

carboncalcpf.com

Product Carbon Footprint Dashboard

Product: swisujeoif | Total PCF: 31.06 kg CO2e/unit

Total Footprint

31.06 kg CO2e
per unit

Carbon Intensity

31.06 kg CO2e
per 1.0 unit

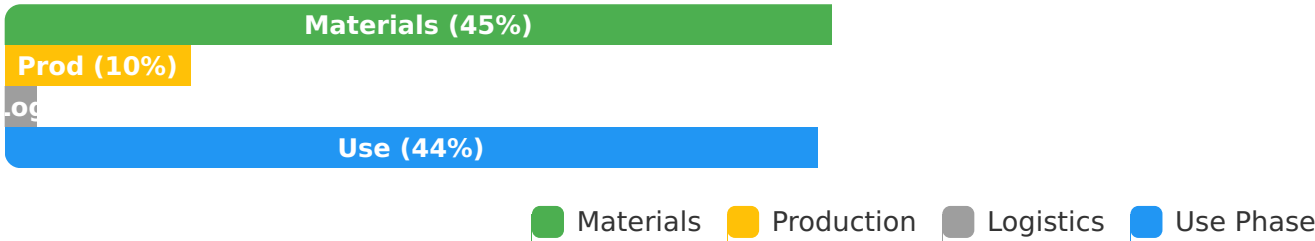
Top Material Hotspot

Silicon Chip
10.0 kg CO2e

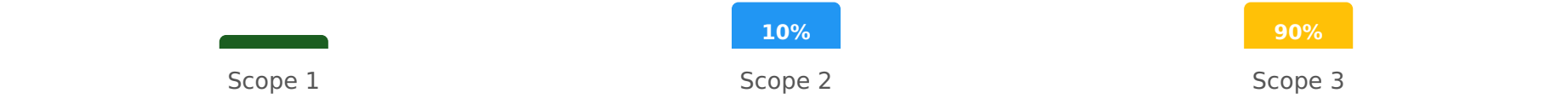
Primary Emission Scope

Scope 3
~89.7% of total

Lifecycle Stage Breakdown



GHG Scope Contribution



Key Insights

- **Materials & Use Phase Dominance:** Purchased goods and services (materials) and the product's use phase collectively account for over 90% of the total carbon footprint, making them the primary hotspots.
- **Significant Scope 3 Impact:** Scope 3 emissions represent nearly 90% of the product's total footprint, emphasizing the importance of value chain decarbonization efforts.
- **End-of-Life Credit:** Robust recycling and take-back programs result in a net carbon credit of -0.62 kg CO₂e/unit, demonstrating the positive impact of circular economy strategies.
- **Production Efficiency:** While contributing less, manufacturing electricity (Scope 2) still accounts for approximately 10% of emissions, highlighting areas for further renewable energy integration.

Recommendations for GHG Reduction

1. **Material Optimization:** Focus on sourcing lower-carbon alternatives for high-impact components like the Silicon Chip and Aluminum Casing, and optimize design for material efficiency.
2. **Energy Efficiency in Use Phase:** Implement design improvements and software optimizations to significantly reduce the product's energy consumption during its operational lifetime.
3. **Manufacturing Decarbonization:** Continue to increase renewable energy usage at the China manufacturing facility and optimize production processes to further reduce energy intensity.

4. **Circular Economy Strategies:** Enhance product recyclability through design for disassembly and expand take-back programs to maximize resource recovery and generate further carbon credits.