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Product Carbon Footprint for Smart Home Hub (ttxtlioqiu)

Innovate Global Tech (ihejulrpih) - GHG Protocol (Cradle-to-Grave)

17.858
kgCO₂e

per functional
unit

Total Footprint (Net)

17.858

kgCO₂e / functional unit

Carbon Intensity

17.858

kgCO₂e / unit

Top Material Hotspot

PCB with Components

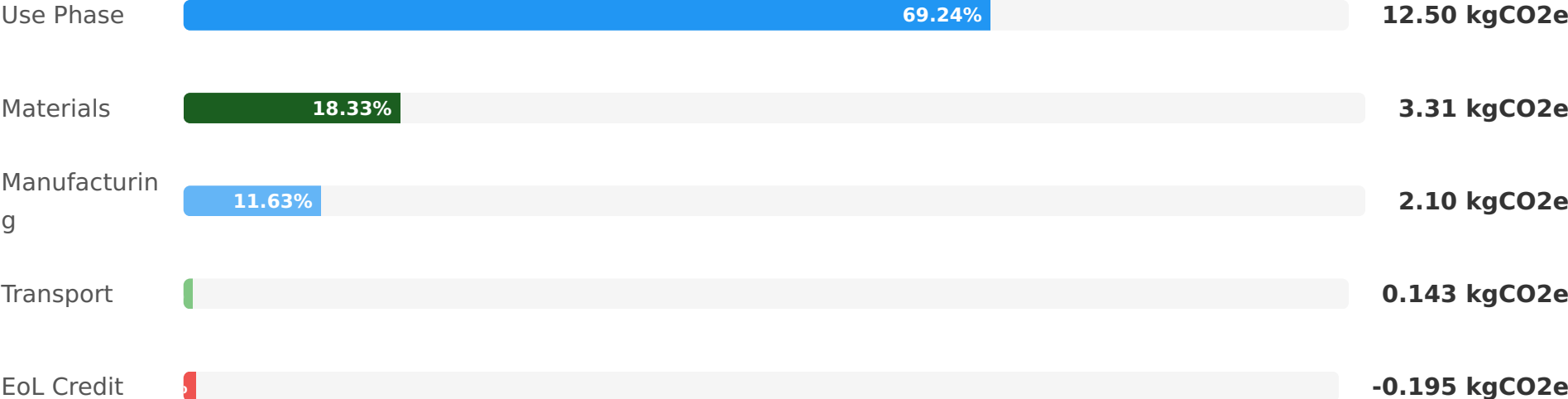
1.25 kgCO₂e

Primary Emission Scope

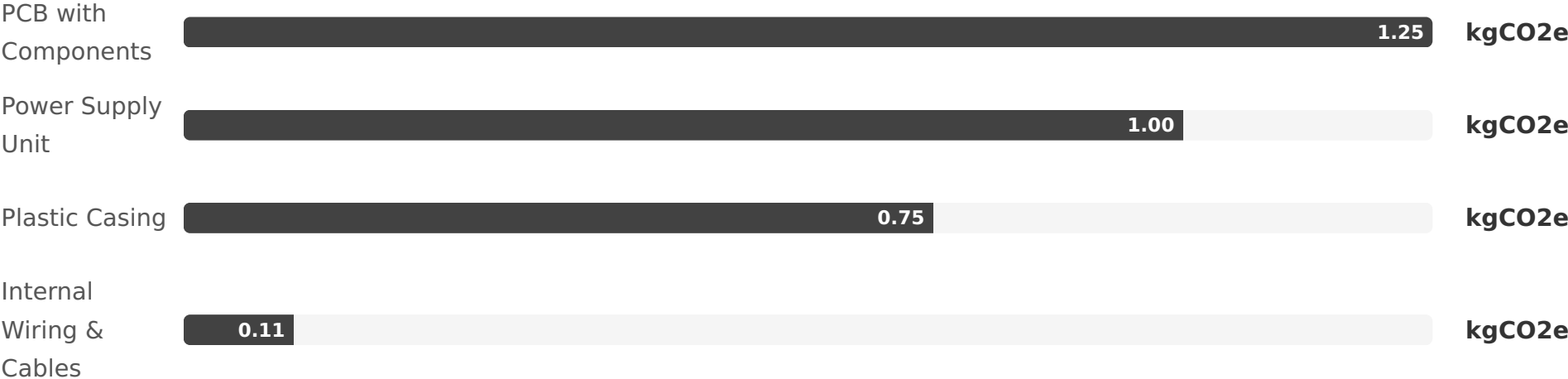
Scope 3

15.758 kgCO₂e

Lifecycle Emissions Breakdown



Top Material Carbon Impact



Key Insights

- The **Use Phase** accounts for the largest portion of the product's carbon footprint (approx. 70%), primarily due to energy consumption over its 5-year lifespan.
- **Purchased Goods & Services (Materials)** represent the second-largest impact (approx. 18.5%), with electronic components like the PCB and Power Supply Unit being significant contributors.
- **Purchased Electricity for Manufacturing** (Scope 2) contributes approximately 11.7% of the total footprint, highlighting the importance of the energy mix in production.

Recommendations for Reduction

- **Optimize Use Phase Efficiency:** Invest in R&D for more energy-efficient components and smart power management to reduce operational energy consumption.
- **Sustainable Material Sourcing:** Explore alternative materials with lower embodied carbon, increase recycled content, and collaborate with decarbonization-focused suppliers for high-impact components.
- **Enhance Renewable Energy Adoption:** Increase the percentage of renewable energy used in manufacturing facilities, particularly in China, to reduce Scope 2 emissions.
- **Strengthen Circular Economy Initiatives:** Expand existing take-back programs to maximize collection, recycling, and material recovery, improving End-of-Life credits.