

Samsung Galaxy S24 Ultra

Product Carbon Footprint (PCF) Summary

powered by carboncalcpcf.com

~102.3 kg

TOTAL LIFETIME CO2E

Cradle-to-Grave

SYSTEM BOUNDARY

GHG Protocol

ACCOUNTING STANDARD

China

PRODUCTION COUNTRY

Lifecycle Stage Breakdown

Material Extraction	~53.8%
Manufacturing & Assembly	~31.8%
Product Use Phase	~7.3%
Transportation & Distribution	~4.4%
End-of-Life	~2.0%
Packaging	~0.7%

Carbon Footprint by GHG Scope

Scopes

Breakdown

■ Scope 1 (Direct): <1% ■ Scope 2 (Energy): ~10.5% ■ Scope 3 (Indirect): ~89.4%

Key Insights & Hotspots

- **Manufacturing Dominates:** Up to 90% of the carbon footprint comes from material extraction and manufacturing processes.
- **Recycled Content Critical:** Samsung's integration of recycled materials (e.g., cobalt, REEs, steel, aluminum, glass, plastics) significantly mitigates virgin material impacts.
- **End-of-Life (EoL) Challenge:** A low global recycling rate (~15%) for smartphones means most devices end up in landfills, representing missed recovery opportunities.

Recommendations for Reduction

- **Increase Recycled Content:** Continue to expand the types and proportions of recycled materials used, especially for energy-intensive components.
- **Renewable Energy in Manufacturing:** Encourage suppliers to transition to renewable energy sources for manufacturing operations.
- **Extend Product Lifespan:** Promote device longevity through durable design, ease of repair, and extended software support.
- **Advance Recycling Systems:** Invest in and support advanced recycling technologies to improve material recovery from end-of-life devices.