carboncalcpcf.com

Product Carbon Footprint Dashboard

for **siezxhtopw**

41.62 kgCO2e

Total Product Carbon Footprint

Functional Unit: 1.0 unit | System Boundary: Cradle-to-Gate-to-Grave

Production Country: China | Standard: GHG Protocol

Total Footprint

41.62 kgCO2e

Carbon Intensity

41.62 kgCO2e/unit

Top Hotspot

Use Phase (60%)

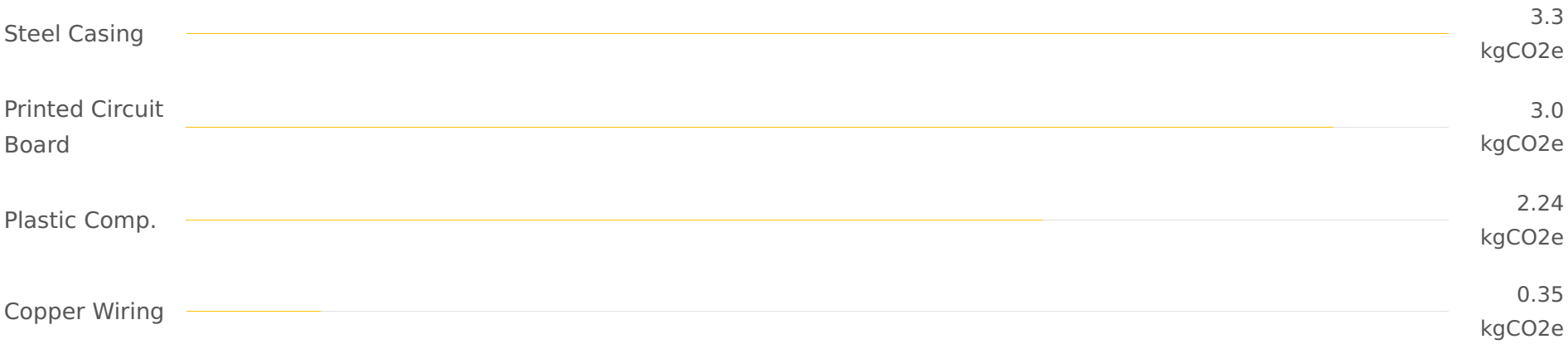
Primary Emission Scope

Scope 3

Carbon Footprint by Lifecycle Stage

Use Phase	25.00 kgCO2e (60.07%)
Raw Materials	8.89 kgCO2e (21.36%)
Manufacturing	6.00 kgCO2e (14.42%)
Transport & Distribution	0.95 kgCO2e (2.28%)
End-of-Life	0.78 kgCO2e (1.87%)

Material Carbon Impact



Highlights: Emission Hotspots

- **Use Phase:** This stage is the most significant contributor (approx. 60%) to the product's overall carbon footprint, mainly due to energy consumption over its 5-year lifespan.
- **Raw Materials:** Production of materials, especially Printed Circuit Board and Steel Casing, contributes substantially (about 21%) to the total PCF.
- **Manufacturing:** Energy consumed during production, even with 60% renewable usage, accounts for a notable 14% of the total footprint.

Recommendations for Emission Reduction

1. **Optimize Use Phase Efficiency:** Prioritize reducing the product's energy consumption during its operational life by exploring energy-efficient components and smart features.
2. **Source Low-Carbon Materials:** Investigate procuring materials with lower embedded carbon, such as steel with higher recycled content or bio-based plastics.
3. **Enhance Renewable Energy in Manufacturing:** Strive to increase renewable electricity usage at the production facility beyond the current 60% towards 100%.
4. **Strengthen Circular Economy Initiatives:** Leverage existing take-back programs to maximize recycling and refurbishment rates, and design for disassembly.
5. **Optimize Logistics:** Continuously evaluate transportation modes and routes, exploring rail or sea freight and alternative fuel vehicles for delivery.