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gvknwefxjo Carbon Footprint

Total PCF (Cradle-to-Grave): 19.60 kg CO_2e per unit

TOTAL FOOTPRINT

19.60 $kgCO_2e$

CARBON INTENSITY

19.60 $kgCO_2e$/unit

TOP MATERIAL HOTSPOT

Aluminum casing

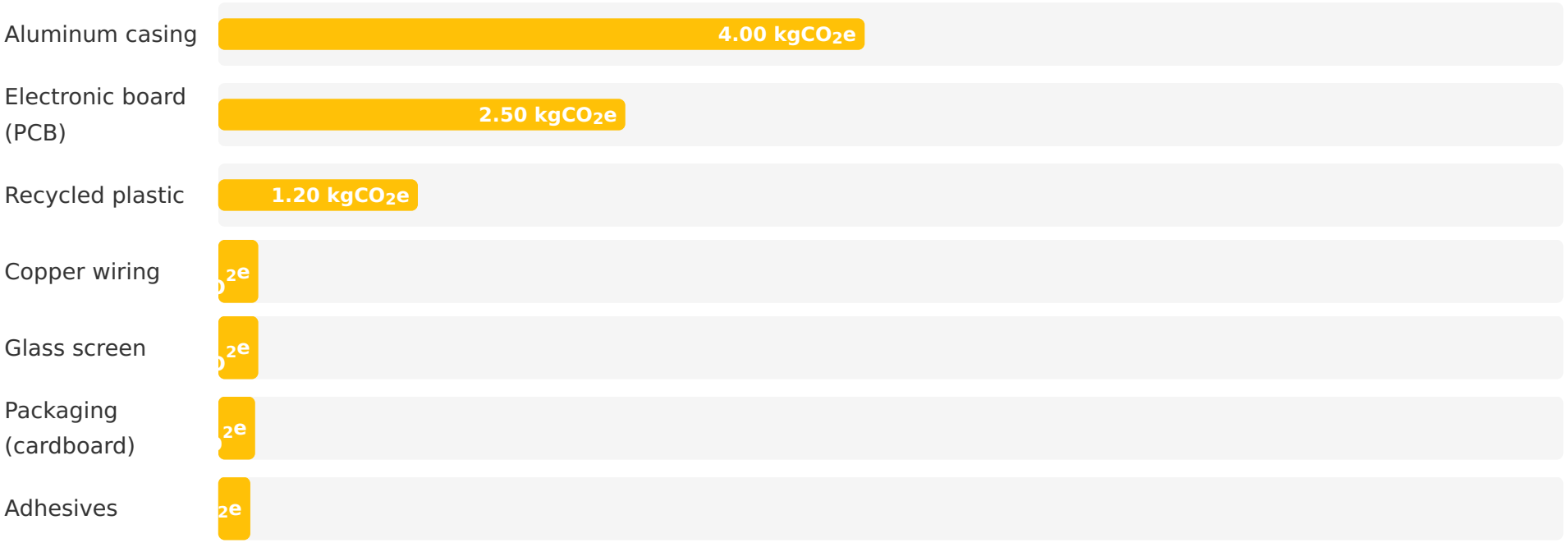
PRIMARY EMISSION SCOPE

Scope 3 (Use Phase)

Lifecycle Stage Breakdown

*Note: Percentages relative to total footprint; End-of-Life represents a carbon credit.

Top Material Carbon Impact



Total Material Emissions: 8.43 $kgCO_2e$

Key Highlights (Hotspots)

- **Use Phase Dominance:** The product's energy consumption over its 5-year lifespan is the single largest contributor to the total carbon footprint (12.50 kgCO_2e), accounting for over 60% of positive emissions.
- **Material Intensity:** Raw material acquisition, particularly for aluminum casing and electronic components, contributes significantly to upstream emissions (8.43 kgCO_2e).
- **Production Efficiency:** While smaller, emissions from manufacturing energy (1.20 kgCO_2e) still present an opportunity for reduction through increased renewable energy adoption.

How to Reduce Footprint

→ **Optimize Use Phase Efficiency:** Focus on designing for ultra-low power consumption and encouraging renewable energy use by customers through eco-mode features or partnerships.

→ **Source Sustainable Materials:** Prioritize materials with lower embedded carbon, increase recycled content for high-impact materials like aluminum, and engage suppliers on decarbonization.

→ **Decarbonize Production:** Invest in renewable energy for manufacturing operations in China, or procure certified renewable energy credits to offset grid electricity usage.