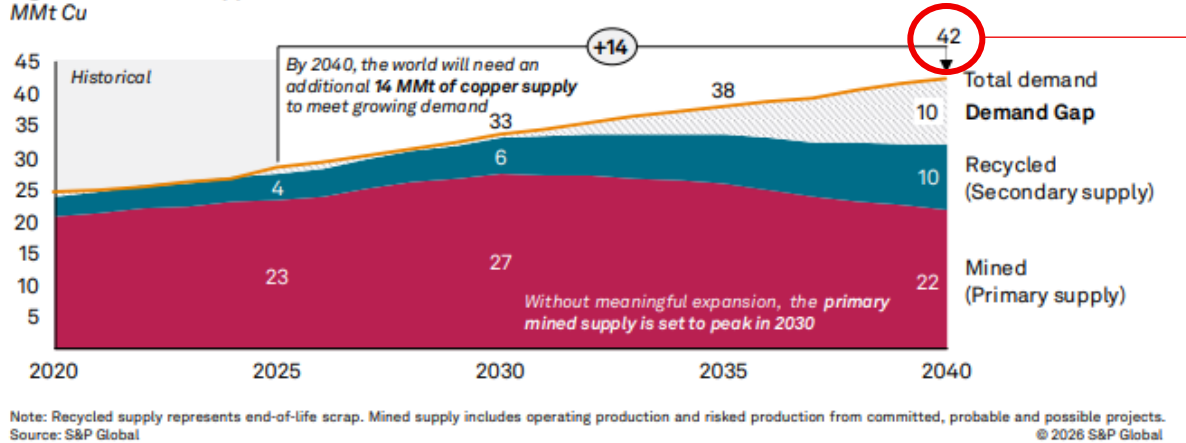


Application	Aluminum Viable?	Reason
Overhead transmission lines	✓ Yes	Lower weight offsets lower conductivity, making aluminum suitable for long-span transmission lines.
Underground & subsea cables	✗ No	Copper's higher conductivity, compact size, and superior corrosion resistance make it the preferred choice.
Data center power distribution	✗ No	Space constraints require maximum conductivity in a compact footprint; copper is effectively non-negotiable.
High-capacity transformers	✗ No	Copper windings provide higher efficiency, reliability, and power density. Aluminum is generally limited to lower-capacity units.
EV wiring harnesses	⚠ Limited	Aluminum can reduce weight but requires larger cross-sections and specialized connectors, limiting adoption.
Building wiring & plumbing	✗ No	Safety standards, fire codes, and long-term reliability continue to favor copper in most critical applications.
Heavy-duty motors & generators	✗ No	Copper's superior conductivity, mechanical strength, and thermal performance make it the preferred material for high-performance machines.

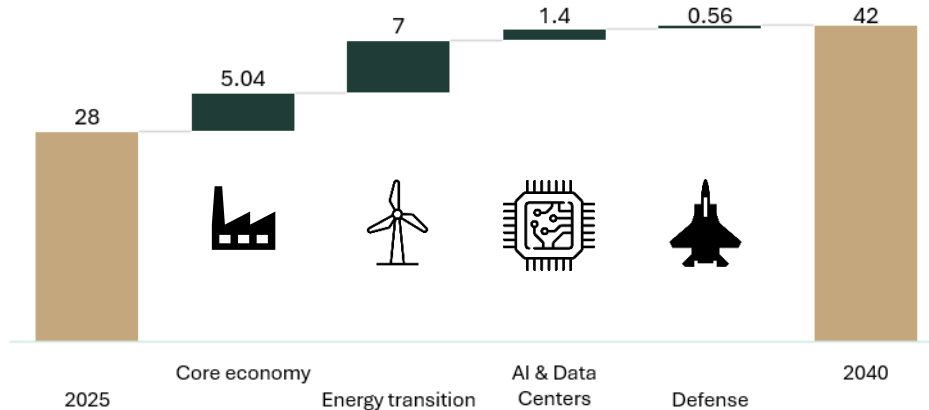
Copper Demand →

Global copper demand projected to surge **50%** from 28 million metric tons (MMT) in 2025 to 42 MMT by 2040:

Figure ES- 1. Total copper market balance (2020–2040)
MMt Cu



Net incremental change in copper demand



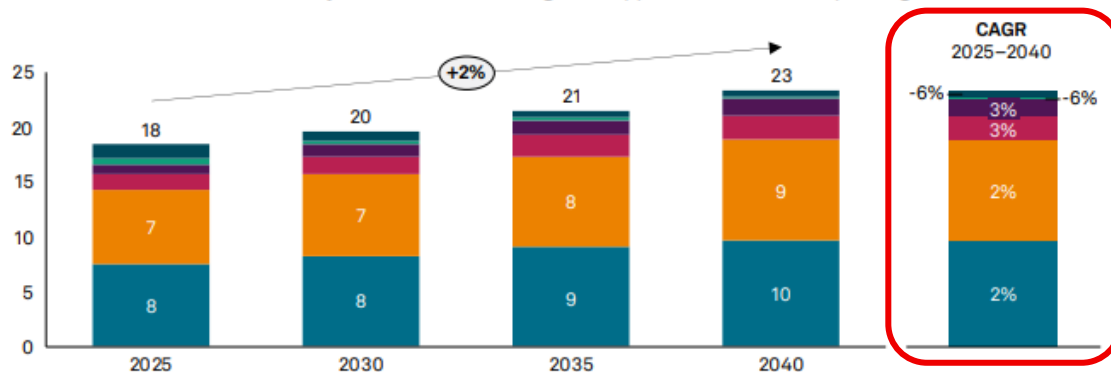
Source: S&P Global Economics

Demand is expected to come from 4 primary vectors:

1. Core economy

MMt Cu

Construction Machinery & others Cooling Appliances Fossil power generation ICE

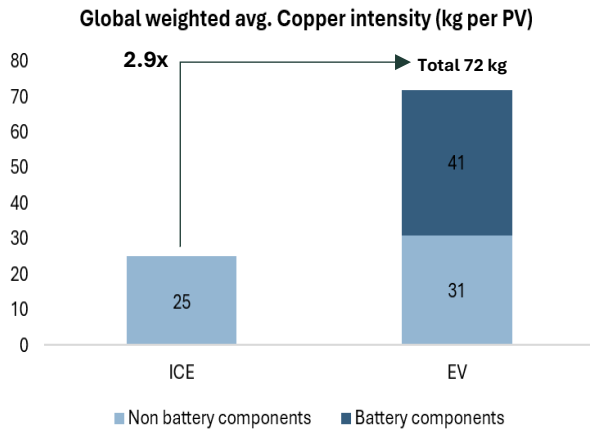


Note: Machinery and others include motors, generators, and associated industrial wiring (includes demand for a range of machinery-based end uses, including non-vehicle transportation systems as well as agricultural equipment).
Source: S&P Global © 2026 S&P Global



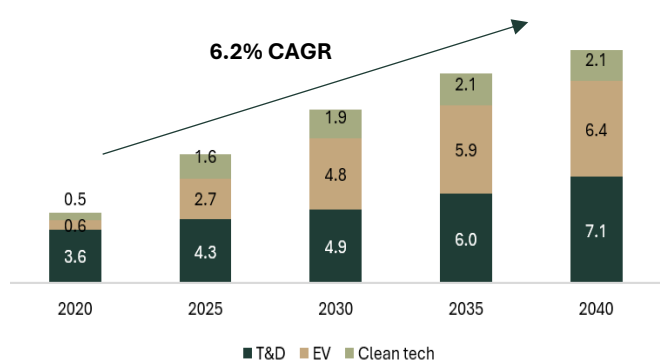
2. EV and energy transition

The shift from ICE vehicles to EVs nearly triples copper usage per vehicle



Grid expansion and clean tech can increase copper demand multi-fold

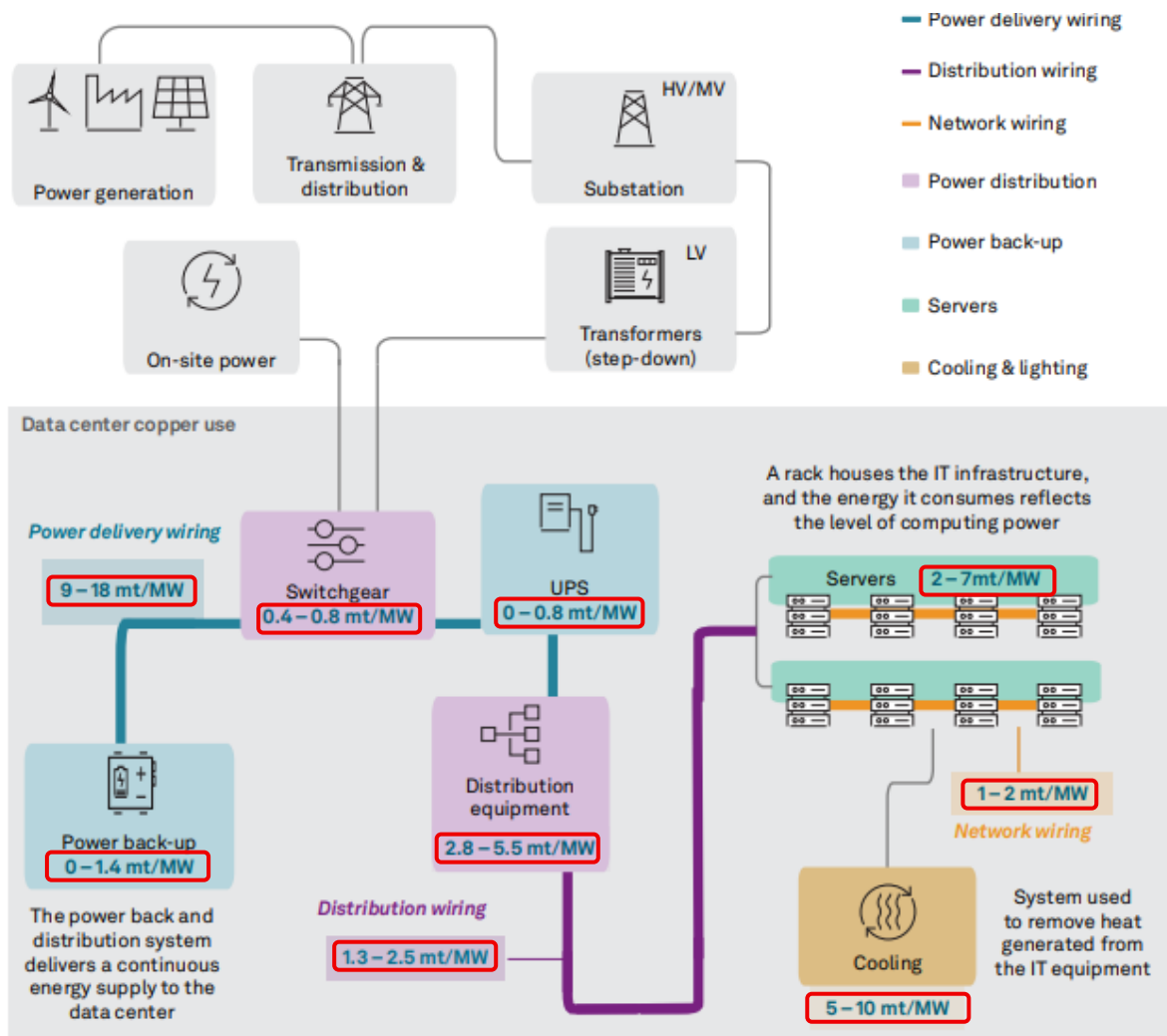
Energy transition Copper demand (MMT)



Source: S&P Global Economics

3. Copper is used through each stage of data centre and electrification infrastructure

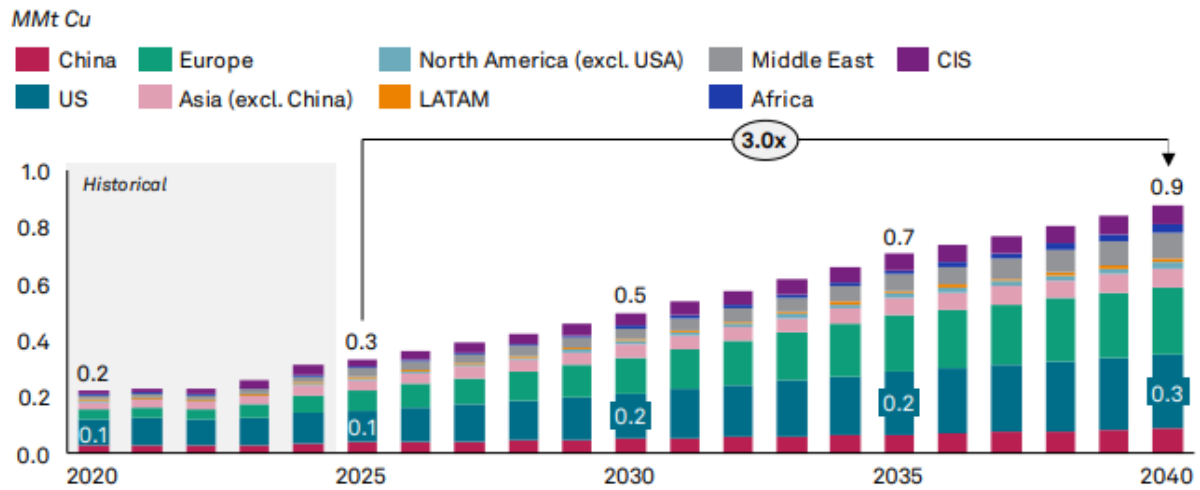
Accelerating AI-driven data centre buildout is expected to drive sustained copper demand across power infrastructure, servers, networking and cooling.



Source: S&P Global Economics



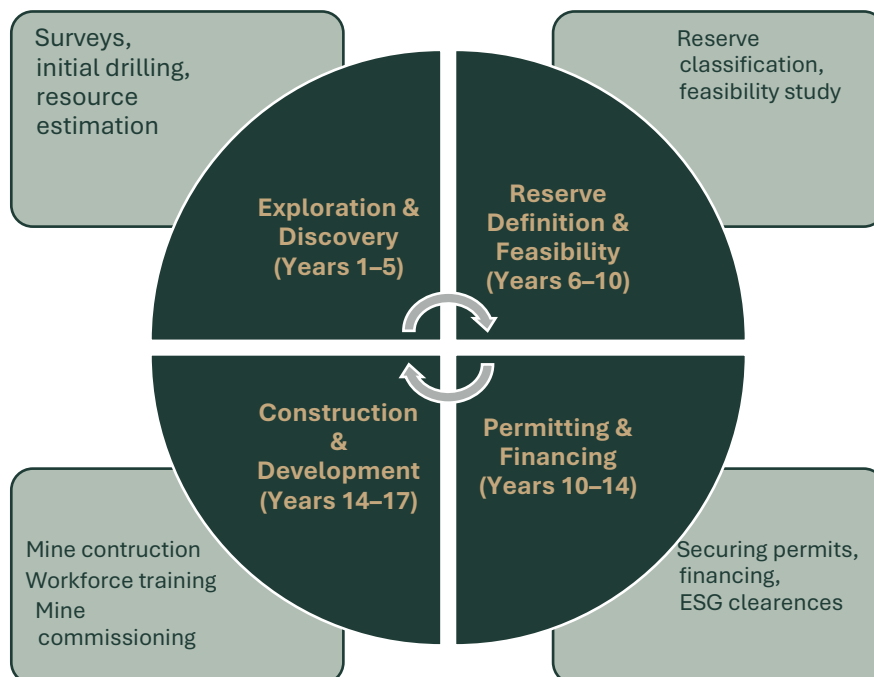
4. Defence is expected to contribute ~1 MMT annually to copper demand by 2040 as countries increase military spending and shift towards copper-intensive electronic warfare



Note: Copper demand was calculated in two steps: for NATO members, the share of military expenditure in GDP was projected to reach the 5% target by 2035; for non-NATO members, SIPRI military expenditure data was used, projecting the share of GDP based on the 20-year CAGR and applying NATO's weighted average share of equipment and infrastructure expenditure. These projected expenditures were then converted into copper demand using an estimated copper intensity of metric tons per million dollars spent derived from US DoD data.
Source: US DoD, NATO, Stockholm International Peace Research Institute © 2026 S&P Global

Copper Supply →

Copper mines **currently average 17 years from discovery to production** – a timeline that has lengthened, not shortened, over recent decades. Governments across the world have **begun advancing permitting reforms, fiscal incentives, and critical mineral designations aimed at accelerating development for energy and metal security**. However, these **policy initiatives remain nascent** relative to the scale of the challenge, **and no evidence yet exists that mine development timelines have materially compressed in practice**.



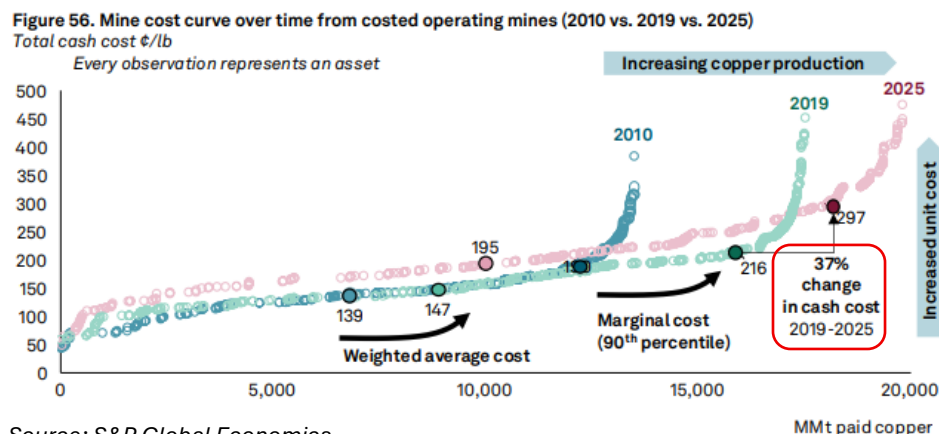
Why is supply expected to peak in 2030?

- Existing mines are naturally depleted (*Source: IEA, BHP*)

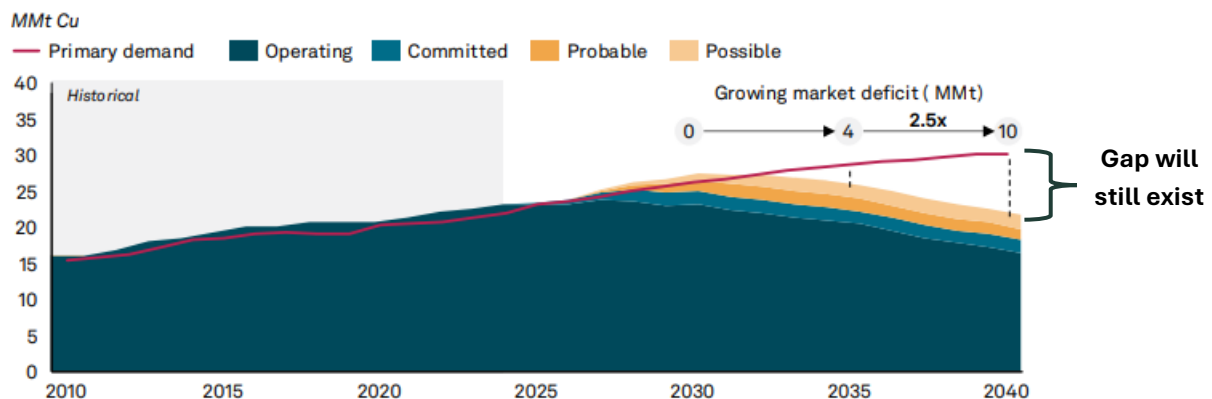
Factor	Mechanism	Impact
Declining head grades	Higher-grade ore zones are mined first, leaving lower-grade ore for future extraction	More rock must be mined and processed to produce the same amount of copper, increasing costs
Deepening operations	Surface and near-surface deposits become depleted, forcing mining to move deeper underground	Higher energy consumption, labour requirements, and capital expenditure
Increasing strip ratios	Waste-to-ore ratio increased from 1.47:1 (2021) to 1.80:1 (2025)	Greater waste removal raises operating costs, equipment needs, and sustaining capital
Resource exhaustion	Existing reserves are depleted without sufficient new discoveries or replacement	Mine output declines as operations approach the end of their economic mine life

***Strip ratio** = Waste rock-to-ore ratio. In 2021, 1.47 tonnes of waste rock had to be removed for every tonne of mined copper. In 2025, 1.80 tonnes of waste rock have to be removed for every tonne of mined copper

- Copper's supply curve is moving upward.** Even if demand merely meets expectations, future supply increasingly **requires higher-cost mines**. This **raises the long-term incentive price for copper**.



- Near-term project pipeline is limited. Even *if we factor in Probable and possible deposits*, **supply still falls short in the long term**



How do Copper miners benefit from high Copper prices?

Year	Copper price	Average AISC	Spread (income for miners)
2020	2.80	2.20	0.60
2021 & 2022	4.12	2.35	1.77
2023 & 2024	4.05	2.45	1.60
2025 & 2026	5.28	2.50	2.78

Copper prices move faster than the cost associated with mining. If copper prices sustain above \$5/pound, miners operate on healthy margins

Source: Pravia Research, numbers in the table are approximations based on public data available, all prices are in USD; AISC → All-in-Sustaining cost associated with mining. These are approximates based on market data

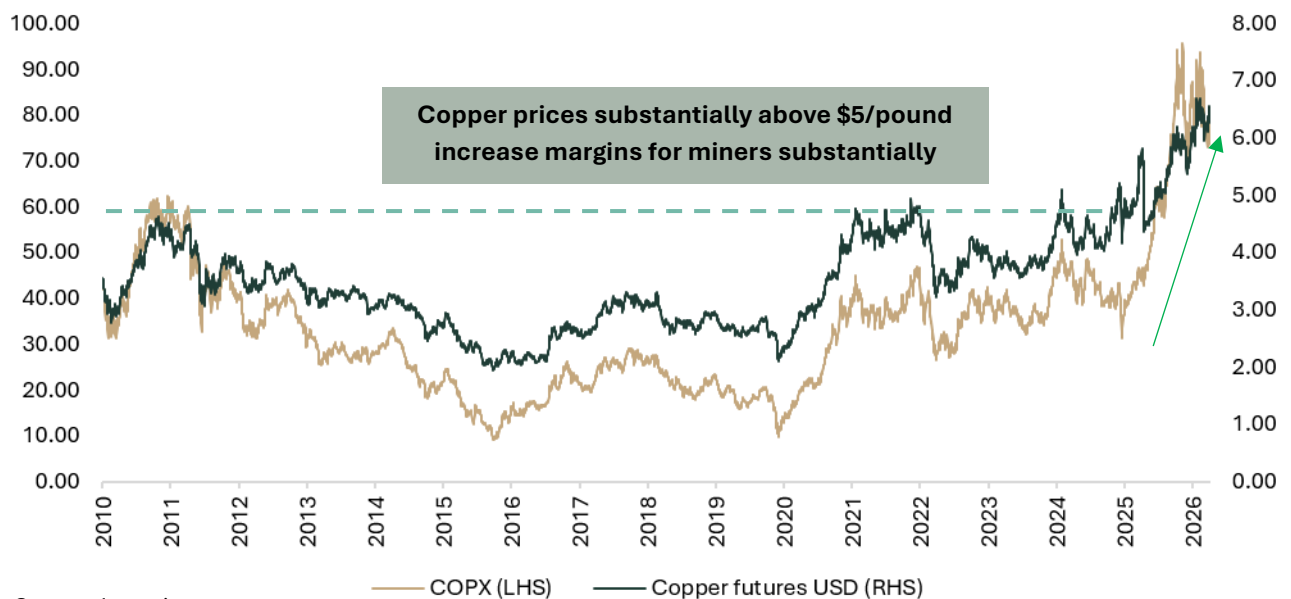
Company	CY2023 Revenue	EBITDA CY2023	EBITDAM CY2023	TTM Revenue	EBITDA TTM	EBITDAM TTM	Change (2025 vs 2023)
BHP	53.82	28.61	53%	53.99	29.02	54%	1%
Teck*	9.07	1.78	20%	12.41	5.12	41%	22%
Southern Copper	9.90	5.12	52%	14.55	8.99	62%	10%
First Quantum	6.46	1.28	20%	5.45	1.70	31%	11%
Antofagasta	6.32	3.30	52%	8.62	5.23	61%	8%
Glencore	217.83	13.91	6%	247.54	10.34	4%	-2%
Hudbay	1.69	0.65	39%	2.37	1.60	67%	29%
Boliden	78.55	14.68	19%	100.21	25.37	25%	7%
KGHM*	35.32	6.87	19%	39.30	12.02	31%	11%
Freeport-McMoRan	22.86	8.59	38%	26.42	9.82	37%	0%
Totals (Revenue & Op Inc.) and Weighted average Margins	442	85	34%	511	109	39%	10%

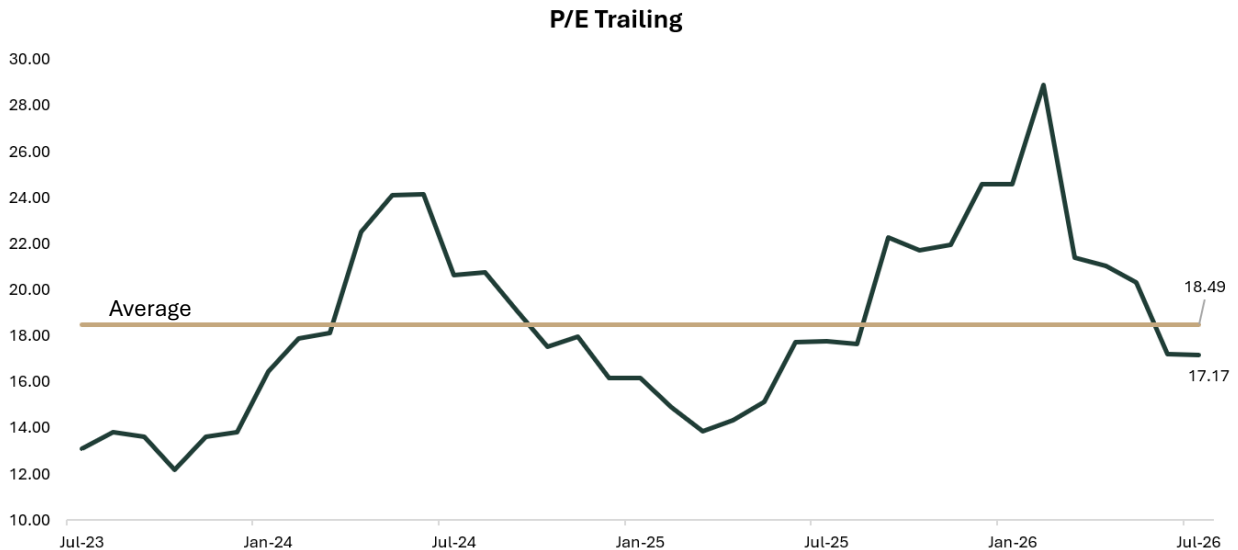
Source: Yahoo Finance As on 17 July 2026

All Values are in Bn USD, *For Teck and KGHM we have taken 2024 numbers as 2023 numbers were anomalies

Average price for copper futures was \$3.86/pound in 2023, which increased to \$5.5 TTM. Copper prices above \$4/pound makes Q4 miners profitable, and **above \$5 allows miners to make significant margins.**

Copper and Copper miners price movement





Source: Morningstar Direct

This decade belongs to tangible assets, and copper miners is perfectly fit within this theme. As the global monetary order fragments and dedollarization accelerates, the premium on supply-constrained, strategically essential real assets is rising structurally.

Copper sits at the intersection of this macro rotation and irreversible demand vectors: electrification, AI infrastructure, and defence modernization. Allocation to Copper miners captures the asymmetry of a metal that the **world cannot substitute, cannot quickly produce more of, and cannot afford to be without.**

India offers limited listed exposure to copper mining. Although **Hindustan Copper** is India's largest copper producer, its annual copper output is a smaller relative to global mining companies such as Freeport-McMoRan, Southern Copper, Antofagasta and First Quantum. Additionally, it is significantly more expensive at a valuation of **47x trailing P/E v/s COPX at 17.2x trailing P/E.**

The **COPX UCITS ETF** offers diversified exposure to leading global copper miners with significantly larger production, longer reserve lives and more attractive valuations. **Based on this rationale, we recommend investment into COPX UCITS ETF.**

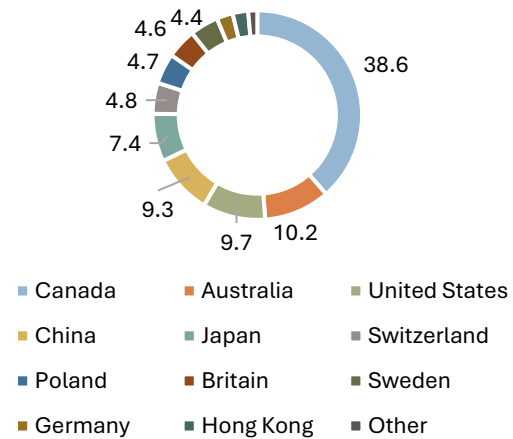
About COPX UCITS ETF:

Inception Date	22-Nov-21
Total Expense Ratio	0.55%
Fund AUM (Bn USD)	1.285
Domicile	Ireland
Investment Manager	Global X Management Company (UK) Limited
Ticker	COPX
ISIN	IE0003Z9E2Y3
Type	Accumulating, reinvests dividends
No. of holdings	39
ETF Style	Fully replicates underlying index
Underlying index	Solactive Global Copper Miners v2 Index

Top 10 holdings	Net Assets (%)
Hudbay Minerals Inc	5.42
Bhp Group Ltd	5.37
Southern Copper Corp	5.32
Teck Resources Ltd-Cls B	5.19
First Quantum Minerals Ltd	5.18
Antofagasta Plc	5.07
Glencore Plc	4.92
Freeport-Mcmoran Inc	4.81
Kghm Polska Miedz SA	4.77
Lundin Mining Corp	4.51

Source: Global X

Weight (%)



ETF Trailing and Calendar year Returns:

Period	Returns USD	Returns INR
2016	69.35%	62.76%
2017	36.75%	28.47%
2018	-33.05%	-26.89%
2019	10.98%	13.47%
2020	49.41%	53.21%
2021	21.57%	23.94%
2022	-4.01%	6.59%
2023	5.84%	6.49%
2024	1.81%	4.64%
2025	88.03%	97.71%
YTD	21.87%	29.66%

Period	Returns USD	Returns INR
1M	-7.5%	-7.5%
3M	3.1%	4.2%
6M	26.7%	29.1%
1Y	61.5%	75.0%
2Y	42.0%	52.0%
3Y	33.9%	40.4%
5Y	20.6%	27.0%

Source: GoogleFinance, US domiciled COPX is used as a proxy for historical returns as it has a longer tenure and same underlying as the UCITS ETF



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Statutory Information:

- Pravia Investment Advisors Private Limited: CIN: U66309MH2025PTC451047; Regd Off Address: 801, A-Wing 215 Atrium, CTS No 215, Andheri-Kurla Road, Andheri East, Chakala, Mumbai - 400093; Contact: +91 9004139937
- Corporate Investment Adviser SEBI Registration no. INA000021322, Validity of Registration: Nov 04, 2025 – Perpetual. BSE Enlistment No.2375,
- Principal Officer: Ms. Vaibhavi Shah (E-mail: info@pravia.in), Contact: +91 9004139937
- Compliance Officer and Grievances Redressal Officer: Mr. Sachin Dwivedi (E-mail: compliance@pravia.in) Contact: +91 9004139937
- SEBI Regional Office: SEBI Bhavan, Plot No. C-4 A, G Block, Bandra Kurla Complex, Bandra East, Mumbai 400 051.

