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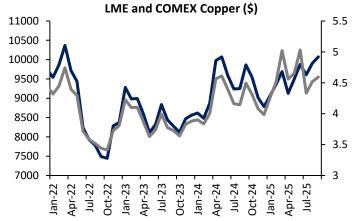
16 September 2025

Copper Bulls take Charge

Copper is at the centre of global trade tension and supply-demand flux in 2025. Prices started the year on a volatile note, amidst President Trump's shifting trade policies, boosting uncertaintities in the market. Trump administration's new 50% tariffs on copper imports, structural challenges in supply, and China's demand rebound all contribute to a volatile and uncertain outlook for the next year. Below is a comprehensive note analyzing each factor and projecting copper's trajectory.

TTT "Trump Tariff Tantrums": In July 2025, Comex copper prices experienced highest volatility in years, triggered by unexpected developments surrounding U.S. tariff policy. Early in the year, markets had priced in broad tariffs based on rumors suggesting duties on all forms of copper—including refined copper, input materials, and copper products. This anticipation created a bullish divergence between Comex and LME prices, driving a significant U.S. market premium. However, President Trump's July confirmation of a 50% tariff on copper imports, effective August 1, was both surpsing stricter than expected.

Tariff landscape continued influencing trade flows, with U.S. duties applying to semi-finished copper products, but exempting refined copper, reshaping regional pricing and increasing export activity from China to Southeast Asia.



34% - Premium of Comex over LME

29% - 24% - 19% - 14% - 9% - 17% - 25 - 17%



The final policy, however, narrowed the tariff's scope to semi-finished copper products such as pipes, tubes, wiring, and copper-intensive derivative products like electrical components, while crucially exempting refined copper, ores, concentrates, and cathodes. This clarification caught the market by surprise and led to a sharp sell-off, with Comex copper prices plunging more than 20% in the final days of July, erasing much of the built-up premium against LME prices. This announcement introduced arbitrage opportunities and uncertainty around inventory flows and the potential re-exportation of stockpiled copper. The U.S. tariff regime has further complicated market, with exemptions for refined copper but duties on semi-finished products creating arbitrage routes and regional price differentials of \$50 to \$150 per tonne.

Rationale stated for this decision was to strengthen domestic industries and national security, echoing similar past moves in steel and aluminum. However, the direct impact is multifaceted:

- Tariff boosts US producers' incentives but, excluding raw copper and scrap, does not directly encourage new domestic smelting or mining on the scale initially anticipated
- Industries relying heavily on copper—electrical, automotive, data-centers—will see input cost inflation or seek substitutes, while exporters targeting the US may reroute supply elsewhere

This complex mix of tightened supply due to production setbacks, low inventories, supportive monetary policy expectations, and evolving tariff impacts pushed copper prices upward throughout September 2025, despite occasional volatility as markets balanced between supply concerns and cautious demand outlooks.

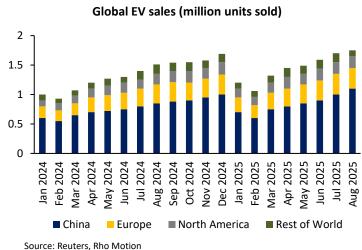
Demand drivers: China remains the largest consumer of copper, accounting for roughly 60% of global demand in 2024-25. After weathering property sector shocks, China pivoted towards infrastructure and green energy. A \$300 billion grid modernization initiative and record solar additions have accelerated copper demand for:

- Solar and renewable energy grid expansion (solar capacity up 150% YOY in early 2025)
- Electric vehicle (EV) growth, with each EV using 3-4 times more copper than traditional vehicles, infrastructure, housing, and industrial upgrades

Even as China's refined copper output dipped temporarily in September 2025 (down 4–5% MOM), annual production is still expected to set a new record, with YTD growth at 11.2% over 2024. These short-term production dips are

structural "speed bumps," not roadblocks-major projects are slated to ramp up capacity, and supplyside bottlenecks are expected to resolve towards the year-end. Structural demand growth remains robust. The electrification of transport and infrastructure is a key driver, with EV's requiring between 25 and 50 kgs of copper per unit, compared to just 8-12 kgs in conventional vehicles.

Copper demand for EVs is expected to jump to 2.2 million tons by 2030, compared to 1.2 million tons in 2025. Despite this growth, supply constraints remain a concern. Global EV production is projected to



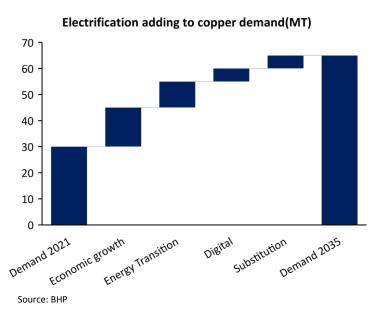
Source: Reuters, Rho Motion



exceed 30 million units annually by 2030, potentially adding 1.5 million tonnes of copper demand per year. Solar power installations consume approximately 5.5 tonnes of copper per megawatt of capacity, and the International Energy Agency (IEA) forecasts 5,400 gigawatts of new solar capacity through 2030. Additionally, emerging Al infrastructure, data centers, and rising defence spending are contributing to a steady rise in copper demand.

China's 14th Five-Year Plan set up \$440 billion for grid development, whereas United States' Inflation Reduction Act designates \$65 billion for transmission infrastructure. India's ambitious renewable drives 500 gigawatts of capacity additions by 2030, meaning copper consumption of more than 2 million tonnes for this program alone.

U.S. Department of the Interior, through the U.S. Geological Survey (USGS), proposed adding copper to its list of critical minerals. This decision was based on an updated assessment indicating that copper's supply chain faces significant vulnerabilities, particularly concerning refined copper imports. While the U.S. is a net exporter of copper ore and concentrates, it relies heavily on imports for refined copper, with projections suggesting that



import reliance could reach 60% by 2035 without new domestic production.

International Copper Study Group (ICSG) report highlights, global refined copper usage grew ~4.8% in H1'25, reflecting strong demand driven primarily by China and emerging markets. China alone accounted for about 58% of total world refined copper usage, with apparent demand increasing by around 7.5% YoY. This growth was largely attributed to ongoing investments in infrastructure, renewable energy projects, and the rapidly expanding EV market. Outside China, usage increased by about 1%, supported by growth in several Asian countries and the Middle East and North Africa region, while demand remained relatively weak in developed markets such as the European Union, Japan, and the United States. Overall, this elevated usage amid supply constraints contributed to a tighter global copper market and significant price increases, underscoring copper's critical role in the global transition toward cleaner energy and advanced technologies.

Global copper demand is projected to rise by ~ 2.4% in 2025, according to ICSG. This growth is driven by increasing investments in infrastructure, renewable energy, and the electrification of transportation. Key sectors contributing to this demand include electric vehicles (EVs), renewable energy systems, data centers, and artificial intelligence (AI) infrastructure. The ICSG projects global mined copper output to rise about 2.3% in 2025, reaching over 23.5 million metric tons. However, this increase may not be sufficient to meet the rising demand, potentially leading to supply deficits and upward pressure on prices.

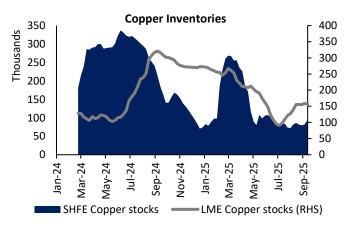
Trade War Fallout: The US-China trade spat introduces supply chain risks, market uncertainty, and potential for retaliatory action from China, causing swings in both spot/forward prices and commodity investments.



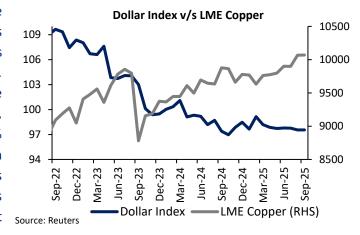
Supply suffers: Supply growth faces significant challenges. Chile and Peru, together supplying over 40% of global copper, confront declining ore grades, labour strikes, tighter environmental regulations, and prolonged permitting delays. Freeport-McMoRan's Grasberg mine suspended operations following a mudflow trapping workers underground, adding to concerns over concentrate availability. Grasberg produced around 816,466 tonnes of copper in 2024, representing approximately 3.6% of global mined copper output. Chinese smelters, responsible for nearly 45% of global refined copper output, saw a structural production decline of 4–5% monthly in September 2025, signalling a long-term supply contraction that removes around 500,000 tonnes of copper from annual supply calculations. Similar incident occurred at Chile's El Tiente mine. Further compounding supply pressures, China's removal of recycling subsidies led to the closure of marginal scrap copper operations, cutting about 450,000 tonnes of annual scrap supply.

Although the global refined copper market is currently modestly oversupplied, the surplus has been shrinking. In the first half of 2025, the world refined copper balance showed a preliminary surplus of approximately 251,000 tonnes, based on Chinese apparent usage. This is notably lower than the surplus of around 395,000 tonnes recorded in the same period of 2024, indicating a tightening market. Despite this surplus, inventories remain critically low, with LME warehouse stocks down by 43% since the beginning of the year. This suggests that physical availability is constrained, supporting the potential for upward pressure on copper prices as supply struggles to keep pace with demand, especially in key industrial sectors.

Weakening DXY: U.S. Dollar Index has weakened by 11% since January 2025, while expectations for a 25 bps rate cut by Fed is also getting discounted in prices. The Federal Reserve has maintained interest rates unchanged since last 5 meetings. Market participants are also weiging in the possibility of three more rate cuts this year, bringing the total to 100 bps. Inflation, while lower than its 2022 peak, remains above the Fed's 2% target at 2.9%. Labour market has shown signs of weakness, with job growth slowing significantly, suggesting economic growth is softening. The Fed faces a tricky situation: raising interest rates too much could slow down the economy too much, but not raising them enough might let inflation keep rising.



Source: Reuters



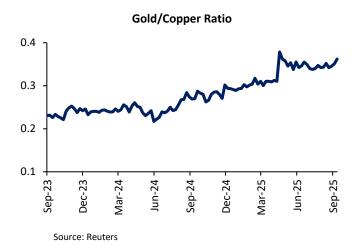


Flows and Positions: Investor interest in copper has accelerated significantly in 2025. Copper-focused exchange-traded funds attracted \$2.3 billion in net inflows year-to-date, marking a 45% increase over the total for 2024. Managed money accounts currently hold net long positions of 68,000 contracts, approaching multi-year highs last observed during the 2021 commodity supercycle.

Gold to Copper ratio: The Gold/Copper ratio has steadily been increasing. Gold has surged due to geopolitical tensions, rate cut expectations, and safe-haven demand. Overall, if copper prices rise from here and Gold prices remain sideways or rise at a slower pace; we could see a dip in ratio- highlightiing a jump in industrial demand.

The copper market will continue to be shaped by trade policy, Chinese stimulus, and green transition momentum:

In the US, high tariffs on semi-finished copper products will support domestic manufacturing pricing but also increase input



costs for consumers and infrastructure. China's demand, rooted in structural electrification and industrial policy, will remain a stabilizing force even if subject to monthly volatility. Global supply remains tight, with demand outstripping new mine development and persistent risks of disruption; this underpins long-term price strength.

| Region | Demand Growth (2025–30) | Supply Growth (2025–30) | Key Drivers |
|---------------|-------------------------|--------------------------------------|--|
| Asia-Pacific | 2.4–7.6% CAGR | Slow (mostly China, some SEA, India) | EVs, renewables, construction |
| North America | 1.4–2% yearly | Stable, modest growth | Infrastructure, data centers, clean energy |
| Europe | 2–3% yearly | Stagnant, rising recycling | Grid modernization, manufacturing |
| Latin America | 2–3% yearly | 2–3% yearly | Mining expansion |
| Africa | Rapid (esp. DRC) | ~10% in DRC, slow elsewhere | New mines, power, investment |
| Middle East | High CAGR (small base) | Rising investments | Diversification, new mining |
| Australia | 1–2.6% yearly | 2.6% by 2026 | Mine upgrades, technology |



Outlook

Key Demand Drivers:

- Infrastructure modernization
- Renewable energy projects
- Electrification of transport and industry
- Technological advances, including artificial intelligence (AI) and data centres

Copper prices are likely to remain volatile, but with an overall upward bias in the remainder of 2025 and into 2026. This is driven by several factors:

- Chinese green stimulus measures
- Global infrastructure investments
- Global supply remaining tight due to mining challenges and limited new projects

Price volatility will persist, influenced by:

- Trade tensions and shifting policy environments
- Supply chain disruptions
- Geopolitical developments
- US tariffs, which will increase domestic cost pressures, alter trade flows, and amplify global market uncertainty

The long-term outlook for copper remains strongly bullish, supported by structural shifts in the global economy toward decarbonization, electrification, and digitalization. As governments worldwide set ambitious climate targets and invest heavily in green technologies, copper demand is expected to rise sharply. Despite price swings, the strong and steady growing demand particularly in Asia, supports a **firm long-term bullish outlook** for **copper prices reaching an all-time high of \$11700 on LME and Rs. 1080 on MCX** from a medium to long term perspective.



Commodities Advisory Desk - +91 22 3958 3600; commoditiesresearch@motilaloswal.com

| Navneet Damani | Head Research- Commodities & Currencies | navneet.damani@motilaloswal.com |
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Grievance Redressal Cell:

| Contact Person | Contact No. | Email ID |
|-----------------------|-----------------------------|------------------------------|
| Ms. Hemangi Date | 022 40548000 / 022 67490600 | query@motilaloswal.com |
| Ms. Kumud Upadhyay | 022 40548082 | servicehead@motilaloswal.com |
| Mr. Ajay Menon | 022 40548083 | am@motilaloswal.com |
| Mr. Neeraj Agarwal | 022 40548085 | na@motilaloswal.com |
| Mr. Siddhartha Khemka | 022 50362452 | po.research@motilaloswal.com |

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