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Product Carbon Footprint Analysis

Product: mhlxtdlxxs

Company: hrkyqqpekd | Senior Sustainability Consultant: lyffowddjg

75.23 kgCO2e

Total Cradle-to-Grave Footprint for 1.0 unit

Key Metrics

Total Footprint

75.23 kgCO2e

For one unit of mhlxtdlxxs

Carbon Intensity

75.23 kgCO2e/unit

Based on 1.0 unit quantity

Top Material Hotspot

Aluminum Casing

3.75 kgCO2e in material pre-processing

Primary Emission Scope

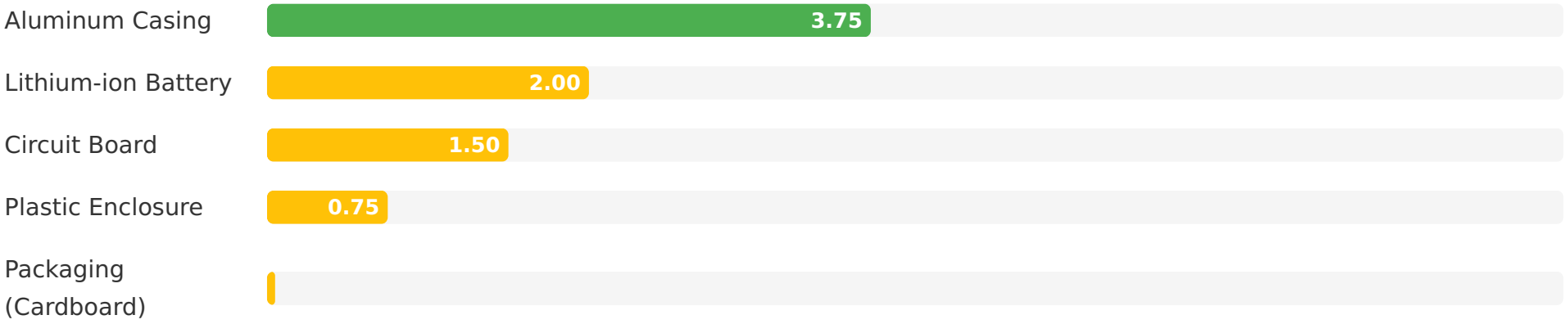
Scope 3 (Use Phase)

Dominates with 62.05 kgCO2e (82.48%)

Emissions Breakdown

Lifecycle Stage Emissions (kgCO2e)

Material Pre-processing Emissions (kgCO2e)



Report Highlights

- The **Use Phase** is the overwhelmingly dominant contributor, accounting for 62.05 kgCO2e (82.48%) of the total carbon footprint, primarily driven by electricity consumption over the product's 5-year lifespan.
- **Material Acquisition & Pre-processing** is the second largest hotspot, totaling 8.05 kgCO2e, with Aluminum Casing (3.75 kgCO2e) being the most impactful material component.
- **Manufacturing Energy** contributes a notable 4.65 kgCO2e (6.18%), even with 50% renewable energy usage, highlighting further decarbonization opportunities in production.

Strategic Action Plan for Reduction

- **Optimize Use Phase Efficiency:** Focus R&D on more energy-efficient components, extending product lifespan, and software optimization to reduce in-use energy consumption.
- **Enhance Material Circularity:** Increase recycled content in materials (e.g., aluminum, plastics) and actively promote the existing manufacturer take-back and recycling program.
- **Decarbonize Manufacturing:** Explore increasing renewable energy sourcing at the China production facility beyond the current 50% through on-site generation or procurement agreements.
- **Supply Chain Engagement:** Collaborate with material suppliers to identify and procure lower-carbon alternatives or encourage suppliers to reduce their own operational emissions.
- **Logistics Optimization:** Investigate opportunities for more efficient transport modes (e.g., rail or sea freight) and optimizing load factors to reduce transport emissions.

Report generated for **hrkyqqpekd** by **carboncalcpcf.com** | May 21, 2026

Adhering to GHG Protocol Product Standard & 2026 LSR updates