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Carbon Footprint Dashboard: EcoSmart Widget X

Product: dyhpvvvdrs | Quantity: 1.0 unit | Standard: GHG Protocol
System Boundary: Cradle-to-Gate with Use Phase and End-of-Life (factory_gate)
Production Country: China

40.56 kgCO2e

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Total Footprint

40.56 kgCO2e

Per 1.0 unit (EcoSmart Widget X)

Carbon Intensity

40.56 kgCO2e/unit

Emissions per functional unit

Top Material Hotspot

Aluminum Casing

3.50 kgCO2e (out of 5.55 kgCO2e material total)

Primary Emission Scope

Scope 3

Dominant due to Use Phase & Materials

Highlights & Key Insights

The **Use Phase** is the dominant contributor to the PCF (31.03 kgCO2e), accounting for approximately 76.5% of total emissions, primarily due to electricity consumption over the product's 5-year lifespan in China.

Materials Acquisition contributes 5.55 kgCO2e, with Aluminum Casing and Lithium-Ion Battery production identified as significant hotspots within this stage.

An effective **End-of-Life (EoL)** strategy, including 70% recyclability and a 20% return rate from circular programs, results in a net carbon benefit of -0.80 kgCO2e, reducing the overall footprint.

Recommendations: How to Reduce Carbon Footprint

- ✓ **Enhance Use Phase Efficiency:** Invest in R&D for more energy-efficient components or provide incentives/ guidance for users to power the product with renewable energy sources.
- ✓ **Optimize Material Sourcing:** Explore increasing the proportion of recycled content, especially for high-impact materials like aluminum, and work with suppliers to reduce their upstream emissions.
- ✓ **Increase Renewable Energy in Manufacturing:** Target 100% renewable energy usage at the manufacturing facility to eliminate Scope 2 emissions.
- ✓ **Expand Circularity:** Leverage the established circular/take-back programs to maximize material recovery and explore reuse or refurbishment models beyond simple recycling to further enhance End-of-Life benefits.