

carboncalcpcf.com

# Product Carbon Footprint Dashboard

Detailed analysis for **nqwfrgynof**

---

Total Product Footprint

**146.65** kg CO<sub>2</sub>e

per 1.0 unit

Carbon Intensity

**146.65** kg CO<sub>2</sub>e/unit

GHG Protocol Standard

Top Material Hotspot

**Aluminium Casing**

12.5 kg CO<sub>2</sub>e (40.72% of material impact)

Primary Emission Scope

**Scope 3: Use Phase**


94.5 kg CO<sub>2</sub>e (64.44% of total footprint)

## Emissions by Lifecycle Stage

---

Materials 

Production

Energy (Scope  
2) 

Logistics 

Use Phase 

**End-of-Life  
(Net Credit)** 

Note: EoL shown as a credit against total positive emissions (162.06 kg CO<sub>2</sub>e).

## Key Emission Hotspots & Highlights

---

- **Use Phase Dominance:** The product's operational energy consumption over its 7-year lifespan accounts for the majority of the footprint (94.5 kg CO<sub>2</sub>e).
- **Material and Production Impact:** Raw material acquisition (30.7 kg CO<sub>2</sub>e) and manufacturing energy (26.4 kg CO<sub>2</sub>e) are significant secondary contributors, with Aluminium Casing being the top material hotspot.
- **Circular Economy Success:** A strong End-of-Life strategy with 85% recyclability and established take-back programs results in a net carbon credit of -15.41 kg CO<sub>2</sub>e, significantly offsetting overall emissions.

## Recommended Action Plan

---

- **Optimize Use Phase Efficiency:** Focus on engineering product upgrades to drastically reduce annual energy consumption, e.g., via low-power modes or more efficient components.
- **Decarbonize Manufacturing:** Increase renewable energy procurement beyond 60% in China to further reduce Scope 2 emissions, and explore green sourcing for high-impact materials like aluminium.
- **Enhance Last-Mile Logistics:** Implement strategies for more efficient or electrified last-mile delivery to reduce the 10.0 kg CO<sub>2</sub>e contribution from this stage.

## Material Carbon Impact Breakdown

---

Aluminium

Casing

Lithium-ion

Battery Pack

ABS Plastic

Components

Printed Circuit

Board (PCB)

Copper Wiring

Packaging

(Cardboard)

## Key Emission Hotspots & Highlights

---

- **Use Phase Dominance:** The product's operational energy consumption over its 7-year lifespan accounts for the majority of the footprint (94.5 kg CO<sub>2</sub>e).
- **Material and Production Impact:** Raw material acquisition (30.7 kg CO<sub>2</sub>e) and manufacturing energy (26.4 kg CO<sub>2</sub>e) are significant secondary contributors, with Aluminium Casing being the top material hotspot.

- **Circular Economy Success:** A strong End-of-Life strategy with 85% recyclability and established take-back programs results in a net carbon credit of -15.41 kg CO<sub>2</sub>e, significantly offsetting overall emissions.

## Recommended Action Plan

---

- **Optimize Use Phase Efficiency:** Focus on engineering product upgrades to drastically reduce annual energy consumption, e.g., via low-power modes or more efficient components.
- **Decarbonize Manufacturing:** Increase renewable energy procurement beyond 60% in China to further reduce Scope 2 emissions, and explore green sourcing for high-impact materials like aluminium.
- **Enhance Last-Mile Logistics:** Implement strategies for more efficient or electrified last-mile delivery to reduce the 10.0 kg CO<sub>2</sub>e contribution from this stage.