carboncalcpcf.com

Ozempic 0.25mg Carbon Footprint

Detailed analysis for 1.0 unit (including packaging) - Factory Gate, Denmark

Total PCF: 0.11075 kg CO_2e

Key Metrics

Total Product Footprint

0.11075

kg CO_2e per unit

Carbon Intensity (per unit)

0.11075

kg CO_2e / unit

Top Material Hotspot

Plastics

Pen Body (40.63%)

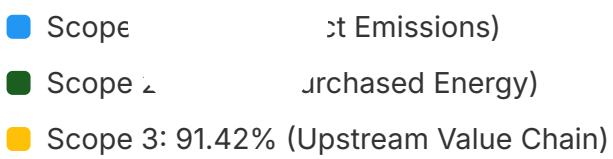
Primary Emission Scope

Scope 3

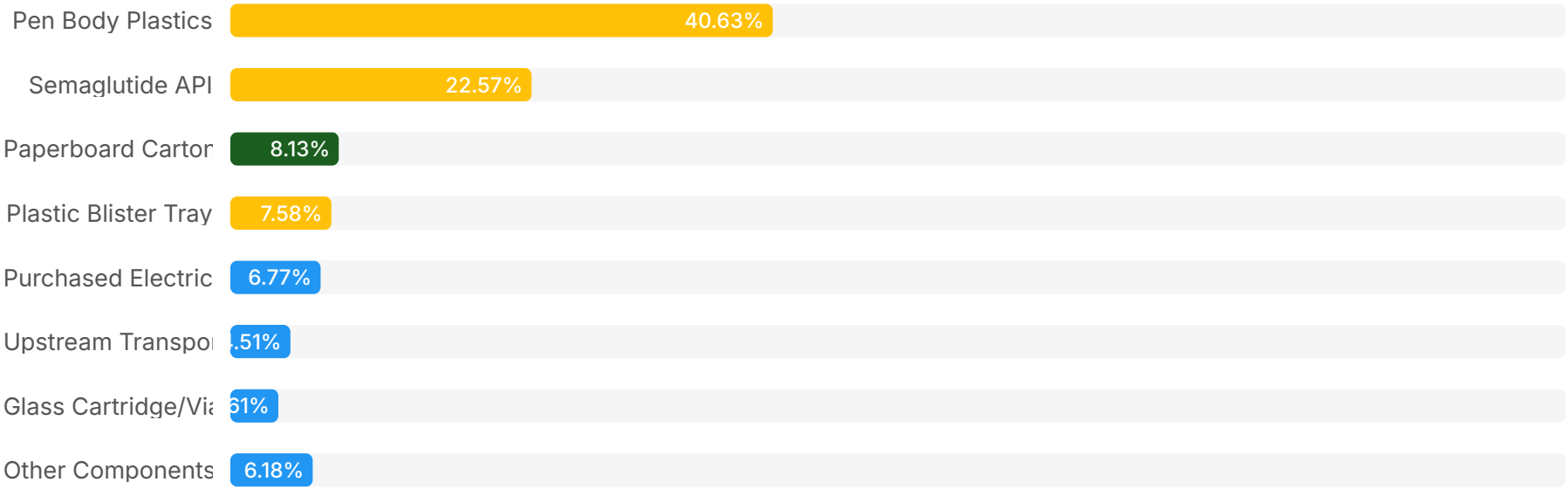
Upstream Value Chain (91.42%)

Emission Breakdown

GHG Scope Breakdown



Material & Activity Carbon Impact



Key Insights & Actionability

Highlights from the Report

- The Active Pharmaceutical Ingredient (API) and plastic components for the pen body are the most significant emission hotspots, contributing over 63% of the total product carbon footprint up to the factory gate.
- Scope 3 emissions, primarily from purchased goods and services, dominate the overall PCF, highlighting the importance of upstream supply chain engagement for emission reduction.
- Despite the energy-intensive nature of pharmaceutical production, Denmark's low-carbon electricity grid significantly mitigates the Scope 2 emissions for the final assembly phase.

Recommended Action Plan

- **API Sourcing:** Investigate opportunities for green chemistry, process optimization, and renewable energy adoption at API manufacturing facilities to drastically reduce upstream impacts.
- **Sustainable Packaging:** Explore high-recycled content plastics or bio-based alternatives for pen bodies, blister trays, and caps, while maintaining pharmaceutical safety and regulatory compliance.
- **Logistics Optimization:** Implement strategies to optimize upstream transportation, focusing on modal shifts to lower-emission options (e.g., rail, sea freight over air) and route efficiency.
- **Supplier Engagement:** Collaborate with key suppliers to gather primary data and jointly develop science-based targets for emission reductions across the value chain.