

carboncalcpcf.com

# Carbon Footprint Dashboard

Product: **Eco-Smart Home Hub (nywkzqzkor)**

Company: GreenTech Innovations (kqhjjqwkmd)

Standard: GHG Protocol

**Total PCF: 64.60 kgCO<sub>2</sub>e**

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Total Product Footprint

**64.60 kgCO<sub>2</sub>e**

Per 1.0 unit (Eco-Smart Home Hub)

Carbon Intensity

**38.00 kgCO<sub>2</sub>e/kg**

Based on 1.70 kg product weight

Top Material Hotspot

**Electronic Components**

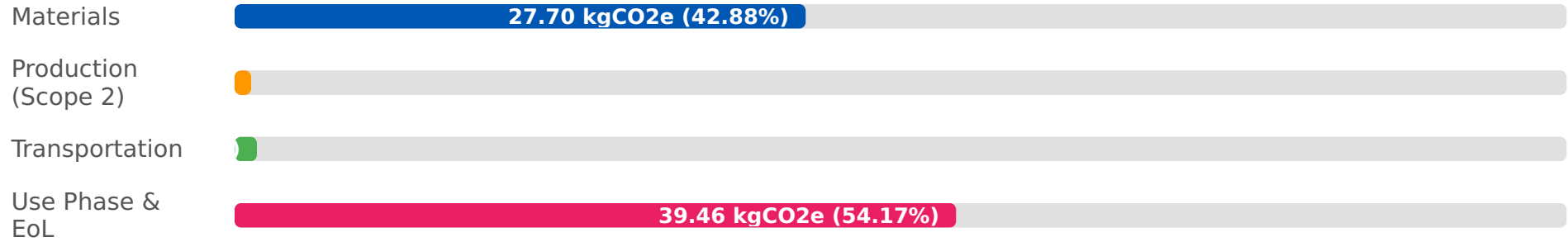
15.00 kgCO<sub>2</sub>e (54.15% of material impact)

Primary Emission Scope/Phase

**Use Phase & EoL**

54.17% of total PCF (Scope 3)

## Lifecycle Stage Breakdown (kgCO2e)



## Material Carbon Impact (Top 3)

Electronic Components (PCB)	15.00 kgCO2e
Aluminum Casing	5.60 kgCO2e
Lithium-ion Battery	6.00 kgCO2e
<b>Total Material Impact</b>	<b>27.70 kgCO2e</b>

## Key Carbon Hotspots & Highlights

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**Dominant Use Phase Emissions:** The product's 7-year lifespan energy consumption in the use phase accounts for **54.17%** of the total PCF, marking it as the primary emission driver.

**Significant Material Impact:** Materials acquisition and pre-processing, particularly for **electronic components (15.00 kgCO<sub>2</sub>e)** and aluminum, contribute a substantial **42.88%** to the total footprint.

**Production Efficiency & Logistics:** While smaller contributors (1.26% for Scope 2 production, 1.69% for transportation), these areas still offer opportunities for reduction through renewable energy integration and optimized logistics, including last-mile delivery.

## Recommendations for Emission Reduction

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**Enhance Use Phase Efficiency:** Focus on designing more energy-efficient products and exploring strategies to influence user behavior towards more sustainable consumption patterns. Consider smart energy management features.

**Optimize Material Selection and Design:** Investigate opportunities for lighter-weight materials, increased recycled content (beyond current levels where feasible), and design for modularity and repair to extend product life and ease recycling.

**Increase Renewable Energy in Manufacturing:** Explore options to further increase the percentage of renewable energy used in production facilities in China, potentially through renewable energy attribute certificates or direct procurement, beyond the current 60%.

**Streamline Logistics:** Continuously optimize transportation routes, consolidate shipments, and evaluate alternative, lower-emission transport modes for both inbound and outbound logistics. Collaborate with logistics partners to enhance efficiency in last-mile delivery.

**Strengthen Circular Economy Initiatives:** Continue to promote and expand take-back and recycling programs, exploring advanced recycling technologies to maximize material recovery and minimize waste.