

carboncalcpcf.com

Product Carbon Footprint Analysis

MG ZS EV 2021

Total Estimated PCF: 24,769.1 kg CO₂e

Functional Unit

1.0 unit

System Boundary

Cradle-to-Grave

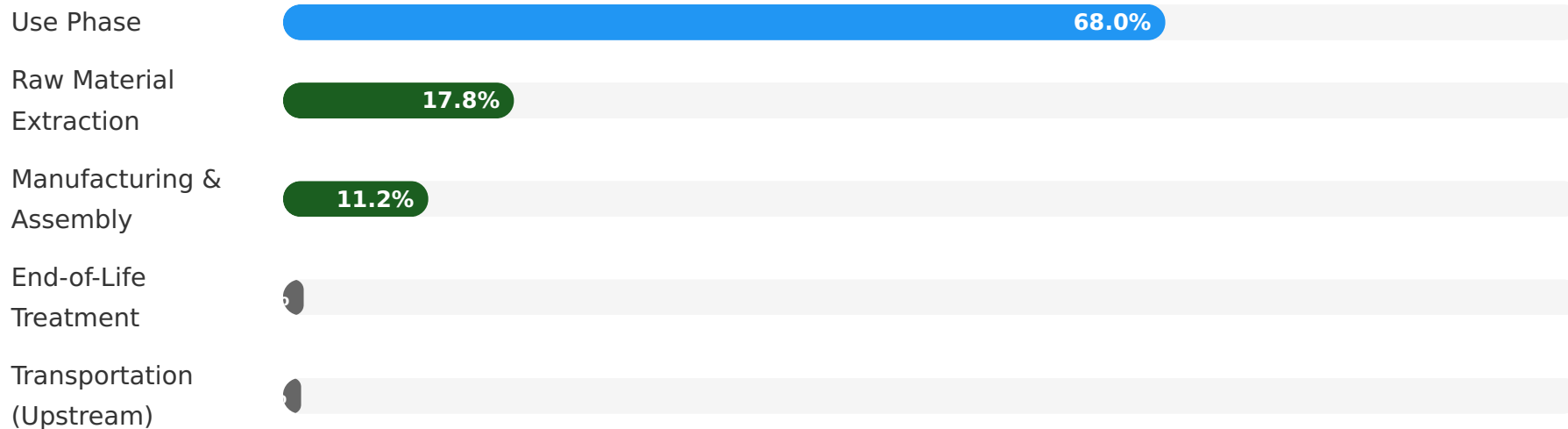
Production Country

China

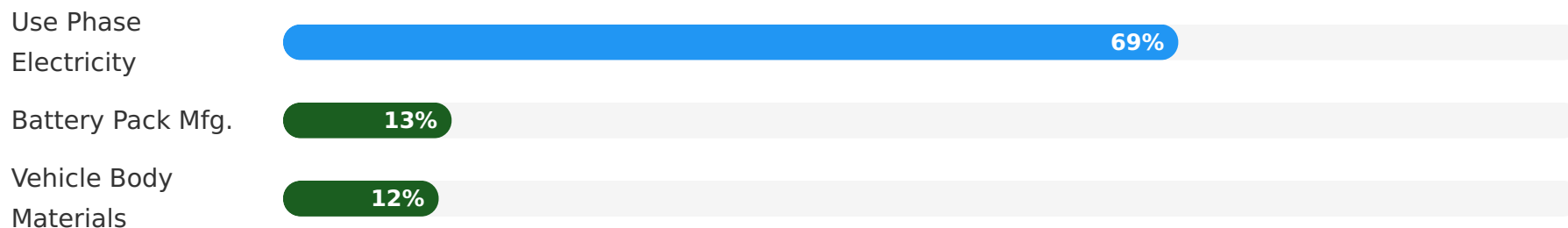
Reporting Standard

GHG Protocol

Lifecycle Stage Breakdown



Key Emission Hotspots (Top 3)



Key Insights & Hotspots

- Use Phase Electricity Consumption is the largest contributor, accounting for approximately 69% of the total PCF, heavily influenced by the grid mix of the region where the vehicle is charged (e.g., Australia's grid mix of 0.62 kg CO₂e/kWh).
- Battery Pack Manufacturing (including raw material extraction and assembly) is a substantial hotspot, contributing approximately 13% of the total PCF, driven by energy-intensive processes for refining metals and cell production.
- Production of primary Steel and Aluminum for the vehicle body and chassis contributes approximately 12% of the total PCF due to their high embodied energy and associated emissions.

Recommendations & Action Plan

- ****Promote Renewable Charging:**** Encourage and invest in charging infrastructure powered by renewable energy to significantly reduce use-phase emissions.
- ****Sustainable Battery Lifecycle:**** Focus on R&D for lower-impact battery chemistries, improve manufacturing efficiencies, and enhance circularity through advanced battery recycling.
- ****Circular Material Economy:**** Increase the use of recycled content for high-impact materials like steel and aluminum in vehicle body and components.
- ****Supply Chain Optimization:**** Implement strategies to optimize upstream and downstream logistics, reducing transportation-related emissions.
- ****End-of-Life Enhancement:**** Develop and scale robust end-of-life recycling and recovery programs for all vehicle components, particularly critical raw materials.