

Trust, transparency and transition: Taking on the challenges in the primary aluminium value chain

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Aluminium plays an important role in the transition to a low carbon society. It is lightweight, durable and recyclable, and it is used in renewable energy, transport, buildings and power infrastructure.

At the same time, primary aluminium production has a clear impact on climate, nature and people. If we are to move forward, these challenges must be understood and addressed openly.

In this whitepaper, Hydro takes a close and honest look at the primary aluminium value chain, from bauxite mining and alumina refining to smelting and casting. It explains how aluminium is produced, why the footprint of primary aluminium varies, and how choices related to energy, technology and location affect emissions and environmental impact.

The paper describes the main challenges facing the industry today. These include greenhouse gas emissions from energy intensive processes, impacts on land use and biodiversity, tailings management, and the social responsibility that comes with operating in vulnerable regions. It also shows that solutions exist.

Renewable power, technology development, responsible operations and clear documentation all play an important role in reducing impact over time.

Trust is a central theme throughout the whitepaper. The footprint of materials is not visible in the final product. That makes transparency essential. When producers document how materials are made and what impacts they have, customers and consumers are better equipped to make informed choices. Transparency also helps create demand for aluminium produced with lower emissions and higher standards.

By sharing knowledge and being open about both challenges and progress, Hydro aims to contribute to change in how aluminium is produced and valued. This whitepaper provides insight into the realities of primary aluminium production and the role transparency plays in enabling a responsible transition.

Download the full whitepaper to explore the value chain in more detail and learn how trust and transparency can support the future of aluminium.

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