

Total Product Carbon Footprint

11.874

kg CO2e

Functional Unit

1.0 unit

Carbon Intensity

11.874

kg CO2e / unit

Top Material Hotspot

Aluminum Casing

(3.5 kg CO2e)

Primary Emission Scope

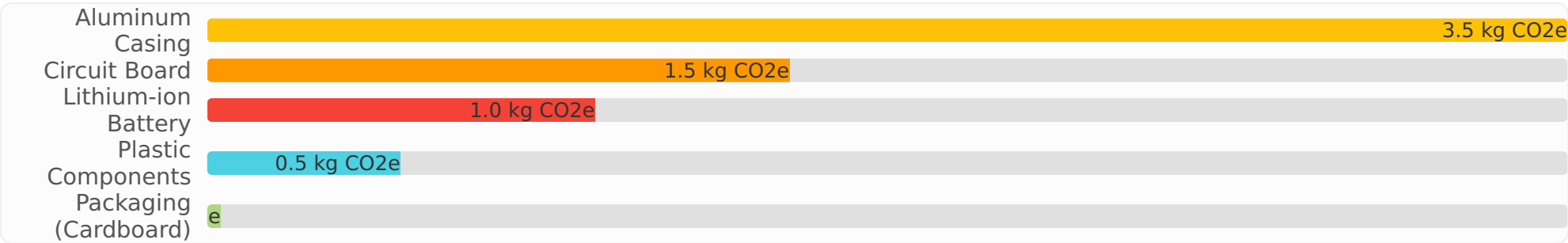
Scope 3

(Upstream & Downstream)

Lifecycle Emission Breakdown



Material Carbon Impact



Highlights

- **Materials Dominate:** Raw material acquisition and pre-processing account for approximately 55% of the total product carbon footprint, making it the largest emission hotspot.
- **Use Phase Impact:** Energy consumption during the product's 3-year lifespan contributes significantly, representing about 38% of the total PCF. This underscores the need for energy-efficient design.
- **Strategic Focus Needed:** Efforts should prioritize sustainable material sourcing, enhancing product energy efficiency, and strengthening circular economy initiatives to achieve substantial emission reductions.

Recommendations for Emission Reduction

- **Material Optimization:**

- Explore lower-carbon alternative materials or recycled content for components like the aluminum casing.
- Optimize product design to reduce material quantity without compromising functionality.
- Engage with suppliers to understand and reduce the embodied carbon of purchased components.

- **Energy Efficiency in Use Phase:**

- Implement design changes to significantly reduce the energy consumption of lootudnnyg during its operational life.
- Educate end-users on energy-efficient usage patterns.

- **Circular Economy Strategies:**

- Further enhance existing take-back and recycling programs to maximize material recovery and reduce waste.
- Design for disassembly and repairability to facilitate easier recycling and component reuse.