

carboncalcpcf.com

Product Carbon Footprint Dashboard

Reading Glasses +6

Total PCF: **0.261 kg CO2e**

Total Footprint

0.261 kg CO₂e

Carbon Intensity

0.261 kg CO₂e / unit

Based on 1.0 unit

Top Material Hotspot

TR-90 Plastic

(Frame: 0.108 kg CO₂e)

Primary Emission Scope

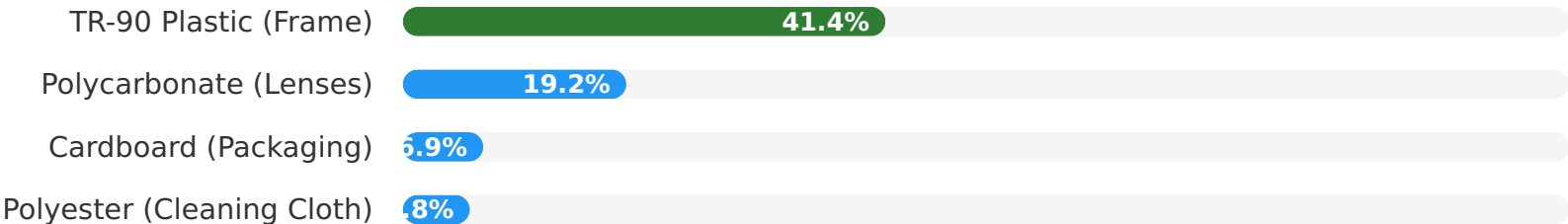
Scope 3

(Purchased Goods & Services)

Lifecycle Stage Breakdown



Carbon Impact by Material (Top Contributors)



Highlights & Key Insights

- Material acquisition, primarily plastics like TR-90 and Polycarbonate, is the dominant emission hotspot, accounting for 77.6% of the total carbon footprint.
- End-of-life treatment, particularly the incineration of fossil-derived plastics, contributes significantly as the second-largest emission source at 10.8%.
- The manufacturing energy, although relatively low per unit, still represents a notable 8.6% of the total footprint, indicating potential for reduction through renewable energy sourcing.

How to Reduce the Carbon Footprint

- **Material Innovation:** Prioritize sourcing of recycled or bio-based plastics for frames and lenses, and explore materials with inherently lower cradle-to-gate emission factors.
- **Circular Economy Design:** Design for enhanced durability, repairability, and recyclability. Implement take-back programs to ensure proper end-of-life management and material recovery.
- **Supplier Engagement:** Collaborate closely with material and component suppliers to encourage and track their transition to renewable energy sources and more efficient manufacturing processes.
- **Logistics Optimization:** Strategically review and optimize supply chain routes and transportation modes, favoring less carbon-intensive options like ocean freight or electric vehicles where feasible.