Product Carbon Footprint for nilgejnmey

Standard: GHG Protocol | **Boundary:** factory_gate | **Production:** China

31.04 kgCO2e

Total Carbon Footprint

31.04 kgCO2e

Carbon Intensity

31.04 kgCO2e/unit

Per 1.0 unit of nilgejnmey

Top Material Hotspot

Aluminum Frame

2.40 kgCO2e (30.38% of material impact)

Primary Emission Scope

Scope 3 (Use Phase)

80.56% of total PCF

Lifecycle Stage Breakdown

Materials (Scope 3)	7.90 kgCO2e (21.74%)
Manufacturing Energy (Scope 2)	3.10 kgCO2e (8.53%)
Logistics (Scope 3)	0.34 kgCO2e (0.94%)
Use Phase (Scope 3)	25.00 kgCO2e (68.80%)
End-of-Life (Credit)	-0.305 kgCO2e

Total Gross Emissions: 36.34 kgCO2e. Net PCF: 31.04 kgCO2e

Material Composition Carbon Impact

Aluminum Frame	2.40 kgCO2e (30.38%)
Lithium-ion Battery	2.00 kgCO2e (25.32%)
ABS Plastic Casing	1.75 kgCO2e (22.15%)
Printed Circuit Board (PCB)	1.50 kgCO2e (18.99%)
Copper Wire	0.25 kgCO2e (3.16%)

Total Material Emissions: 7.90 kgCO2e

Key Insights & Hotspots

- The **Use Phase is the dominant contributor** to nilgejnmey's carbon footprint, accounting for approximately 80.56% of total PCF.
- **Purchased Goods and Services (materials)** represent a significant upstream impact, contributing around 25.46% of the PCF.
- While 50% renewable energy is used, **manufacturing energy still contributes nearly 10%** due to the remaining grid electricity in China.

Recommended Decarbonization Actions

- ✓ **Optimize Use Phase:** Design for energy efficiency, promote renewable energy sources for end-users, and explore product longevity.
- ✓ **Enhance Material Circularity:** Prioritize lower-carbon materials, increase recycled content, and strengthen take-back programs to maximize recycling benefits.
- ✓ **Increase Renewable Energy:** Further integrate renewables in manufacturing in China to reduce Scope 2 emissions.
- ✓ **Engage Supply Chain:** Actively collaborate with suppliers to gather primary, activity-based data for materials and upstream transport, crucial for 2026 GHG Protocol compliance.