

Product Carbon Footprint Dashboard

liztsosgrs - carboncalcpcf.com

14.57 kg CO2e

Total PCF

14.57

Total Footprint (kgCO2e)

1.0 unit

Functional Unit

Steel Casing

Top Material Hotspot

Scope 3 (95.3%)

Primary Emission Scope

i Lifecycle Stage Breakdown

Raw Material Acquisition	41.87%
Product Use	49.42%
Manufacturing Energy	4.69%
End-of-Life Treatment	1.75%
Inbound Transport	1.29%
Outbound Transport	0.97%

⚠ Material Carbon Impact (Illustrative)

Steel Casing	29.88%
Circuit Board (PCB)	25.47%
Lithium-Ion Battery	21.22%
ABS Plastic Enclosure	19.35%
Paper Packaging	4.07%

📊 Key Carbon Hotspots

- • **Use Phase:** The product's 3-year lifespan contributes 7.20 kgCO₂e/unit, making it the largest emission driver.
- • **Raw Material Acquisition:** Embodied emissions in materials account for 6.10 kgCO₂e/unit, the second highest hotspot.
- • **Manufacturing Energy (Scope 2):** Even with 60% renewables, purchased electricity adds 0.684 kgCO₂e/unit, indicating room for further decarbonization.

📌 Recommendations for Reduction

- • **Product Design for Energy Efficiency:** Focus on reducing energy consumption during the product's use phase.
- • **Sustainable Sourcing:** Prioritize lower-carbon materials and engage suppliers in decarbonization efforts.
- • **Renewable Energy Transition:** Accelerate the shift to 100% renewable electricity for manufacturing operations.
- • **Circular Economy Initiatives:** Enhance recyclability and material recovery programs.

