carboncalcpcf.com

Product Carbon Footprint Dashboard

Detailed PCF Analysis for Product: **jkygvfqsol**

43.509 kg CO2e per unit

Total Footprint

43.509

kg CO2e / unit

Carbon Intensity

43.509

kg CO2e / unit of jkygvfqsol

Top Material Hotspot

Aluminum

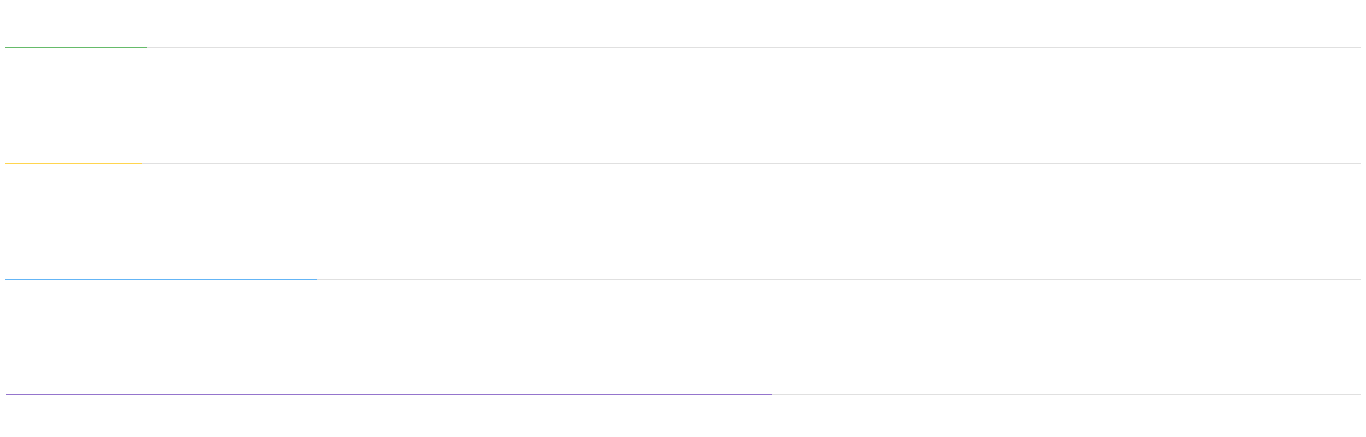
2.5 kg CO2e (56.49% of material impact)

Primary Emission Scope

Scope 3

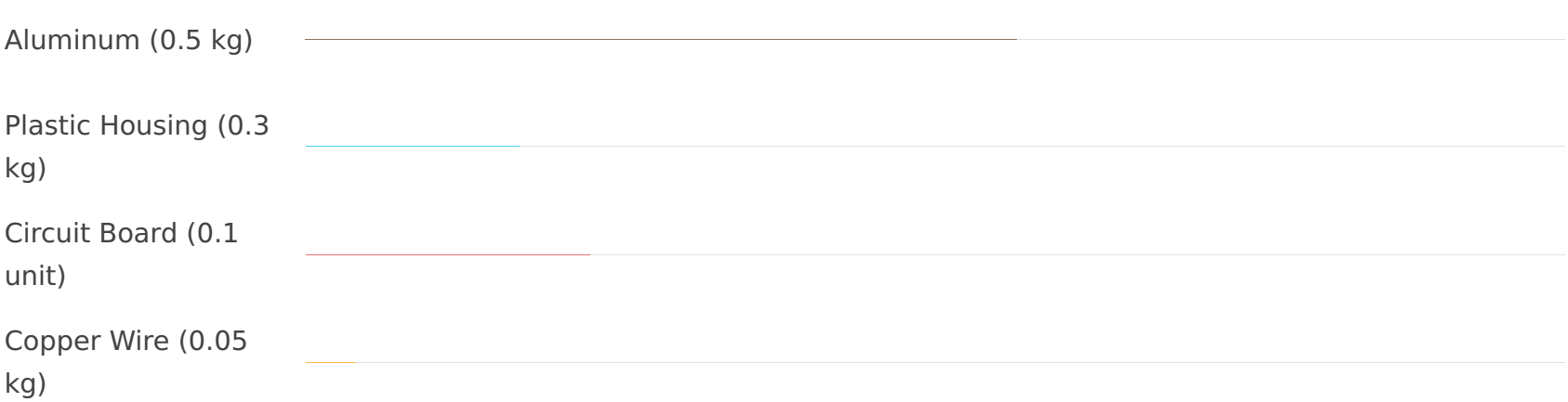
39.134 kg CO2e (90% of total)

Lifecycle Stage Breakdown



Materials & Upstream Transport	**4.539 kgCO2e**
Production Energy (Scope 2)	**4.375 kgCO2e**
Downstream Logistics	**10.000 kgCO2e**
Use Phase & EoL	**24.595 kgCO2e**

Material Composition vs. Carbon Impact



Highlights & Key Insights

Use Phase Dominance: The product's use phase is the most significant carbon hotspot, accounting for 56.53% (24.595 kg CO2e) of the total footprint. This is primarily driven by energy consumption over its 7-year lifespan.

Last-Mile Logistics Impact: Downstream logistics, specifically last-mile delivery, contributes substantially at 22.98% (10.000 kg CO2e), highlighting distribution as a critical area for optimization.

Material Footprint: While smaller than downstream impacts, material acquisition (4.425 kg CO2e), particularly Aluminum (2.5 kg CO2e), remains a key upstream emission source.

Action Plan for Decarbonization

Enhance Use Phase Efficiency: Prioritize design for lower energy consumption during the 7-year lifespan and encourage renewable energy adoption by end-users.

Optimize Logistics: Explore more sustainable last-mile delivery options, such as electric vehicles, optimized routing, or local fulfillment centers, to reduce transport emissions.

Sustainable Material Sourcing: Investigate and switch to lower-carbon alternatives for high-impact materials like Aluminum and Circuit Boards.

Increase Manufacturing Renewable Energy: Further increase the percentage of renewable energy used in the manufacturing process beyond the current 75% to reduce Scope 2 emissions.