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Cover Story

Active Repair: The Silent Game-Changer Reviving India's Distribution Transformers



Repairing Transformers Smarter to Reduce Failures and Extend Asset Life

India's power distribution network sees over 1.5 million transformer failures every year, driven largely by early-life issues rather than end-of-life wear. Most failures trace back to stressed HT aluminium windings, poor heat management, oil degradation, and reactive repair practices that only restore supply, not performance. Active Repair offers a smarter approach by identifying stress points early, strengthening vulnerable components, and upgrading winding design, often by replacing aluminium with copper for better conductivity, heat dissipation, and mechanical strength. The result is improved reliability, lower losses, reduced repeat failures, and extended transformer life. For DISCOMs under pressure to improve reliability and control costs, Active Repair shifts the focus from frequent replacement to long-term asset recovery.

[Read the Full Story](#)

Copper Updates

Copper Supporting India's Energy Transition and Sustainable Growth



Spanning across centuries, Copper has been a part of several cultures in different capacities. But in the last couple of years, it has been widely recognised as a critical metal underpinning the global shift toward electrification and sustainability. Its exceptional electrical and thermal conductivity make it indispensable in sectors ranging from power infrastructure and renewable energy systems to electric vehicles (EVs) and digital technologies, positioning it at the heart of India's clean energy and industrial transformation.

India's copper demand has been on a steady upward trajectory. According to recent industry reports (ICA India Annual Copper Study 2025), domestic consumption grew by approximately 9.3% in fiscal year 2025, reaching nearly 1,878 kilo tonnes. This expansion is driven by robust activity across infrastructure, construction, renewables and consumer durables, reflecting the broader structural shift in the economy toward electrification and low-carbon technologies.

Electrification is a cornerstone of India's energy transition strategy. As the nation ramps up renewable capacity and embraces technologies such as solar, wind and battery storage, the role of copper becomes increasingly vital. Copper wiring and cabling are integral to electrical grids and renewable installations, while EVs require substantially more copper per unit than conventional vehicles for motors, batteries and charging infrastructure.

However, this rising demand places pressure on supply chains. India currently imports a significant share of its refined copper, even as domestic smelting and refining capacity expands. Reinforcing local production, increasing recycling of copper and securing strategic supply arrangements are key to ensuring that supply keeps pace with demand, particularly as the nation pursues ambitious goals for clean energy adoption and industrial growth.

Looking ahead, the nation's clean energy targets, rapid urbanisation, and growing adoption of EVs and smart infrastructure are expected to sustain high copper demand well into the next decade. Strengthening the domestic copper industry; including exploration, processing and circular economy pathways will be central to supporting India's long-term energy security and its broader sustainable development agenda.

ICA India Events



Discussion About Energy Efficiency and Reliability in Induction Motors and Cable Installations

12 December 2025 | Ballari

A group of 60 small and medium enterprise members of Bellary District Chamber of Commerce & Industries were briefed about the way in which copper cables and motor windings offer superior performance.



Advocating for EV Charging Stations Safety and Standardization of Electrical Components

05 December 2025 | Mumbai

At the Energy Working Group of NHEV, ICA emphasized about the use of copper cables as the standardized choice for E-highways, by highlighting their superior reliability, safety, and lifetime value over aluminum alternative.



Techno-Commercial Messages About Use of Only Copper Cables In Buildings

12 December 2025 | Pune

At The Battery Show India, copper's importance for EV battery performance, domestic manufacturing and collaborative industry development was discussed.



Discussion About Electrical Safety in High Rise Buildings at FESA 2025

13 December 2025 | Mumbai

At the panel discussion on 'Building Services & Design Considerations – A Collaborative Approach', ICA India advocated the role of copper in electrical safety in high-rise buildings.

ICA India Events



An Insightful Session About the Importance of Adopting Copper Cables in Buildings

09 December 2025 | Hyderabad

The project management team of one of the top five developers of South India was educated about importance of copper cable especially in backdrop of increasing integration of solar rooftop, EV charging, home automations solutions.



Stakeholder Consultation in Valuation Methodology of Solar Plants in India

04 December 2025 | Delhi

ICA India highlighted that integrating end-of-life value of metals like Copper into solar asset valuation & accounting practices will enhance project bankability, NPV & IRR.