html

carboncalcpcf.com

31.46
kg CO2e / unit

Product Carbon Footprint Dashboard

Product: mrklfedood • **Company:** lpgyhghxti

Total Footprint

31.46

kg CO2e per 1.0 unit

Carbon Intensity

31.46

kg CO2e / functional unit

Top Material Hotspot

Aluminium Alloy

3.75 kg CO2e (60.88% of material impact)

Primary Emission Scope

Scope 3

28.34 kg CO2e (90.08% of total)

Lifecycle Stage Breakdown

Contribution to total carbon footprint (kg CO2e).

Material Acquisition & Pre-processing	6.16 kg CO2e (19.58%)
Production (Purchased Electricity)	3.12 kg CO2e (9.92%)
Transport (Upstream & Downstream)	0.34 kg CO2e (1.08%)
Use Phase	22.75 kg CO2e (72.32%)
End-of-Life (Net Reduction)	-0.91 kg CO2e (-2.89%)

Material Carbon Impact

Breakdown of carbon emissions from key materials (kg CO2e).

Aluminium Alloy	3.75 kg CO2e (60.88%)
Circuit Board	1.50 kg CO2e (24.35%)
Polypropylene	0.42 kg CO2e (6.82%)
Copper Wire	0.25 kg CO2e (4.06%)
Packaging Cardboard	0.24 kg CO2e (3.90%)

Highlights & Hotspot Analysis

- The **Use Phase** is the dominant contributor, accounting for approximately 72% (22.75 kg CO2e) of the total PCF due to prolonged energy consumption.
- **Material Acquisition & Pre-processing** represents the second largest hotspot at 20% (6.16 kg CO2e), with Aluminium Alloy and Circuit Board being significant contributors.
- Despite 60% renewable energy usage, **Production (Purchased Electricity)** still contributes about 10% (3.12 kg CO2e) of the total footprint.
- The **End-of-Life** stage results in a net carbon saving of -0.91 kg CO2e, thanks to 85% recyclability and robust take-back programs.

Recommendations & Action Plan

Strategies to further reduce the product's carbon footprint:

→ Focus on **reducing Use Phase energy consumption** through design optimization, energy-efficient components, and user awareness campaigns.

→ Explore **lower-carbon alternatives for key materials** like Aluminium Alloy and Circuit Boards, or increase the use of recycled content.

- → Invest in **on-site renewable energy generation** or procure certified green electricity for remaining non-renewable production energy.
- → Strengthen **supplier engagement** to gather primary data and collaborate on emission reduction initiatives across the upstream supply chain.
