

CARBONCALCPCF.COM

Product Carbon Footprint Analysis: uxqifgurvz

Total Product Carbon Footprint: **16.34 kg CO₂e**

System Boundary

Cradle-to-Grave

Carbon Intensity (per unit)

16.34 kg CO₂e/unit

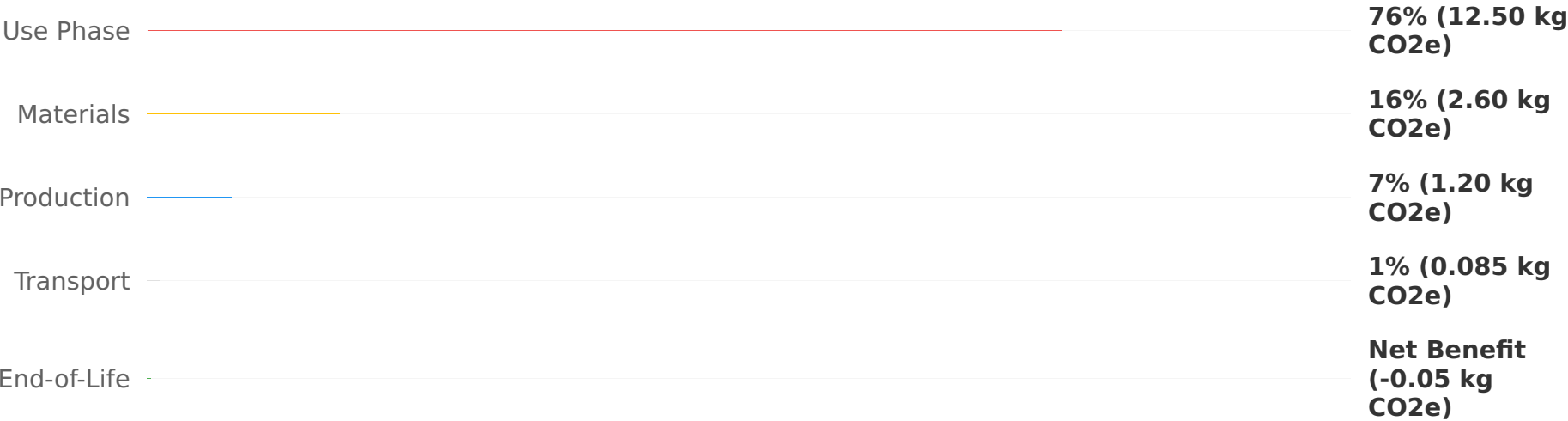
Top Material Hotspot

Steel Casing (1.25 kg CO₂e)

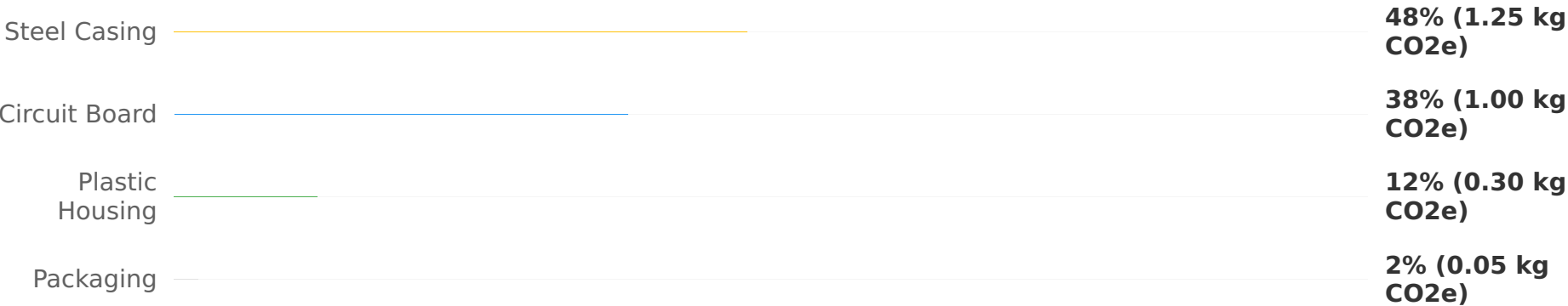
Primary Emission Scope

Scope 3 (15.14 kg CO₂e)

Lifecycle Stage Breakdown



Material Carbon Impact



Highlights

Use Phase is the dominant emission hotspot (76% of total PCF), primarily due to its energy consumption over the product's 5-year lifespan.

Material acquisition and processing contribute significantly (16%), with Steel Casing and Circuit Board identified as the largest material impact areas.

High recyclability (75%) and circular programs ("ffypfduww") lead to a net benefit in the End-of-Life phase, showcasing positive circular economy impact.

How to Reduce Carbon Footprint

Optimize Use Phase: Focus design efforts on significantly improving the product's energy efficiency or extending its operational lifespan through durability and repairability.

Sustainable Sourcing: Investigate and switch to lower-carbon alternative materials or suppliers for key components like steel and electronics.

Increase Renewable Energy: Further investment in renewable energy sources for manufacturing beyond the current 60% can substantially reduce Scope 2 emissions.