carboncalcpcf.com

Product Carbon Footprint Dashboard

Detailed analysis for: **iivjhlpqno**

18.82 kg CO2e

Total Carbon Footprint per Functional Unit

Product Name

iivjhlpqno

Carbon Intensity

18.82 kg CO2e/unit

System Boundary

factory_gate

Production Country

China

Lifecycle Stage Breakdown

Materials (Category 1)

46.46%

Use Phase (Category 11)

46.15%

Production (Scope 2)

1.44%

Downstream Transportation (Category 9)

%

Upstream Transportation (Category 4)

%

End-of-Life (Category 12)

edit)

Note: EoL provides a carbon credit due to high recyclability and take-back programs.

Material Carbon Impact Breakdown

Aluminum Alloy Casing

41.16%

Circuit Board (PCB)

27.44%

Lithium-ion Battery

16.47%

ABS Plastic Housing

10.54%

Copper Wiring

0%

Cardboard Packaging

0%

Key Insights & Hotspots

- Material Acquisition & Pre-processing (Category 1) contributes approximately **48%** of the total PCF (9.11 kg CO2e), highlighting the impact of raw material extraction and processing, especially for Aluminum Alloy Casing and Circuit Boards.
- The Use Phase (Category 11) is equally significant, accounting for roughly **48%** of emissions (9.05 kg CO2e) due to the product's energy consumption over its lifespan and the European grid's emission factor.
- Purchased Electricity for Production (Scope 2) represents a notable **4.6%** (0.87 kg CO2e) of the footprint, influenced by the carbon intensity of the Chinese electricity grid, even with 70% renewable energy usage.
- The End-of-Life (Category 12) phase provides a substantial **carbon credit of -0.79 kg CO2e**, demonstrating the positive impact of the assumed 80% recyclability and company-managed take-back programs.

Recommendations for Emission Reduction

- **Enhance Data Quality:** Prioritize collecting primary, supplier-specific data for materials, energy usage at facilities, and precise logistics to improve PCF accuracy.
- **Supply Chain Engagement:** Work with suppliers to identify and switch to lower-carbon materials and optimize upstream transportation routes and modes.
- **Product Design for Efficiency:** Focus on designing the product for lower energy consumption during its use phase and extending its overall lifespan.
- **Increase Renewable Energy:** Explore further opportunities to increase renewable energy procurement or on-site generation at the production facility in China.

- **Strengthen Circular Economy Practices:** Further develop and promote take-back and recycling programs to maximize End-of-Life credits and minimize waste.
- **Integrate LSR Standard:** Conduct a thorough assessment of any land-related impacts within the product's upstream supply chain, applying the detailed guidance of the 2026 GHG Protocol LSR Standard as it becomes effective.