

html

carboncalcpcf.com

# Product Carbon Footprint Dashboard

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Product: \*\*dinnhmenfn\*\*

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**35.01 kgCO<sub>2</sub>e**

TOTAL CARBON FOOTPRINT

Total Footprint

**35.01 kgCO<sub>2</sub>e**

Cradle-to-Grave for 1 unit

Carbon Intensity

**35.01 kgCO<sub>2</sub>e/unit**

Per functional unit

Top Emission Hotspot

**Use Phase**

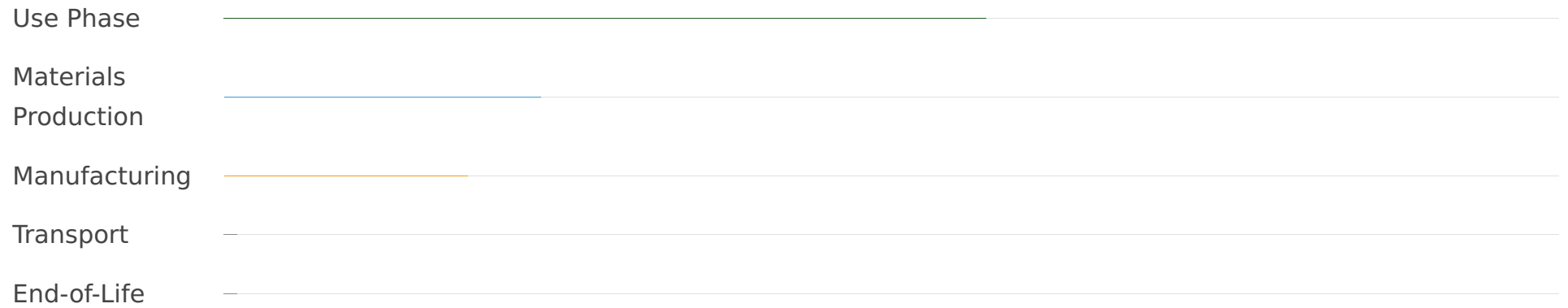
20.00 kgCO<sub>2</sub>e (57.13%)

Top Material Hotspot

**Aluminum Casing**

4.25 kgCO<sub>2</sub>e (from Materials)

# Lifecycle Stage Breakdown



Breakdown of emissions across the product's full lifecycle.

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%

## Material Carbon Impact

Aluminum

Casing

ABS Plastic

Housing

PCBA

Copper Wiring

Percentage contribution to the total material carbon footprint (8.31 kgCO<sub>2</sub>e).

## Key Insights & Highlights

- The **Use Phase** is the most significant contributor, accounting for **20.00 kgCO<sub>2</sub>e (57.13%)** of the total footprint, primarily due to electricity consumption over the product's 5-year lifespan.
- **Materials Production** is a major upstream hotspot at **8.31 kgCO<sub>2</sub>e (23.74%)**, with the **Aluminum Casing** (4.25 kgCO<sub>2</sub>e) being the single largest material impact.
- **Manufacturing energy** emissions, specifically from the non-renewable electricity grid in China, contribute **6.30 kgCO<sub>2</sub>e (18.00%)** despite 30% renewable energy usage.

## Action Plan for Reduction

- **Enhance Use Phase Efficiency:** Focus on reducing energy consumption during the product's operational lifespan through design optimization or user education on energy-saving modes.
- **Sustainable Material Sourcing:** Investigate and integrate lower-carbon alternatives for high-impact materials, particularly for the aluminum casing, such as increased recycled content or materials with lower embodied emissions.
- **Decarbonize Manufacturing:** Explore options to further increase renewable energy procurement (beyond 30%) for manufacturing operations in China, potentially through on-site generation or higher-quality renewable energy certificates.
- **Circular Economy Initiatives:** Leverage the existing product refurbishment program and high recyclability (70%) to maximize material recovery and minimize virgin material use, potentially offsetting emissions.