

html

Product Carbon Footprint Dashboard

Product: **pkepvtmix**

| Company: **zpiwjlmxu**

Report Date: May 20, 2026

carboncalcpcf.com

Total Product Carbon Footprint
134.33 kg CO₂e

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134.33 kg CO₂e

Per 1.0 unit of pkepvtmix

Carbon Intensity

134.33 kg CO₂e/unit

Based on 1.0 functional unit

Top Material Hotspot

Lithium-ion Battery

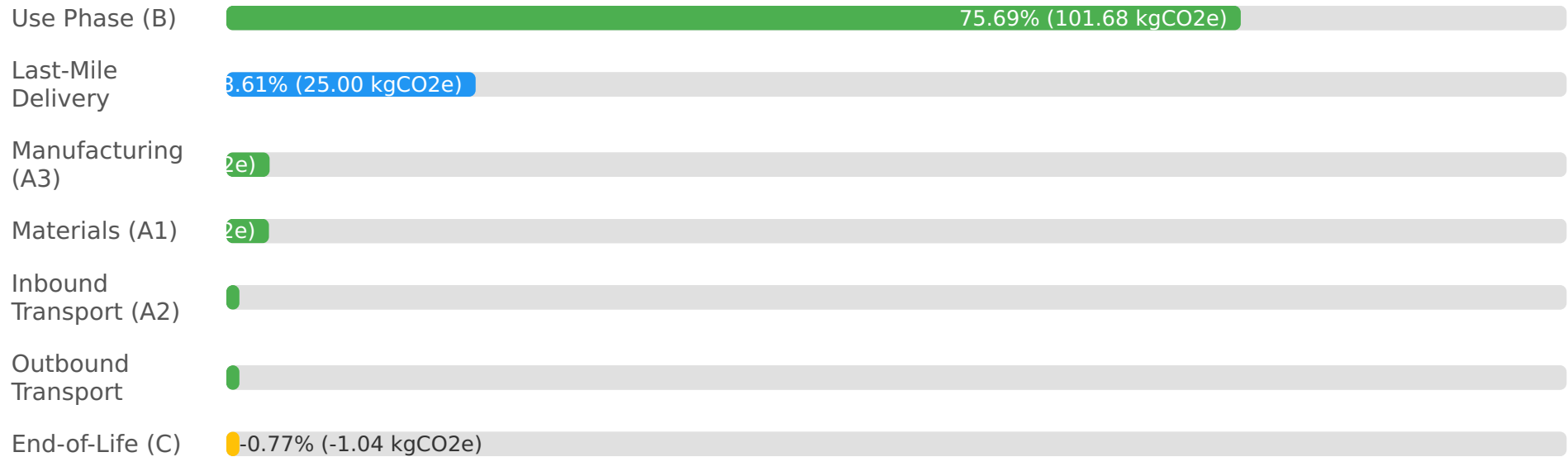
1.5 kg CO2e from raw materials

Primary Emission Scope

Use Phase (Scope 3)

75.69% of total emissions

Lifecycle Stage Breakdown



Material Carbon Impact

- Steel Casir,
- Plastic Enclosure (16.36%)
- Printed Circuit Board (23.36%)
- Lithium-ion Battery (35.05%)
- Copper Wire (1.87%)

Key Highlights & Hotspots

Dominant Use Phase Emissions: The product's operational use accounts for approximately 75.7% of its total carbon footprint (101.68 kgCO₂e), primarily due to energy consumption over its 7-year lifespan.

Significant Last-Mile Impact: Last-mile delivery contributes 18.6% (25.0 kgCO₂e) to the total, highlighting the carbon intensity of final distribution logistics per unit.

Material Contributions: While smaller proportionally (3.19%), the Lithium-ion Battery stands out as the highest single material contributor (1.5 kgCO₂e) within the raw material acquisition phase.

Recommendations for Carbon Reduction

- ✓ **Enhance Use-Phase Energy Efficiency:** Prioritize design improvements to drastically reduce the product's energy consumption during its operational life. Encourage end-users to power the product with renewable energy.
- ✓ **Optimize Logistics and Last-Mile Delivery:** Invest in electric delivery fleets, consolidate shipments, and explore local distribution hubs to significantly cut emissions from transportation, especially last-mile.
- ✓ **Sustainable Material Sourcing & Manufacturing:** Research and integrate lower-impact alternative materials, and increase the adoption of renewable energy sources within manufacturing facilities to reduce upstream emissions.
- ✓ **Expand Circularity Initiatives:** Leverage "Circular/Take-back Programs" to increase recycling rates beyond 80%, aiming for higher material recovery and greater avoided emissions credits.