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CARBONCALCPCF.COM

grjzlypyz (Smart Home Hub)

Product Carbon Footprint Analysis | May 17, 2026

16.047 kgCO₂e

Total Product Footprint

1.0 unit

Functional Unit

16.047 kgCO₂e/unit

Carbon Intensity

Aluminum Casing

Top Material Hotspot

Use Phase (77.9%)

Primary Emission Stage

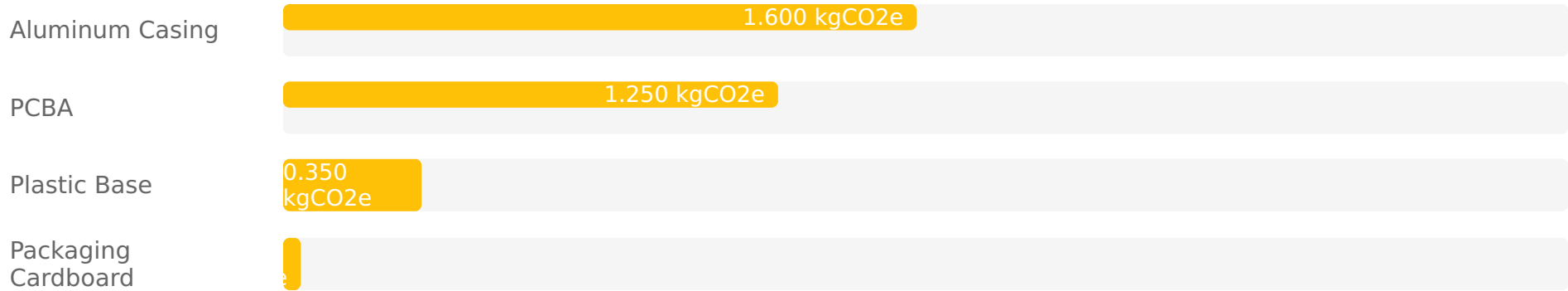
Lifecycle Stage Breakdown



Key Impact Highlights

- The **Use Phase** is the largest contributor, accounting for 77.9% of the total footprint due to product electricity consumption over its 5-year lifespan.
- **Materials** (20.2%) represent the second major hotspot, particularly the energy-intensive Aluminum Casing and PCBA components.
- **End-of-Life** activities result in a net saving (-3.5%) due to high recyclability (80%) and the company's take-back program.

Material Carbon Impact



Action Plan for Reduction

- **Enhance Use-Phase Efficiency:** Focus on reducing product energy consumption further and promote use in regions with highly decarbonized electricity grids.
- **Sustainable Materials Sourcing:** Prioritize lower-carbon alternatives for aluminum and PCBA, increase recycled content, and explore bio-based materials.
- **Optimize Manufacturing:** Increase renewable energy usage beyond 75% at production facilities and implement energy-efficient manufacturing processes.
- **Strengthen Circularity:** Expand and promote take-back programs, and explore design for disassembly to maximize recycling and material recovery.