Product Carbon Footprint Dashboard

carboncalcpcf.com

Product: hyxywzufiz (Smart Home Device)
Company: hsqkguxrkp

Total PCF: 115.30 kgCO2e

TOTAL CARBON FOOTPRINT

115.30

kgCO2e per unit

PRIMARY EMISSION SCOPE

Scope 3

112.20 kgCO2e (97.3%)

LARGEST EMISSION HOTSPOT

Use Phase

109.50 kgCO2e (95.0%)

END-OF-LIFE IMPACT

Net Avoided

by 1.40 kgCO2e (Recycling)

Lifecycle Carbon Breakdown

Note: Chart shows positive contributions. A net 1.40 kgCO2e was avoided at End-of-Life due to recycling.

- The **Use Phase** is the overwhelming driver of carbon emissions, accounting for approximately 95% of the total PCF due to energy consumption over the product's 5-year lifespan.
- **Materials Acquisition** is the second largest contributor (around 3%), with Aluminium Heat Sink and ABS Plastic Casing identified as high-impact materials.
- A significant portion of emissions are classified under **Scope 3** (Purchased Goods, Transportation, Use, End-of-Life), highlighting the importance of value chain engagement.
- The product benefits from strong circularity initiatives, resulting in **net avoided emissions at End-of-Life** due to a 70% recyclability rate and take-back programs.

Recommendations for Reduction

- **Enhance Use Phase Efficiency:** Prioritize design for ultra-low power consumption and implement smart energy management features. Educate consumers on efficient usage patterns.
- **Decarbonize Production:** Increase investment in renewable energy sources at manufacturing facilities or procure additional renewable energy credits to further reduce Scope 2 emissions.
- **Sustainable Material Sourcing:** Actively investigate and integrate secondary (recycled) materials, such as rABS and recycled aluminium, for high-impact components.
- **Optimize Logistics:** Continuously evaluate and refine transport routes and modes to reduce distances and utilize more efficient shipping methods.
- **Strengthen Circularity:** Expand existing take-back and recycling programs, and explore design for disassembly to facilitate easier material recovery and reuse.