

POWER THE GRID WITH 70% LESS CO₂

Low-Carbon Bare Overhead Conductors



As electricity networks rapidly expand to support renewable energy integration and global electrification, utilities and infrastructure developers are critically evaluating the environmental footprint of their materials.

Aluminium conductors represent the standard solution for overhead lines across Australia and New Zealand, supporting electricity delivery across urban, rural, and remote regions.

However, traditional primary aluminium production is highly energy-intensive. Reducing the carbon footprint of this core material presents a substantial opportunity to lower the embedded emissions (Scope 3) of power lines.



Unlocking Same Performance with Less Emissions

Low-carbon aluminium is a cornerstone element under the PryCycle™ framework. It refers to aluminium produced with significantly lower greenhouse gas emissions using cleaner energy sources and optimized manufacturing processes. Importantly, it is not a different metallurgical grade. It maintains the exact same chemical composition, mechanical properties, and compliance with AS/NZS 1531. At Prysmian, we recognise Scope 3

emissions as the most challenging category, often accounting for **2/3 of total emission**, which demands a different approach. Power utilities can adopt this solution without altering conductor design, performance or installation practices.

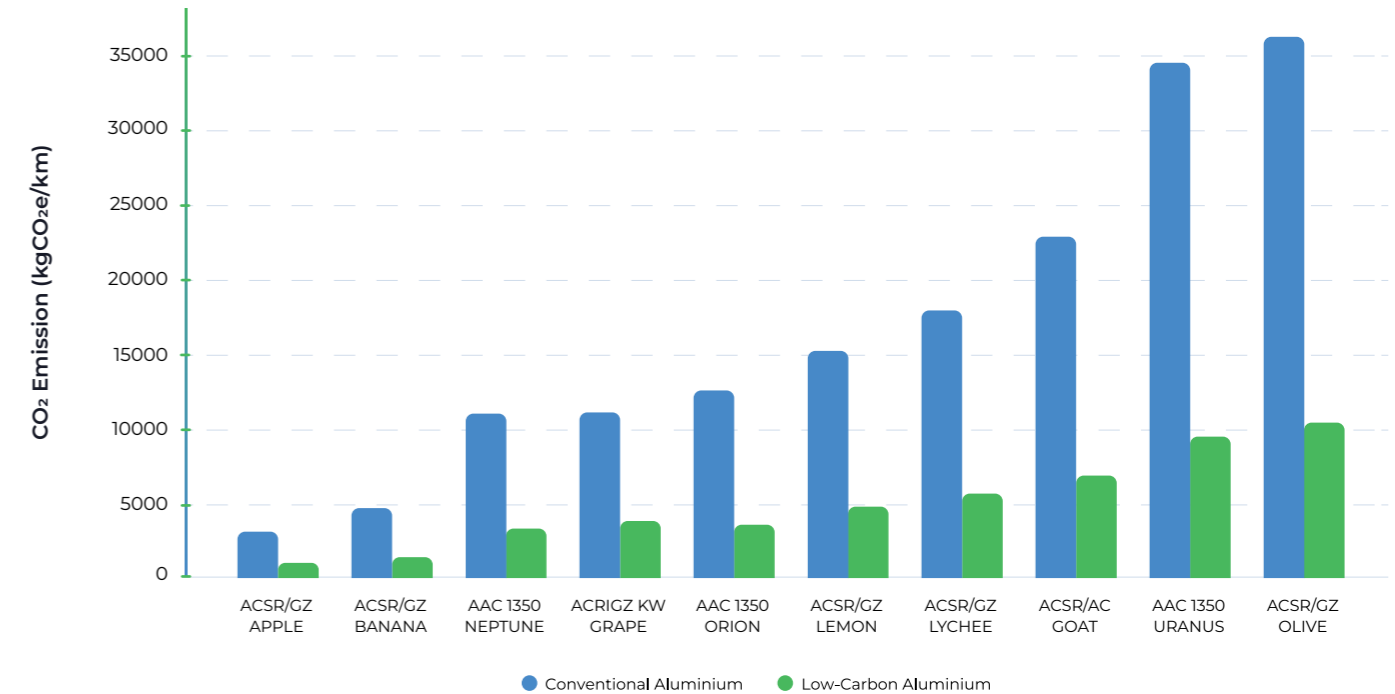


Environmental Impact: ~70% CO₂ Reduction

Transitioning to low-carbon aluminium offers an average 70% reduction in CO₂ emissions for conductors such as ACSR/GZ, ACSR/AC, and AAAC 1350. This represents a monumental leap in sustainable infrastructure deployment.

The chart below highlights the dramatic reduction in embedded emissions across our most common conductor profiles. By leveraging the PryCycle™ low-carbon overhead conductors, power utilities can significantly advance their ESG mandates without compromising on grid integrity.

CO₂ Emission Reduction Comparison by Conductor Type



Note: Carbon footprint assessment related to cradle-to-gate perimeter (materials and cable production in Prysmian factories). Values have been calculated according to Ecoinvent LCI (Life Cycle Inventory) database version 3.9 transformed by GWP impact methodology GHG V1.02. excluding the drum and packing content.

Low-carbon aluminium provides a practical, immediate opportunity to reduce the embedded carbon footprint of overhead conductors used in electricity networks. Because the material retains the same electrical, mechanical, and specification characteristics as conventional aluminium, it enables a seamless transition.

Partner with Prysmian

Sustainability is in our DNA. Integrate low-carbon bare overhead conductors into your network planning today. Achieve your sustainability targets with confidence and zero operational compromise.



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