

Navigating Geopolitical Turmoil While Staying the Course on Sustainability

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Abstract

The global aluminium industry today is navigating a difficult combination of geopolitical uncertainty, supply-chain disruption and pressure to decarbonise, while continuing to make investment decisions over the decades-long horizons of mines, refineries and smelters. This presentation examines how the International Aluminium Institute (IAI)—the only body representing the global primary aluminium industry—helps the sector respond through shared standards, collaboration and robust data. For more than 50 years, the IAI has published comprehensive statistics across the aluminium value chain, enabling companies to benchmark performance and providing a credible evidence base for engagement with regulators, customers and civil society. For example, we develop a safety benchmark each year across 54 smelters, 23 refineries and 18 mines. In the past 20 years, we have tracked a long-term decline in less-serious incidents, but no statistically significant equivalent improvement in lost-time injuries or fatalities.

The industry today faces several interconnected dilemmas. The first is between resilience and openness. Roughly 60 % of aluminium, bauxite and alumina is internationally traded, making the sector efficient but exposed to conflict, sanctions, shipping disruption and tariffs. Recent conflict affecting three Gulf smelters cut regional monthly production by 40 % compared with late 2025. While aluminium production in Gulf is less around 7 Mtpa (or 10 % of the global total) it is disproportionately important to import-dependent markets such as the US, Europe and Japan. Measures intended to strengthen domestic industry can therefore raise input costs, dampen demand and reduce aluminium's wider economic and environmental benefits.

A second dilemma concerns carbon policy and competitiveness. The EU Carbon Border Adjustment Mechanism seeks to embed carbon costs in imported aluminium and encourage low-carbon investment, but requires complex product-level emissions data from non-EU producers. At the same time, European producers are losing free carbon allowances, while recycled aluminium, complex products and competing materials such as copper are treated differently or excluded. An imperfectly designed mechanism risks imposing cost and administrative burdens without creating the intended market premium for lower-carbon metal. More broadly, climate ambition is colliding with political and financial reality. Global emissions are not yet falling, the 1.5°C pathway is increasingly understood to involve an overshoot, and available transition finance remains far below requirements. Climate action appears to have slipped down the policy agenda since COP26.

The practical challenge is to embed decarbonisation within energy security, industrial competitiveness and supply-chain resilience rather than treat it as a separate objective. Industry data shows genuine but incomplete progress. Aluminium production rose 18 % between 2019 and 2024 while total greenhouse-gas emissions remained broadly flat, yet average primary aluminium emissions were still 14.4 tonnes CO₂e per tonne in 2024. Smelting electricity alone accounted for 8.2 tonnes, making power decarbonisation the largest opportunity, but one dependent on local grids, infrastructure and capital.

Transparency itself brings another tension: consistent mine-to-smelter-gate carbon accounting supports Environmental Product Declarations, Scope 3 reporting and informed purchasing, but also imposes demanding data requirements across complex global supply chains. Circularity offers major gains but does not remove the need for primary production. In 2025, 43.8 million tonnes of recycled aluminium supplemented 73.8 million tonnes of primary output, raising recycled material's share to 37 %. We estimate that post-consumer scrap will approach 70 million tonnes per year by 2050, yet scrap availability, quality, alloy composition and regional collection systems are constraints. The Global Beverage Can Circularity Alliance demonstrates how shared data and collaboration can lift recycling from 75 % towards 80 % by 2030 and near 100 % by 2050. However, fast-growing uses such as solar photovoltaics generate new end-of-life challenges.

The central conclusion is therefore it is not a simple choice between growth, resilience and sustainability, but the need to manage their trade-offs through transparent evidence, sound policy design and long-term collaboration.

Keywords: International Aluminium Institute statistics, Low-carbon investment, Energy security, Competitiveness, Recycled aluminium.