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Product Carbon Footprint Dashboard

fhoyvvhvph (Smart Home Sensor)

Total PCF: 7.11 kg CO2e/unit

TOTAL FOOTPRINT

7.11 kg CO2e

CARBON INTENSITY

7.11 kg CO2e/unit

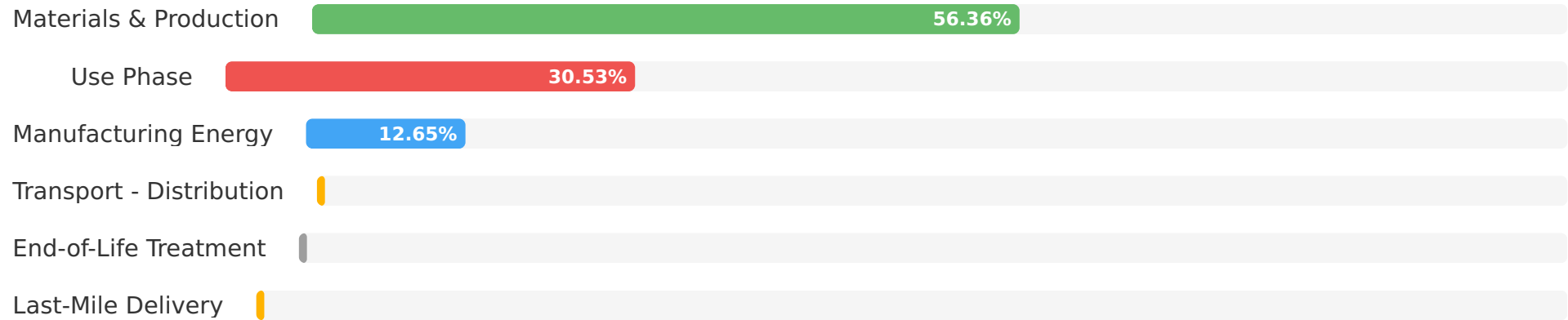
TOP MATERIAL HOTSPOT

PCB & Li-ion Battery

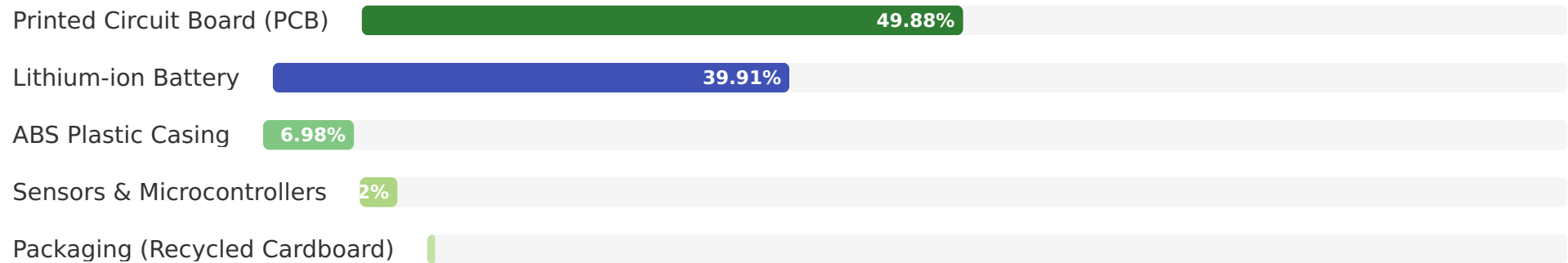
PRIMARY EMISSION SCOPE

Scope 3 (87.35%)

Lifecycle Stage Breakdown (kg CO2e)



Material Carbon Impact (of Upstream)



Key Insights & Hotspots

- **Materials Acquisition & Production:** This stage accounts for approximately 56.4% of the total PCF. The Printed Circuit Board (PCB) and Lithium-ion Battery are the primary drivers due to their complex manufacturing processes and resource intensity.
- **Use Phase:** Contributing around 30.5% of the total PCF, emissions in this stage are largely attributable to the electricity consumed by the Smart Home Sensor over its estimated 5-year lifespan.
- **Manufacturing Energy:** This phase represents about 12.7% of the total PCF. Despite 40% renewable energy usage, the energy intensity of production in China and the remaining grid mix contribute significantly.

Recommendations for GHG Reduction

- 1 Material Optimization:** Explore redesigning the PCB for lower-impact components and investigating alternative battery chemistries. Engage proactively with suppliers to obtain more granular, primary data on component-level emissions.
- 2 Renewable Energy Adoption:** Increase the percentage of renewable energy utilized in manufacturing facilities in China beyond the current 40%. This can involve sourcing more renewable electricity or investing in on-site generation.
- 3 Energy Efficiency in Use:** Implement technologies to further reduce the product's energy consumption during its operational phase and educate consumers on energy-efficient usage patterns to minimize impact.
- 4 Circular Economy Integration:** Strengthen and expand existing circular/take-back programs to maximize material recovery and recycling rates (aiming beyond 60%), thereby minimizing waste sent to landfill or incineration.
- 5 Logistics Optimization:** Continuously refine logistics routes, transport modes (e.g., favoring lower-emission options), and load factors to further reduce emissions, especially for distribution and last-mile delivery.

Report for nxujljxyel by mtxzvofmdy, Senior Sustainability Consultant

GHG Protocol Standard | System Boundary: Cradle-to-Grave | Production Country: China

Generated: May 27, 2026

Disclaimer: This dashboard summarizes key findings from a detailed report. While efforts are made for accuracy, actual impacts may vary.