

carboncalcpcf.com

Product Carbon Footprint Analysis Dashboard

Product: **Smart Home Sensor (iroirtizjh)**

Company: **fqosyhlkjf**

Total Product Carbon Footprint: 5.631 kg CO₂e

Total Footprint

5.631 kg CO₂e

Carbon Intensity

5.631 kg CO₂e / unit

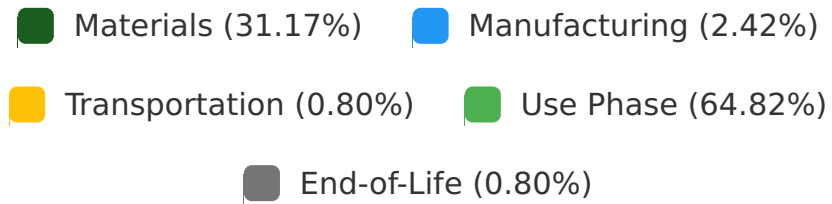
Top Material Hotspot

Microcontroller, Sensors

Primary Emission Scope

Scope 3 (Use Phase)

Emissions by Lifecycle Stage



Key Highlights

- The **Use Phase** is the dominant hotspot, contributing nearly two-thirds (64.82%) of the total PCF, driven by cumulative electricity consumption.
- **Material Acquisition & Pre-processing** is the second-largest impact (31.17%), primarily from energy-intensive electronic components like Microcontrollers and Sensors.
- Fqosyhlkjf's 60% renewable energy usage in manufacturing significantly mitigates Scope 2 emissions, which account for only 2.42% of the total footprint.

Top Material Carbon Contributors

Material	CO ₂ e (kg)
Microcontroller	0.500
Sensors (x3)	0.500
Li-ion Battery	0.300
Printed Circuit Board (PCB)	0.250

Recommendations for Emission Reduction

- **Enhance Use Phase Efficiency:** Invest in R&D to further reduce the energy consumption of the Smart Home Sensor during its operational life and explore low-power modes.
- **Sustainable Material Sourcing:** Investigate alternative materials for high-impact components and engage with suppliers to promote greener manufacturing processes.
- **Circular Economy Integration:** Expand and promote the manufacturer's take-back program to increase the actual recyclability percentage and improve material recovery strategies.
- **Renewable Energy Transition:** Continue increasing the percentage of renewable energy used in manufacturing operations.
- **Logistics Optimization:** Continuously optimize transport routes and consider alternative, lower-emission freight options for both upstream and downstream logistics.