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Product Carbon Footprint Analysis

for **ildszlsjiv**: **45.333 kg CO2e** per unit

Total Carbon Footprint

45.333 kg CO₂e

Primary Hotspot Stage

Use Phase (88%)

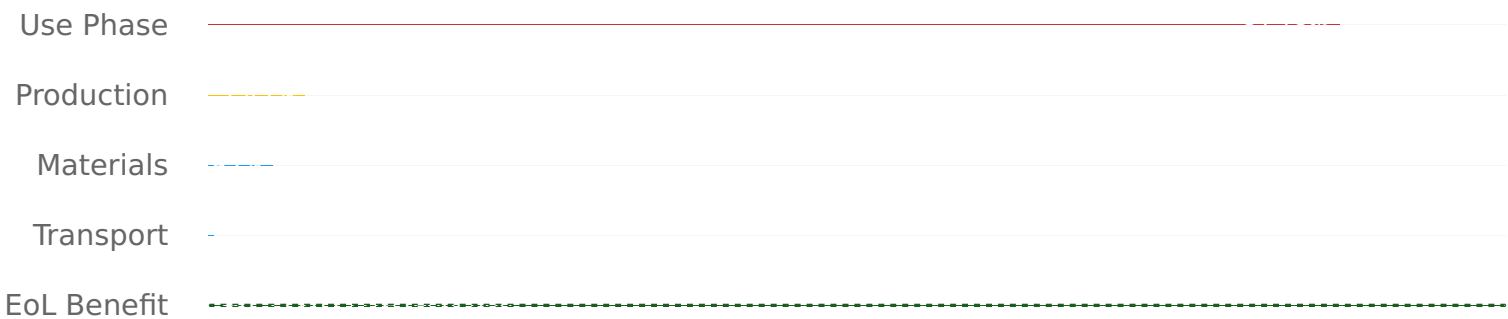
Top Material Impact

Electronic Components (44%)

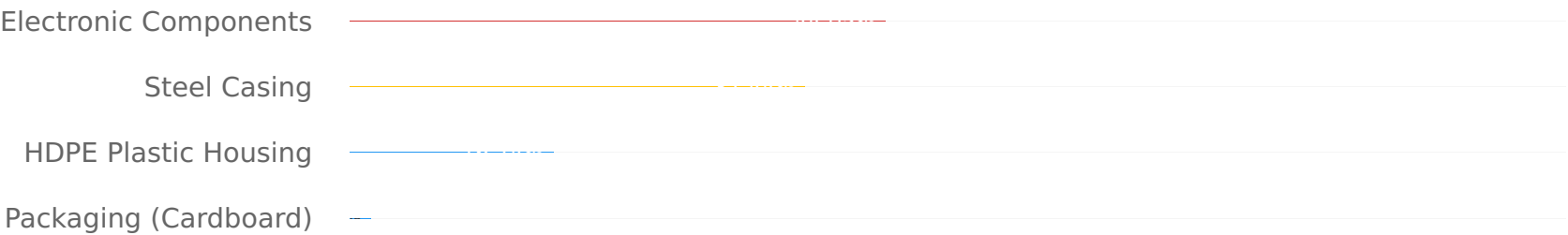
End-of-Life Impact

Net Benefit (-0.55 kg CO₂e)

Lifecycle Stage Emissions Breakdown



Top Material Carbon Impacts (BOM)



Key Insights & Hotspots

- The **Use Phase** is the dominant emission hotspot, contributing approximately **88%** of the total product carbon footprint due to energy consumption during its lifespan.
- **Production (Scope 2)** and **Material Acquisition (Scope 3)**, particularly electronic components (44% of material impact), represent the next significant emission sources.
- **End-of-Life management**, including high recyclability and company-operated take-back programs, results in a **net carbon benefit** of approximately 0.55 kg CO₂e, effectively mitigating overall impact.

Recommended Actions for Reduction

- **Enhance Use Phase Efficiency:** Prioritize product redesign for lower energy consumption, promote renewable energy use by end-users, and provide clear energy-saving guidance.
- **Boost Green Manufacturing:** Increase renewable energy adoption at production facilities (e.g., aiming for 100% renewable usage) and optimize manufacturing processes to reduce energy intensity.
- **Optimize Material Sourcing:** Explore opportunities for lower-carbon materials, increase recycled content for components like steel and plastics, and streamline the Bill of Materials to reduce upstream impact.

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