html

carboncalcpcf.com

Product Carbon Footprint Dashboard

Product: fxzowuxdvf (Smart IoT Sensor)

Company: rgzmwwzney

Report Generated: May 28, 2026

6.61 kg CO2e

per 1.0 unit (Cradle-to-Grave)

Total Footprint

6.61 kg CO2e

per unit

Carbon Intensity

6.61 kg CO2e

/ unit

Primary Emission Scope

Scope 3

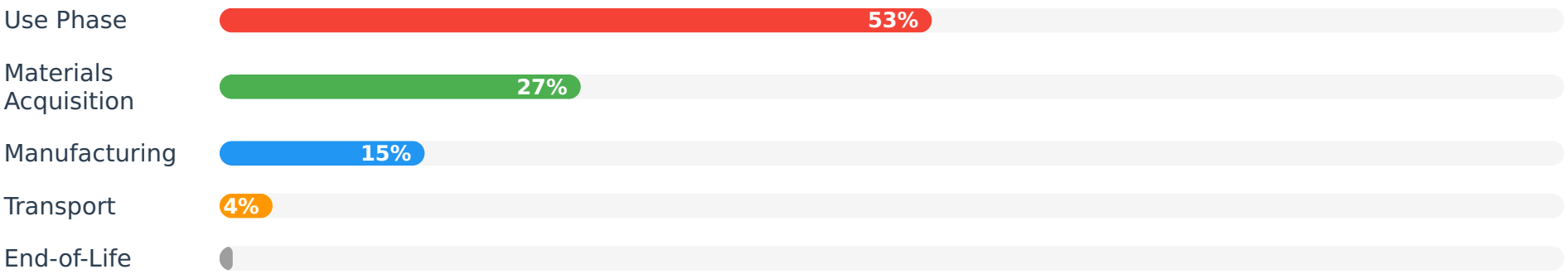
84.74% of total

Top Material Hotspot

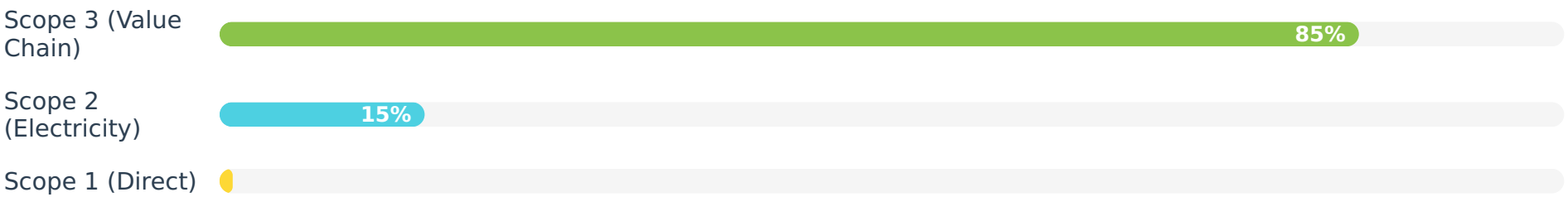
Circuit Board

0.60 kg CO2e

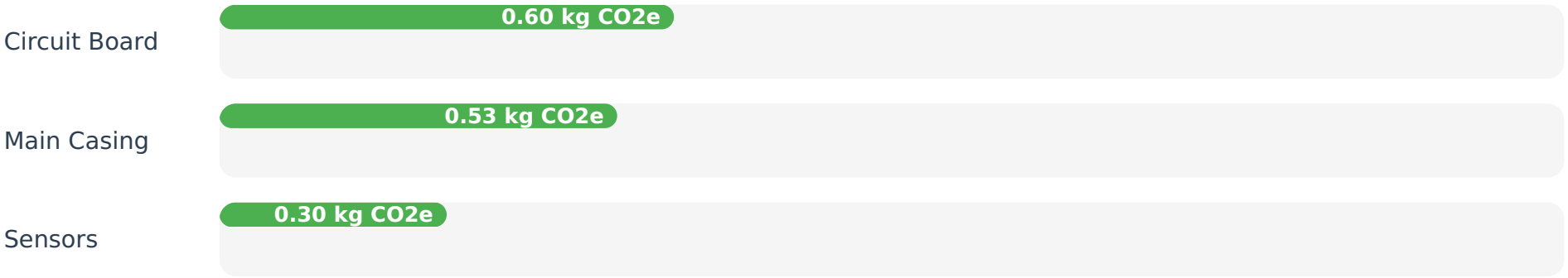
Lifecycle Stage Breakdown



Emissions by GHG Scope



Top Material Carbon Impact



Key Insights & Hotspots

- The **Use Phase** is the primary emission hotspot, contributing 53% (3.50 kg CO2e) of the total footprint due to cumulative energy consumption over the product's 7-year lifespan.
- **Materials Acquisition & Processing** accounts for 27% (1.78 kg CO2e), with electronic components (Circuit Board, Sensors) and the plastic casing being significant contributors.
- **Manufacturing** emissions represent 15% (1.01 kg CO2e), primarily driven by grid electricity in China, despite 60% renewable energy usage at the facility.

Recommendations for Emission Reduction

- **Optimise Use Phase Energy:** Explore ultra-low power components, enhance energy efficiency algorithms, or investigate integration with user-side renewable energy sources.
- **Sustainable Material Sourcing:** Prioritize alternative materials with lower embodied carbon for plastics and electronics, and engage suppliers committed to renewable energy in their production.
- **Increase Renewable Energy in Manufacturing:** Further increase the share of renewable energy used in manufacturing facilities, especially in regions with carbon-intensive grids like China.
- **Enhance Circularity:** Leverage the existing take-back program to maximize material recovery and implement design-for-disassembly to extend product lifespan.
- **Supply Chain Engagement:** Collaborate actively with upstream suppliers to identify and reduce emissions across logistics and material production processes.