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carboncalcpcf.com

Product Carbon Footprint Analysis Dashboard

For Product: ljdvhkhted (Company: ntuvkroxuo)

Total PCF: 40.17 kgCO2e

Total Footprint

40.17

kgCO2e per unit

Carbon Intensity

40.17

kgCO2e / functional unit

Top Material Hotspot

Li-ion Battery

2.00 kgCO2e (within 4.50 kgCO2e materials)

Primary Emission Scope

Scope 3

Downstream Transport (20.00 kgCO2e)

Lifecycle Stage Breakdown

Raw Materials (Purchased Goods & Services)	4.50 kgCO2e (11.04%)
Manufacturing (Production Energy - Scope 2)	3.75 kgCO2e (9.20%)
Logistics (Upstream & Downstream Transport)	20.015 kgCO2e (49.10%)
Product Use (Use of Sold Products)	12.50 kgCO2e (30.66%)
End-of-Life Treatment (Net Carbon Credit)	-0.60 kgCO2e

Net Credit Due to Recycling

Material Carbon Impact

Detailed breakdown of the 4.50 kgCO2e from purchased materials.

Li-ion Battery	2.00 kgCO2e
Printed Circuit Board (PCB)	1.50 kgCO2e
Plastic Casing (ABS)	0.70 kgCO2e
Copper Wiring	0.20 kgCO2e
Cardboard Packaging	0.10 kgCO2e

Key Emission Highlights

Downstream Logistics Dominates: Last-mile delivery (20.00 kgCO2e) is the largest emission hotspot, highlighting transport efficiency needs.

Use Phase Impact: The product's energy consumption during its 5-year lifespan contributes significantly with 12.50 kgCO2e.

Material Footprint: Purchased materials total 4.50 kgCO2e, with the Li-ion Battery being the most impactful single material component.

Circular Economy Benefits: Effective End-of-Life programs and high recyclability lead to a net carbon credit of -0.60 kgCO2e.

Recommendations for Reduction

1. **Optimize Last-Mile Logistics:** Implement strategies like route optimization, cargo consolidation, and transitioning to electric delivery vehicles.
2. **Enhance Use Phase Energy Efficiency:** Redesign for lower power consumption and educate users on sustainable usage practices.
3. **Source Sustainable Materials:** Prioritize suppliers with lower carbon footprints and explore options for higher recycled content in components.
4. **Boost Renewable Energy:** Strive for 100% renewable energy procurement at manufacturing sites to eliminate Scope 2 emissions.
5. **Strengthen Circularity Programs:** Continuously improve take-back schemes and recycling infrastructure to maximize material recovery.