html

carboncalcpcf.com

Product Carbon Footprint Dashboard

Detailed analysis for **lsixwumuin**

Total Cradle-to-Gate PCF: 16.675 kg CO_2e

Total Footprint

16.675

kg CO_2e

Carbon Intensity

16.675

kg CO_2e / unit

Top Material Hotspot

Lithium-ion Battery

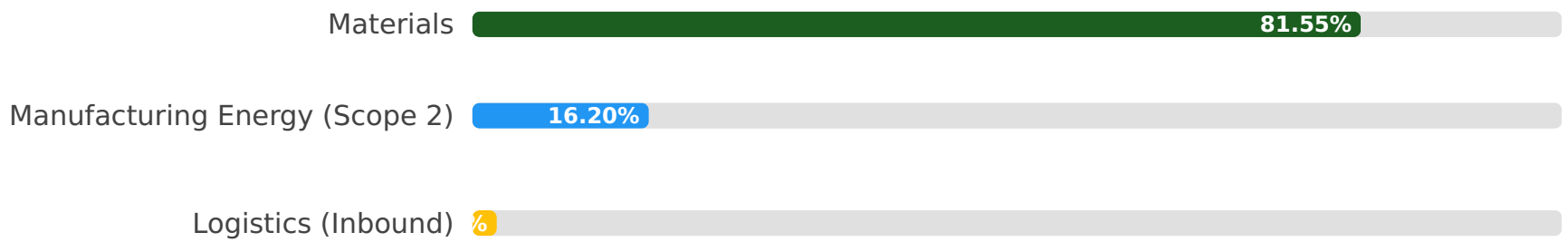
8.0 kg CO_2e (48%)

Primary Emission Scope

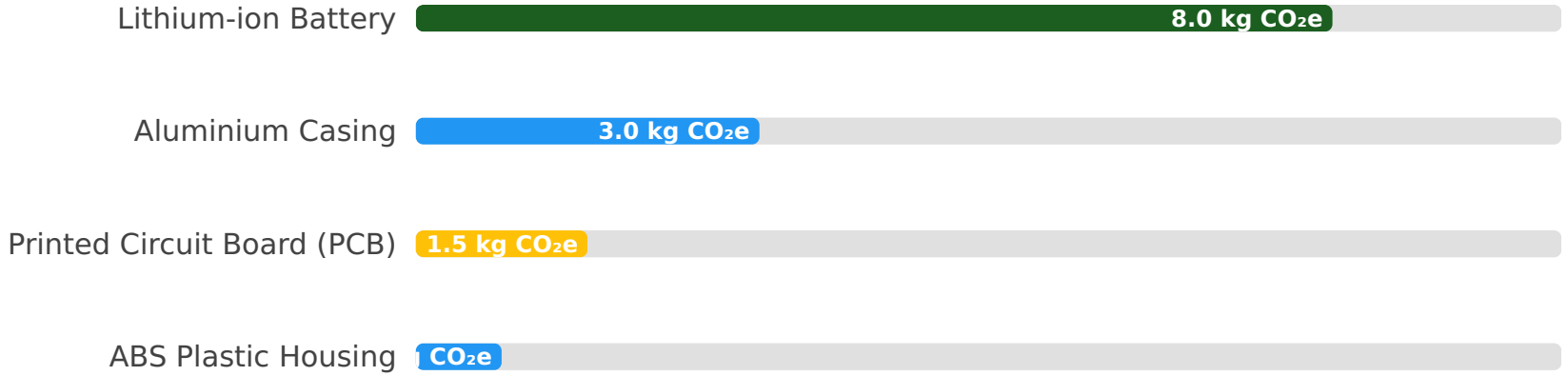
Scope 3 (Upstream)

13.975 kg CO_2e (83.8%)

Lifecycle Stage Breakdown (Cradle-to-Gate)



Material Carbon Impact



Highlights of Carbon Footprint

- Raw materials constitute the dominant emission hotspot, accounting for over 81% of the total cradle-to-gate PCF.
- The Lithium-ion Battery alone contributes nearly half (48%) of the product's overall carbon footprint.
- Despite 70% renewable energy use, manufacturing energy (Scope 2) remains a significant contributor (16.2%) due to the grid emission factor in China.

Note: Use Phase and End-of-Life emissions are considered for informational context outside the strict 'factory_gate' calculation boundary.

Recommendations for Emission Reduction

1. **Material Optimization:** Prioritize sourcing lower-carbon alternatives for high-impact components, particularly batteries and aluminum. Explore increased recycled content and lightweighting designs.
2. **Renewable Energy Procurement:** Further increase the percentage of renewable energy in manufacturing operations beyond the current 70% to significantly reduce Scope 2 emissions.
3. **Supply Chain Engagement:** Collaborate actively with key material suppliers to reduce their upstream (Scope 3) emissions, promoting the adoption of lower-carbon production processes.
4. **Lifecycle Design Integration:** While outside the factory gate, designing for extended durability, energy efficiency during use, and enhanced recyclability will improve the overall lifecycle impact.