

html

carboncalcpcf.com

Product Carbon Footprint Dashboard

Smart IoT Sensor Unit (jqutqwelwz)

Total PCF (Cradle-to-Grave):

28.843 kg CO₂e / unit

Total Footprint (C2G)

28.843 kg CO₂e

Overall impact, raw material to end-of-life.

Factory Gate Footprint

8.69 kg CO₂e

Up to manufacturing completion.

Top Material Hotspot

Silicon Microcontroller

Contributes 2.50 kg CO₂e.

Primary Emission Scope

Scope 3

Value chain emissions dominate.

Key Insights & Highlights

- The **Use Phase** is the single largest contributor to the product's carbon footprint, accounting for approximately 70% of total emissions due to energy consumption over its 7-year lifespan.
- **Material acquisition** represents the second most significant hotspot, with the Silicon Microcontroller and Lithium-Ion Battery being key contributors to upstream emissions.
- InnovateTech Solutions' **company-managed recycling incentive** program effectively reduces end-of-life impacts, providing a net avoided emission credit.

Recommendations for Reduction

- **Optimize Use Phase Efficiency:** Focus on designing more energy-efficient products to reduce long-term energy consumption.
- **Supply Chain Engagement:** Collaborate with material suppliers to identify and promote lower-carbon materials and manufacturing processes.
- **Increase Renewable Energy:** Further increase the share of renewable energy sources in manufacturing operations in China.
- **Enhance Circularity:** Expand and promote the existing recycling incentive program to maximize material recovery.
- **LSR Integration:** Proactively gather more specific data on land-use impacts associated with raw material sourcing.