

Copper is the unsung hero of the energy transition

By [Dorcas Nhlapo](#)

19 Jan 2024

In the face of shifting energy landscapes, the importance of copper, a cost-effective and efficient conductor used in harnessing, storing, and transporting emergent energy sources, is increasingly evident. This is mirrored in the current trends and forecasts for this vital metal.



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The PwC Mine Report 2023 illuminates the crucial role copper plays in the mining sector. The report reveals that last year, 66% of deals in the mining sector revolved around critical minerals, with copper taking the lion's share at 85%.

Coupled with a global capital market valued at \$453.76m and a projected growth rate of 5.1% by 2030, the copper market is poised for significant growth in the coming years.



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The surge in demand is driven by a diverse range of industries, including construction, electrical and electronics, automotive, and consumer goods. The upward trajectory of global copper mine production further bolsters this trend, with an expected average annual growth rate of 3.2% from 2023 to 2032, and an annual output projected to rise from 22.6mnt in 2023 to 29.2mnt by 2032.

Is copper the new oil?

In 2022, Goldman Sachs described copper as "the new oil," underscoring its centrality to the low-carbon transition. However, this designation also raises concerns about the potentially divisive role copper may play in the global economy.

The Environmental, Social, and Governance (ESG) question comes to the forefront here, as the increasing demand for copper may challenge nations to prioritise market dominance over responsible production.

S&P analysis paints a potentially troubling scenario, suggesting a looming 9.9 million-tonne shortfall in copper supply by 2035, akin to the 20th-century scramble for oil. The fear is that copper scarcity could destabilise international security, raising questions about the compromises nations may make on ESG principles in pursuit of securing their copper supply.

Global supply chain challenges

Examining the reserves and geographical locations of copper mining, it becomes evident that major producers still heavily rely on imports. China, for instance, imported \$52.4bn worth of copper ore in 2021, and the US, at best, will still import 57% of its refined copper by 2035, according to S&P analysis.

The copper value chain spans the globe, with geopolitical tensions and competing regulatory regimes adding complexity to the supply chain. This fragmentation may burden supply chain operators, diverting resources from responsible production and compliance with ESG principles.

The growing environmental footprint of increased copper demand poses another challenge. The International Finance Corporation's Net Zero Roadmap for Copper warns that without mitigation measures, greenhouse gas emissions from copper production alone could double by 2050.

Africa's role in the copper industry

As the demand for copper intensifies globally, Africa finds itself at a crossroads. Despite being home to key copper producers like Zambia and South Africa, the continent remains on the periphery of the global copper supply and demand chain — with four of the five leading companies in the copper market (Anglo American, Antofagasta Plc, BHP, Codelco and First Quantum Minerals Ltd) based outside of Africa.

In South Africa, investment in mining exploration has lagged since 2003, leading to a decline in output. In the case of Anglo American, this decline is reflected in an overall drop in ore grades, significantly impacting output in 2022.

For Zambia, government intervention has hampered copper production, but there are hopes for a rebound in the medium term as agreements are reached and funding is secured.

Africa should position itself as a key player

It's crucial for Africa to position itself as a key player in the copper industry, particularly in the context of the growing green energy initiative.

Known as a predominantly long-cycle commodity, copper typically takes up to three years to be incorporated into an existing mine and up to eight years to establish a new greenfield project. As such, long-term planning and investment are imperative to counteract losses from aging mines and ensure a sustainable future for the continent.

The current and future trends of copper underscore its critical role in the evolving global energy landscape. As nations grapple with ESG considerations, supply chain challenges, and environmental impact, strategic planning and collaboration are essential to ensure a responsible and sustainable future for the copper industry.

Africa, in particular, stands at a pivotal moment, with the opportunity to assert its role as a significant player in the copper market of tomorrow.

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