carboncalcpcf.com

Product Carbon Footprint (PCF) Dashboard

Product: **xunphjrwxm**

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Total PCF: **37.995 kg CO_2e**

Total Footprint

37.995 kg CO_2e

per 1.0 unit

Carbon Intensity

37.995 kg CO_2e/unit

GHG Protocol Standard

Top Material Hotspot

Aluminum Casing

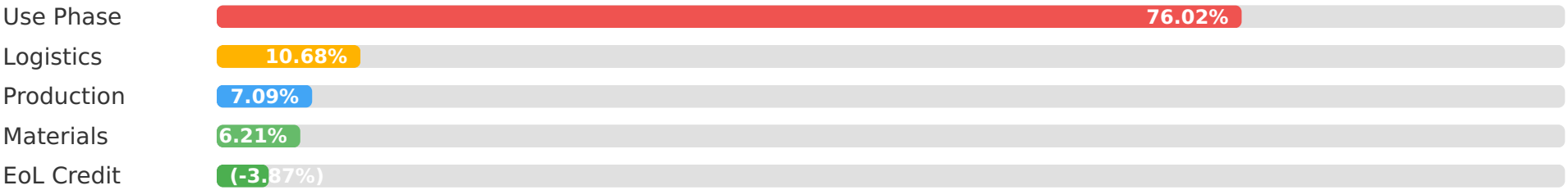
0.900 kg CO_2e (Material Cat. 1)

Primary Emission Scope

Scope 3 (Use Phase)

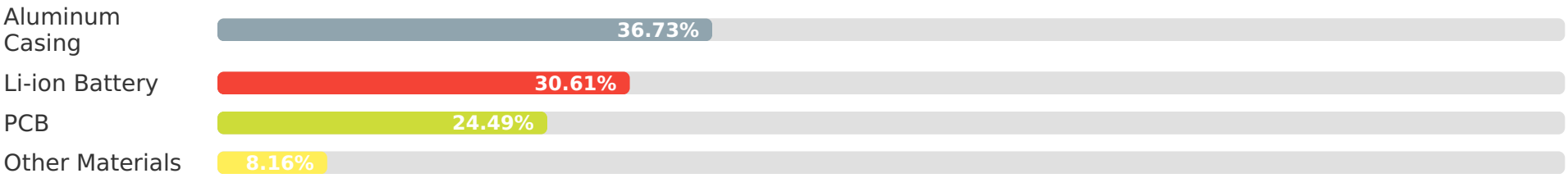
78.96% of total PCF

Lifecycle Stage Breakdown



*Percentages based on gross emissions (before EoL credit). End-of-Life credit reduces net footprint.

Material Carbon Impact (Cat. 1)



*Percentages of total material (Scope 3, Category 1) emissions.

Key Highlights

- **Use Phase Dominance:** The product's operational use accounts for the majority (approx. 79%) of the total carbon footprint, driven by energy consumption over its 5-year lifespan.
- **Significant Logistics Impact:** Upstream and downstream transportation collectively contribute over 11% of emissions, primarily due to long-distance international shipping.
- **Material Hotspots:** Within raw material acquisition, Aluminum Casing (37%) and Lithium-ion Batteries (31%) are the most carbon-intensive components.

Actionable Insights for Reduction

Enhance Product Energy Efficiency: Prioritize design and engineering efforts to significantly reduce energy consumption during the product's 5-year use phase.

Optimize Supply Chain Logistics: Investigate options for localizing material sourcing and explore lower-emission transport modes to reduce upstream and downstream shipping impacts.

Increase Renewable Energy Adoption: Further increase the share of renewable electricity used in manufacturing and promote renewable energy solutions for end-users to mitigate use-phase emissions.

Design for Circularity: Focus on selecting materials with lower embodied carbon, improving product durability, and expanding take-back programs to maximize material recovery and recycling.