html

carboncalcpcf.com

Product Carbon Footprint Analysis

Product: ddnkjjugkf | **Total PCF:** 37.94 kg CO2e

Total Footprint

37.94 kg CO2e

Total Greenhouse Gas Emissions for 1 unit

Carbon Intensity

37.94 kg CO2e/unit

Emissions per functional unit of ddnkjjugkf

Top Material Hotspot

Lithium-ion Battery

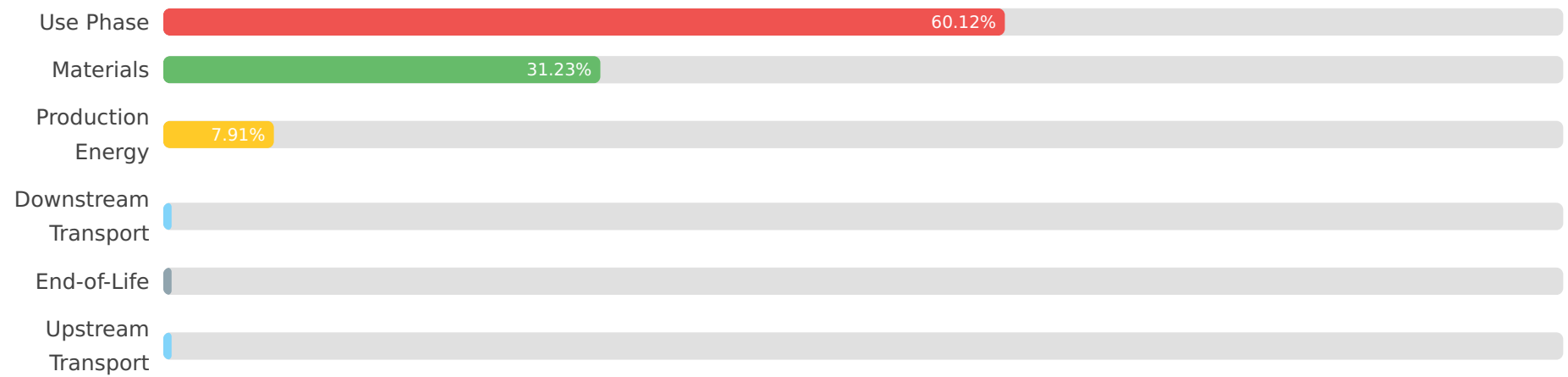
Contributing 5.00 kg CO2e to material emissions

Dominant Emission Scope

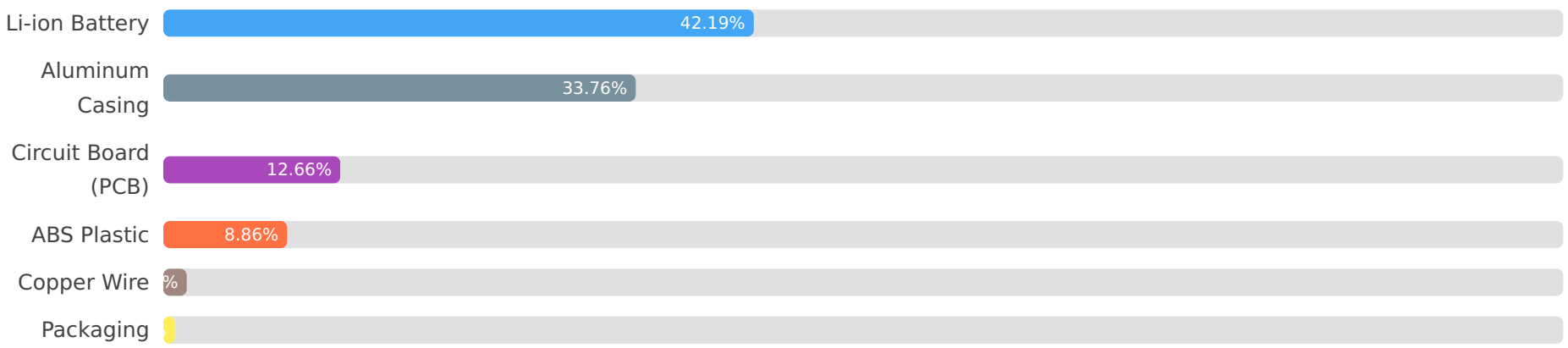
Scope 3

Value Chain Emissions (34.94 kg CO2e)

Carbon Footprint by Lifecycle Stage



Material Composition Carbon Impact (Scope 3, Cat 1)



Highlights: Key Carbon Hotspots

Use Phase Dominance: The product's energy consumption over its 5-year lifespan accounts for the largest portion of its footprint (22.81 kg CO2e, 60.12%).

Material Impact: Raw materials contribute significantly (11.85 kg CO2e, 31.23%), with the Lithium-ion battery and Aluminum casing being the largest contributors.

Production Energy: Despite 50% renewable energy usage, purchased electricity for manufacturing in China still contributes 3.00 kg CO2e.

Action Plan: How to Reduce Emissions

Optimize Use-Phase Efficiency: Focus on engineering a product with lower energy consumption during its active use or explore power-saving modes.

Sustainable Material Sourcing: Prioritize suppliers offering recycled content, lower-impact materials, or those with transparent, reduced emission factors for components like batteries and aluminum.

Increase Renewable Energy in Production: Aim for 100% renewable electricity at the manufacturing facility in China to eliminate Scope 2 emissions.

Enhance Circularity: Develop robust take-back and refurbishment programs beyond the current 70% recyclability to extend product life and reduce new production demand.