

# TÜV Rheinland Product Carbon Reduction for Electrical Products

#### WHY PRODUCT CARBON REDUCTION

The world is actively striving to address the challenge of global warming, and reducing or even eliminating greenhouse gas emissions has become a critical task. During the entire lifecycle of electronic and electrical products—from raw material acquisition or generation to end-of-life treatment—carbon emissions are generated.

While it is relatively common for products' carbon footprints to be calculated and offset, TÜV Rheinland places greater emphasis on the industry's focus on the development and utilization of low-carbon materials and the design of low-energy-consuming products. We aim to assist businesses in continuously exploring solutions to reduce carbon emissions right from the source.



#### **SERVICE HIGHLIGHT**

TÜV Rheinland has developed "Product Carbon Reduction" service that aims to determine the carbon footprint reduction ratio of electrical products between the current and previous generations through rigorous third-party audits. The service evaluates the reduction ratio of carbon emissions at each stage of the product's lifecycle (Cradle to Grave), including raw materials, manufacturing, transportation, use, and disposal, as well as carbon reduction management plans and measures. It recognizes companies' efforts in the field of product carbon reduction in a more transparent manner.

TÜV Rheinland conducts strict audits and assessments of greenhouse gas emissions over the same lifecycle of two generations of products. The certification is based on internationally recognized standards as ISO 14067 and TÜV Rheinland's own standard 2 PfG Q2880/09.23. The product carbon reduction results are then published on the Certipedia platform.













# **BEFORE MANUFACTURING** (CRADLE)

Design stage: about product design and structure

Raw material: any recycled material being used

#### **MANUFACTURING**

Manufacturing process

#### **DISTRIBUTION**

Ways of transportation

Measures to increase product's energy efficiency

Measures to increase product's lifespan

#### **DISPOSAL (GRAVE)**

Degradable Recyclable

## PROCESS OF ACHIEVING CARBON REDUCTION



# **Setting Product Carbon Reduction Targets**

- Identify carbon reduction paths
- Develop carbon reduction measures and plans



# **Calculated or Verified Carbon Footprint**

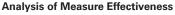
- Carbon Calculation Method
- Carbon Emission Source
- Software Used and etc



### **Certified Carbon Reduction**

a. Reduction ratio and absolute value declaration b.Lower Carbon Emission than benchmark







**Corporate Product Carbon Reduction Claims** 

#### APPLICABLE PRODUCT SCOPE













- IT/AV products and accessories
- Household appliances
- Power and Garden Tools
- Luminaries / LED

# SERVICE SCOPE

- Product Similarity Analysis
- Product Carbon Reduction Ratio Output
- Carbon Reduction Measure Effectiveness Analysis
- Carbon Reduction Measure Sensitive Analysis



#### MAKE SUSTAINABILITY WORKS FOR YOU

TÜV Rheinland's is to assist manufacturers in their journey towards carbon neutrality. By gradually reducing carbon emissions, we can collectively curb global warming and create a sustainable future. Explore our Product Carbon Reduction Service today and take a step towards a greener tomorrow.

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