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carboncalcpcf.com

Carbon Footprint for hvmgwqinqh

Report Generated: May 20, 2026

Total PCF (Cradle-to-Grave)

23.675 kg CO_2e per unit

Total Footprint

23.675 kg CO_2e

Carbon Intensity

23.675 kg CO_2e/unit

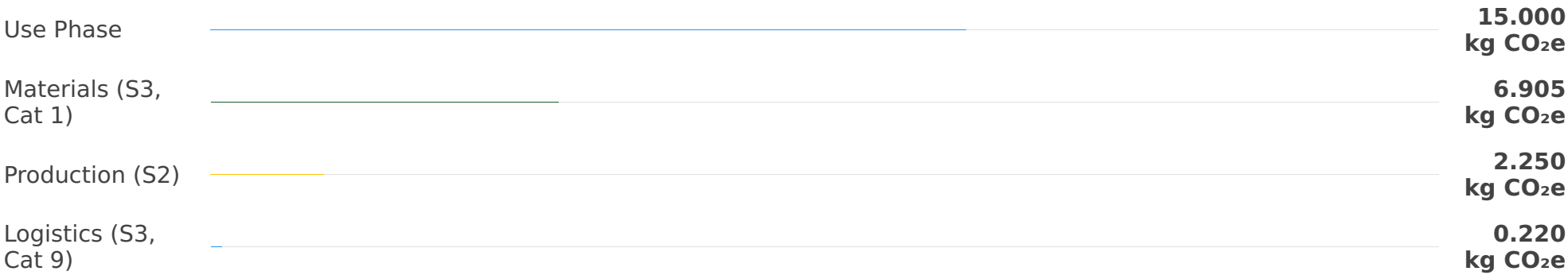
Top Material Hotspot

Circuit Board (PCBA)

Primary Emission Scope

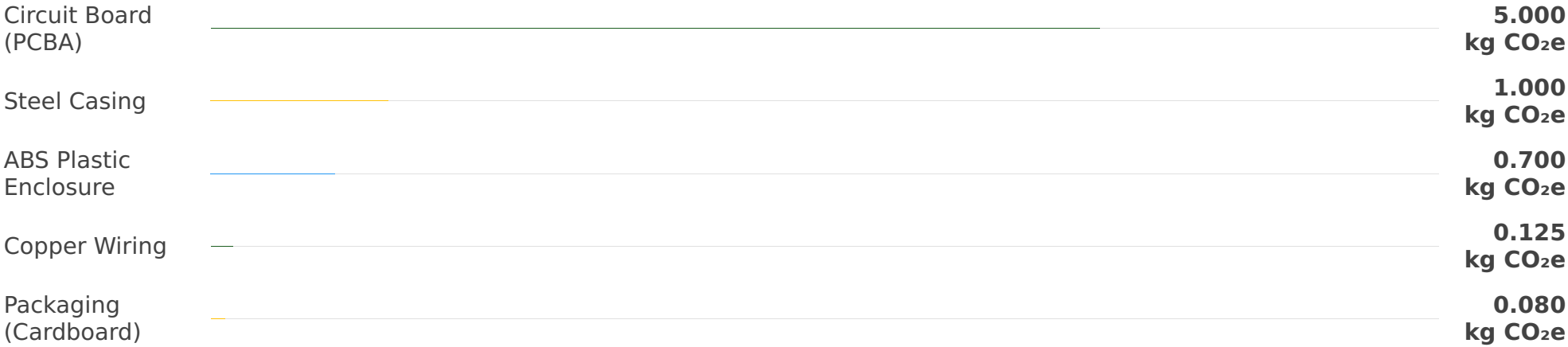
Scope 3 (Use Phase)

Lifecycle Stage Breakdown



End-of-Life (S3, Cat 12) **Net Credit: -0.700 kg CO₂e**

Material Carbon Impact



Highlights & Key Findings

- **Use Phase Dominates:** The product's operational energy consumption accounts for approximately 63% of the total carbon footprint, making it the largest hotspot.
- **Materials are Significant:** Purchased goods and services, particularly the Circuit Board (PCBA), contribute nearly 30% of emissions, highlighting supply chain impact.
- **Circularity Benefits:** A company-led take-back and recycling program results in a net carbon credit at the End-of-Life stage, demonstrating positive circular economy impacts.

Action Plan for Emission Reduction

1. **Optimize Use Phase Efficiency:** Invest in R&D to significantly reduce the product's energy consumption during its operational life and educate consumers on efficient use.
2. **Sustainable Material Sourcing:** Explore alternative, lower-carbon materials for components like the PCBA and plastic enclosure, and engage with suppliers to reduce their emissions.
3. **Increase Renewable Energy in Production:** Aim for 100% renewable energy at the manufacturing facility in China to eliminate remaining Scope 2 emissions.
4. **Enhance Circularity:** Strengthen existing take-back and recycling programs to achieve even higher recyclability rates and explore opportunities for material reuse.