

Product Carbon Footprint for justiywkst

Total PCF (per unit)

20.485 kg CO₂e

20.485

Total Footprint (kg CO2e / unit)

61.02%

Primary Emission Hotspot (Use Phase)

Aluminum Alloy

Top Material Impact

GHG Protocol

Reporting Standard

Key Emission Breakdown

Lifecycle Stage Contribution

100% Contribution

Scope 1 (0.49%)

Scope 2 (5.12%)

Scope 3 Materials (32.41%)

Scope 3 Transport (1.44%)

Scope 3 Use Phase (61.02%)

Note: End-of-Life treatment provides a net benefit of -0.099 kg CO₂e, reducing the overall footprint.

Material Carbon Impact

Aluminum Alloy	4.00
Silicon Chip	2.00
Recycled PET	0.30
Copper Wire	0.15
Adhesive	0.14
Cardboard	0.05

Total Material Impact: 6.64 kg CO₂e / unit

Highlights & Key Takeaways

- The ****Use Phase**** of 'justiywkst' is the dominant contributor, accounting for 61.02% of the total product carbon footprint due to energy consumption over its lifespan.
- ****Purchased Goods and Services (Materials)****, particularly Aluminum Alloy and Silicon Chips, represent the second largest hotspot at 32.41% of emissions.
- Despite 65% renewable energy usage, ****Production (Scope 2)**** emissions still contribute 5.12% due to the remaining reliance on non-renewable grid electricity in China.

Recommendations for Emission Reduction

- **Optimize Use Phase:** Implement design changes for lower energy consumption (e.g., energy-efficient components, smarter power management) and educate users on efficient product operation.
- **Decarbonize Materials:** Explore substituting high-impact materials like primary Aluminum and Silicon with recycled content or bio-based alternatives, and engage suppliers for lower embodied emissions.
- **Expand Renewable Energy:** Increase the proportion of renewable energy sourced for production facilities and investigate similar sourcing for upstream supply chain processes.
- **Enhance Circularity:** Strengthen take-back and recycling programs ('erwqskjulm') to maximize material recovery and explore circular business models.
- **Improve Logistics:** Optimize transport routes and modes for both upstream and downstream, favoring lower-emission options like rail or electric vehicles.