

Carbon Footprint Calculation of the products delivered to Schaeffler

1 Our motivation and target

The calculation of a product’s carbon footprint has become increasingly important. The global climate targets aim at a decarbonized world. For this purpose all products must be evaluated for their climate impact. The Product Carbon Footprint (PCF) is a method to determine the climate impact of a product. As a key sustainability tool, it helps not only to meet customer requirements, but also to track and improve the company's sustainability performance. To ensure the expectations in terms of consistency, transparency, and informative value, we, as Schaeffler, and our suppliers need a standardized basis for calculation – the ISO 14067.

Therefore it is our target to calculate our product-specific carbon footprints based on verified and realistic values according to ISO 14067.

2 Advantages

The calculation of product carbon footprints can support companies in this process to

- **create transparency** in the value chain regarding upstream and downstream processes and the actors involved,
- **raise awareness** of greenhouse gas emissions along the value chain and identify particularly high-emission phases,
- **identify potentials** on how to reduce emissions,
- **document improvements** in the CFP, for example over product generations,
- **gain impetus** for the (further) development of one's own climate strategy.

3 How to operationalize for a specific product: Product Carbon Footprint (PCF)

According to ISO 14067, the carbon footprint of a product is the sum of greenhouse gas emissions (GHGs) and removals in a product system (from cradle to Schaeffler gate), expressed as CO₂ equivalents.

For the selection of suitable and applicable emission factors, it is recommended to contact material, component and energy suppliers. In addition, special certified emission databases can be used. In any case, a transparent and consistent selection of emission factors must be conducted.

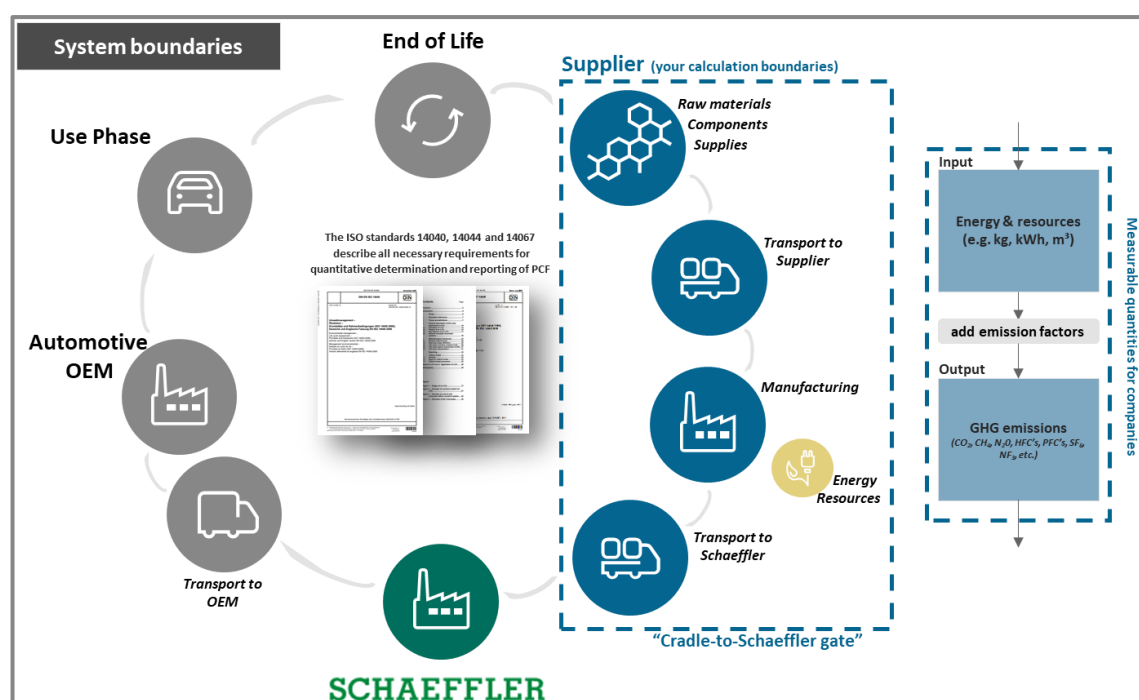
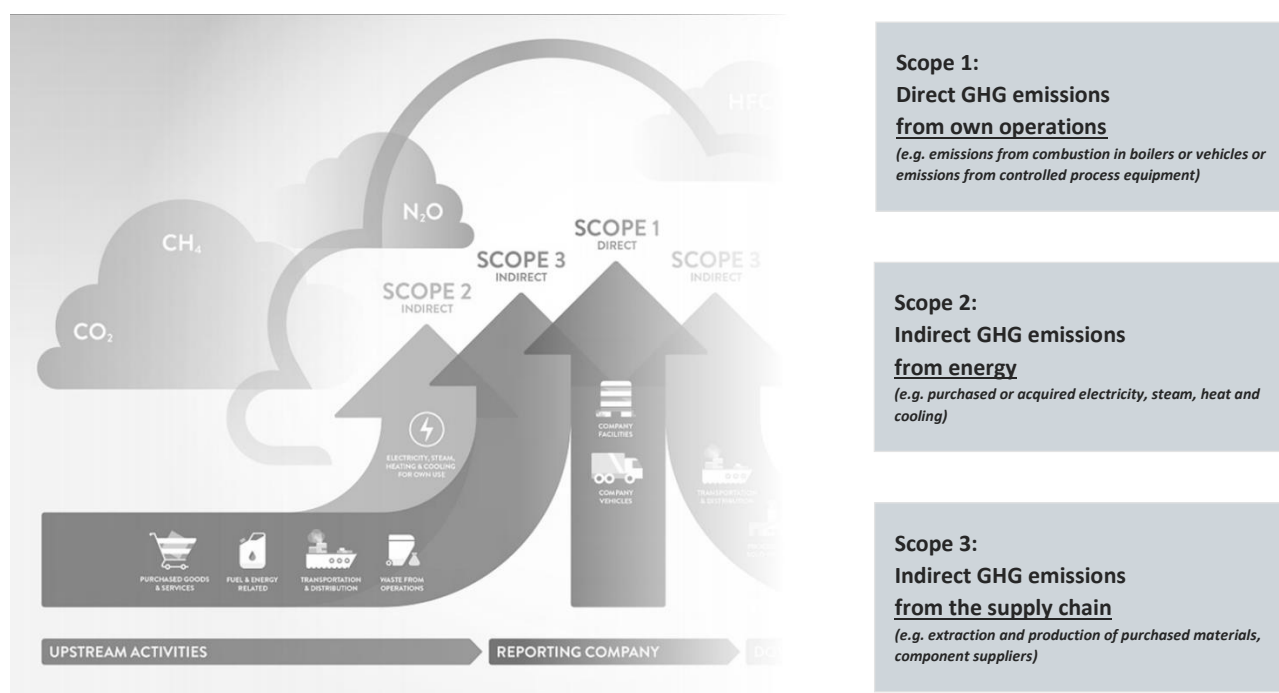


Figure 1: The full life cycle of a product with a “cradle-to-Schaeffler gate” scope for a Schaeffler supplier

4 Scope 1, 2 & 3: What is it?

Especially for GHG accounting and reporting purposes three “scopes” are defined by the globally recognized GHG Protocol Standard. This scope-specific approach helps to classify direct and indirect emission sources and to structure climate policies and business goals.



Scope 1:
Direct GHG emissions from own operations
(e.g. emissions from combustion in boilers or vehicles or emissions from controlled process equipment)

Scope 2:
Indirect GHG emissions from energy
(e.g. purchased or acquired electricity, steam, heat and cooling)

Scope 3:
Indirect GHG emissions from the supply chain
(e.g. extraction and production of purchased materials, component suppliers)

Figure 2: An overview of scopes and emissions across the value chain according to GHG protocol (figure modified)

5 Further information and guidelines

Greenhouse Gas Protocol GHG Standard

ISO 14067:2018¹ | Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification

ISO 14040:2006¹ | Environmental management — Life cycle assessment — Principles and framework

ISO 14044:2006¹ | Environmental management — Life cycle assessment — Requirements and guidelines

Global LCA Data Access GLAD

¹ Procurement of ISO standards must be carried out independently