

Product Carbon Footprint Dashboard

carboncalcpcf.com

Product

wxfqidqppk

Total CO2e

21.025 kg CO2e

Standard

GHG Protocol

Production

China

Key Metrics

Total Footprint

21.025 kg CO2e

per 1.0 unit

Carbon Intensity

21.025 kg CO2e/unit

Functional Unit: 1.0 unit

Top Material Hotspot

Aluminum Casing

3.50 kg CO2e (51.1% of materials)

- The **Use Phase** is the dominant carbon hotspot, contributing approximately **59.5%** of the total product carbon footprint due to energy consumption over its 5-year lifespan.
- **Material Acquisition** is the second most significant contributor at around **32.6%**, with aluminum production being a particularly high-impact process within the Bill of Materials.
- Despite 70% renewable energy usage in manufacturing, the remaining **30% grid electricity** from China still represents a notable emission source within the production phase, contributing **0.90 kg CO₂e**.

Recommendations for Emission Reduction

- ✓ **Optimize Use Phase Efficiency:**
 - **Further reduce the product's energy consumption during its lifespan.**
 - **Encourage users to source renewable energy or provide green energy offsets.**
 - **Investigate smart energy management features to minimize idle power.**

- ✓ **Sustainable Material Sourcing:**
 - **Prioritize materials with lower embedded carbon, especially for aluminum and ABS plastic.**
 - **Increase the use of recycled content, leveraging existing circular programs.**
 - **Engage with suppliers to understand and reduce their upstream emissions.**

- ✓ **Enhance Circularity:**
 - **Strengthen the "Product Buy-back Program" for maximum material recovery and higher-value reuse or remanufacturing.**
 - **Design for disassembly to facilitate easier recycling and component recovery.**

- ✓ **Transition to 100% Renewable Energy in Production:**
 - **Invest in on-site renewables or purchase 100% certified renewable energy credits (RECs) for the manufacturing facility to eliminate Scope 2 emissions.**