Product Carbon Footprint

Analysis for **ghnvetjxvn**

Total PCF (1 unit)

21.824 **kg CO2e**

carboncalcpcf.com

Total Footprint

21.824

kg CO2e per unit

Carbon Intensity

21.824

kg CO2e / unit

Top Material Hotspot

Aluminum Casing

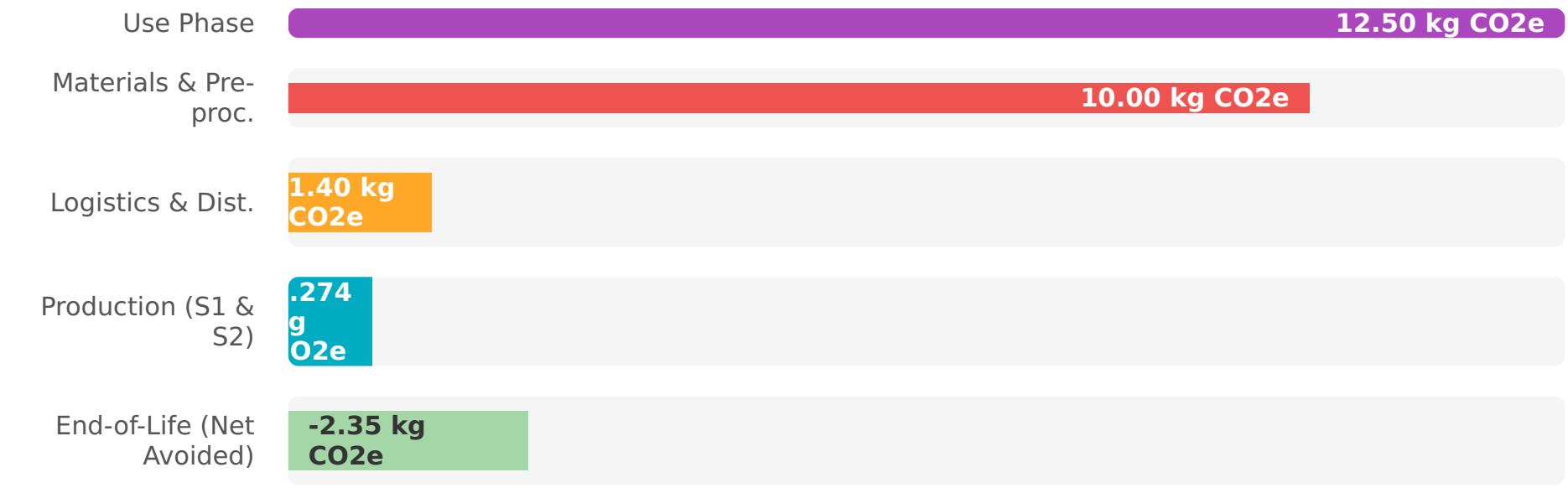
5.0 kg CO2e

Primary Emission Scope

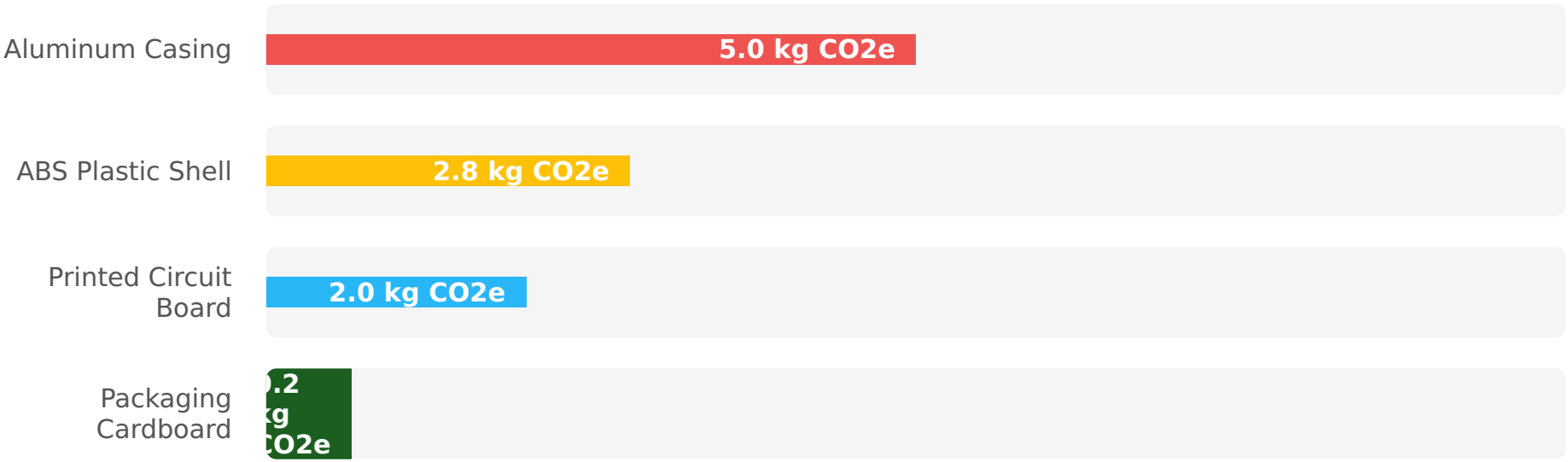
Scope 3

21.55 kg CO2e (98.7%)

Lifecycle Stage Breakdown



Material Carbon Impact



Key Insights & Hotspots

- Material acquisition and pre-processing is the largest gross contributor, accounting for approximately 46% of the total footprint.
- The product's use phase is a significant hotspot, representing about 57% of the total footprint due to operational energy consumption.
- The End-of-Life phase demonstrates a net carbon avoidance of -2.35 kg CO2e, indicating effective recyclability and circular economy initiatives.

Recommendations for Emission Reduction

1. **Material Optimization:**
   - 2. Prioritize sourcing low-carbon materials (e.g., recycled aluminum, bio-based plastics).
   - 3. Implement design strategies for light-weighting to reduce material quantity.
4. **Enhance Use Phase Efficiency:**
   - 5. Explore opportunities to further reduce the product's energy consumption during its operational life.
   - 6. Encourage and educate end-users on utilizing renewable energy sources for product operation.
7. **Strengthen Circularity:**
   - 8. Expand existing take-back programs to maximize product return rates.
   - 9. Collaborate with recycling partners to improve infrastructure and increase recyclability beyond 70%.
10. **Logistics Optimization:**
    - 11. Continuously optimize transport routes and prioritize lower-emission modes (e.g., rail over road).
12. **Data Refinement:**
    - 13. Systematically collect primary data from all tier-1 and tier-2 suppliers for increased accuracy.