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4th Jan 2024

BALCO TODAY

BALCO's Fire Safety Training Ignites Knowledge and Preparedness

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Hum sab jaante hain that the technologies of the future are mineral intensive. Lekin hamara dhyaan lithium, nickel, cobalt pe jaata hai. But copper is the most critical of all. Sharing this article by Vedanta economists which has several insights on one of the world's oldest and most useful metals. By 2030, global demand for copper could exceed supply by 20%. A call for action by policymakers and investors.

So, Is Copper the New Lithium?

Dhiraj Nayyar & Gouranga Sen

In the world of minerals and metals, copper doesn't attract the headlines or excitement that lithium, cobalt, nickel and rare earths do. Perhaps that is because, unlike the 'new age' metals, copper is almost as old as civilisation. Even the Bronze Age, when copper was first blended with tin, occurred 5,000 years ago. Yet, copper is as much a critical mineral for the economies of the future as lithium is. It deserves a significant focus in discussions on mineral supply and supply-chain security.

For long, copper has been the most preferred metal for electrical conduction due to its unique features like strength, ductility, corrosion resistance, and safest conduction of electricity and heat. It has now emerged as a critical metal in the energy transition technologies.

▶ **Riding on EV** On average, an EV requires around 83 kg of copper compared to 23 kg for a conventional vehicle. Not only is copper usage fourfold but, as per IEA, EV sales are projected to grow from 10 million units in 2022 to 37 million units by 2030.

▶ **RE hunger** Wind and solar photovoltaic energy systems are significant consumers of copper. While an onshore wind installation uses around 3.8 tonnes of copper per MW, offshore windmills use nearly 10.5 tonnes of copper per MW in cable, wiring, turbine components and transformers. Similarly, one MW of solar power systems contains about 5.5 tonnes of copper.

Global RE generation capacity is projected to more than double from 3,600 GW in 2022 to 8,600 GW in 2030, and over five times to 19,000 GW in 2050. The demand for copper will grow rapidly as the world acts on climate change. But there are several challenges:

▶ **Supply hurdles** The global lead time of any greenfield mining project has increased to an average of 12-15 years due to substantial delays in getting regulatory clearances. A prolonged bear market in copper from 2011 until Covid struck also weighed down on the exploration of copper. Major discoveries almost dried up.

FILE PHOTO

Let it glow

▶ **Quality cuts** The quality of copper ore has also been falling. For example, the grade of copper ore in Chile, the world's leading producer, has declined by 30% in the last 15 years. Issues relating to resource nationalism and trade restrictions are also on the rise.

▷ Chile has passed a bill to set a maximum tax rate of around 47% on companies producing over 80,000 tonnes of fine copper yearly.

▷ Indonesia, another major producer, will stop the export of copper concentrate once its two domestic copper producers complete the building of smelters and commence output in 2024.

The bottom line is that the copper market is likely to face a supply shortage.

▶ **Rebound expected** A recent McKinsey report predicts that the copper market will be in a deficit of 6.5 Mt in 2031 as demand (36.6 Mt) will outstrip supply (30.1 Mt). Currently, copper prices are down by 30% from the peak of $10,466 per tonne in early 2022, mainly due to rising interest rates and the slowdown in China. But as the interest-rate cycle is close to its peak, the possibility of a rebound in copper price looks likely, and that may encourage exploration and investment.

▶ **Wider application** Despite the "gold rush" for lithium, nickel, cobalt and rare earths, copper may have an edge from a long-term investment point of view due to its wider application. This future-proofs demand against changes in the technology landscape, unlike the new-age metals, which rely heavily on demand from battery manufacturing.

As per an IEA estimate, by 2050, nearly 80% of lithium demand will be tied up with battery manufacturing, and 35-40% of demand for nickel will be dependent on EV batteries. On the other hand, exposure of copper to battery manufacturing is likely to be limited to 4% in 2050 — not much of a change from its current level.

This is important because the relative importance of, and demand for, lithium, cobalt or nickel may fall if newer technologies like sodium-ion batteries or zinc-air batteries become commercially successful — early signs of which are visible. Green hydrogen could be another disruptor. This is not the case for copper, which is used in all parts of the energy transition technologies, not just batteries.

We may yet be heading for a new 'Copper Age'. Governments and investors must adequately prepare for it.

Nayyar is chief economist, and Sen is head, economic and policy analysis, Vedanta

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BALCO recently demonstrated its commitment to safety and community welfare by organizing a fire safety training session as part of the Winter Camp under Project Connect. This initiative aimed at enhancing the safety awareness and preparedness of 140 students enrolled in 10th and 12th grades from various government schools. The execution of the training was planned with emphasis on practical and interactive sessions. By actively engaging the students, BALCO not only imparted essential safety skills but also fostered a culture of responsibility and preparedness within the community.


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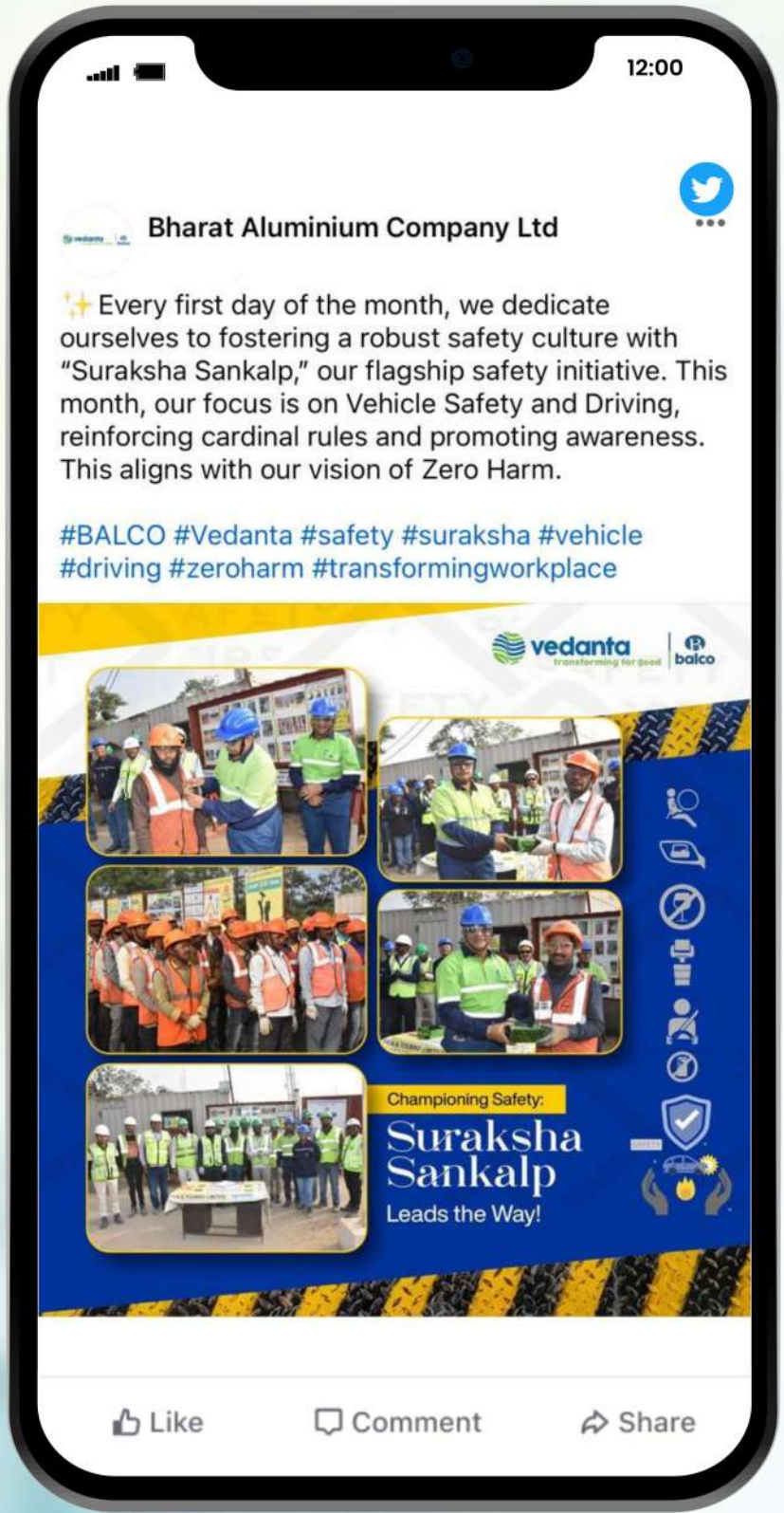

Team BALCO Today

Conveys Heartiest Greetings To

4th JANUARY 2024	V. Ishwar Rao	Pot Room
	Chinta Ram Sahu	Pot Room
	Asha Ram Sahu	Logistics
	Vandana Dubey	Coal Commercial
	Ravi Prasad Singh	Weigh Bridge
	Vishv Anand	Administration
	Helmostar Marbaniang	Power
	Aniket Singh	Pot Room
	Kirti Narayan	HR
5th JANUARY 2024	Ramadhar Singh Chauhan	Weigh Bridge
	U K Rathore	Foundry
	A L Nishad	T/Admn
	Ramesh Kumar Jatwar	SRS
	Anup Kumar Dutta	Finance
	Adam Kumar Minz	Pot Room
	Purushottam Kumar Mahant	Commercial
	Manoj Kumar Sahu	SRS
	Dinesh Kumar Verma	Bake Oven
	Shivendra Kannoje	Pot Room
	Brajesh Yadav	Pot Room
	Amit Kumar Swarnakar	Pot Room
	Hemant Kumar Verma	Bake Oven
	Kamlesh Mehta	Infrastructure
	Laxman Saket	Rodding
	Harkeshwar Mahto	Pot Room

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Idea Theme for Jan'24 – Quality

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