

Product Carbon Footprint Dashboard

Product: vglldljlul

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Prepared by: mdylqsuhsm, Senior Sustainability Consultant for rrfsgungd

Total Product Carbon Footprint

23.44

kgCO₂e / unit

Carbon Intensity (per unit)

23.44

kgCO₂e

Top Material Hotspot

Aluminum Alloy

4.00 kgCO₂e

Primary Emission Scope

Scope 3

(Upstream & Downstream)

Emissions Breakdown

Lifecycle Stage Carbon Impact

Materials Acquisition & Pre-processing	9.75 kgCO2e
Manufacturing / Production	2.28 kgCO2e
Transport (Inbound & Outbound)	0.37 kgCO2e
Use Phase	12.50 kgCO2e
End-of-Life (Net Credit)	-1.45 kgCO2e

Top Material Carbon Contributors

Aluminum Alloy Casing	4.00 kgCO2e
Silicon Chipset	2.00 kgCO2e
Lithium-ion Battery	1.50 kgCO2e
Printed Circuit Board (PCB)	1.50 kgCO2e
ABS Plastic Enclosure	0.75 kgCO2e

Highlights & Key Insights

- The **Use Phase** is the most significant contributor to vkgldljul's carbon footprint, accounting for **12.50 kgCO₂e/unit (53.32% of total)**. This underscores the importance of energy efficiency during product operation.
- **Materials Acquisition & Pre-processing** is the second-largest hotspot at **9.75 kgCO₂e/unit (41.59% of total)**, with aluminum and silicon components having the highest embodied carbon.
- The **End-of-Life phase demonstrates a net carbon credit of -1.45 kgCO₂e/unit** due to strong recycling percentages and the company's take-back program, effectively avoiding virgin material production.

Action Plan: How to Reduce Emissions

- **Improve Use Phase Efficiency:** Prioritize R&D to significantly reduce the product's energy consumption during its 5-year operational lifespan.
- **Decarbonize Manufacturing:** Increase renewable energy usage in the China production facility beyond the current 30% to lower Scope 2 emissions.
- **Sustainable Material Sourcing:** Investigate and integrate alternative materials with lower embodied carbon and increase the use of recycled content for components like aluminum and silicon.
- **Optimize Logistics:** Explore greener transport modes for inbound and outbound logistics (e.g., rail over road for longer distances) and enhance load factor efficiency.
- **Enhance Circularity:** Strengthen the existing take-back program to maximize material recovery, enabling higher-quality recycled content or product refurbishment.

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This report adheres to GHG Protocol Product Standard and 2026 LSR updates.