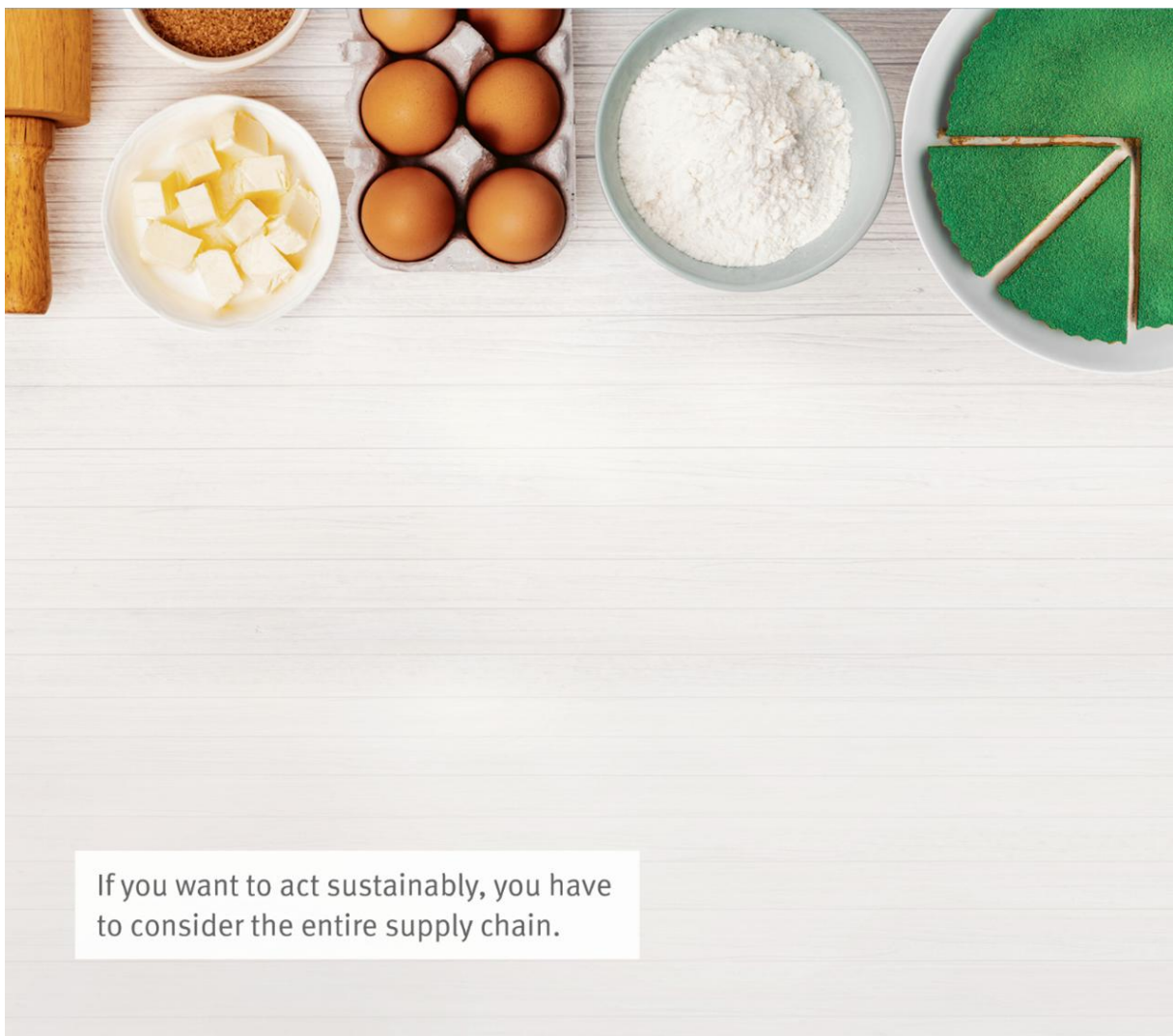


Product Carbon Footprint | Framework for Suppliers acc. to ISO14067



If you want to act sustainably, you have to consider the entire supply chain.

Content

- 1. Scope..... 3
- 2. General Requirements 3
 - 2.1. Scope of the Study 3
 - 2.2. Data and Data Quality 4
 - 2.3. Representativeness of the PCF Study 4
 - 2.4. Accounting for Chain-of-Custody Models and emission accounting methods..... 4
- 3. Minimum Requirements for Determining the PCF According to ISO 14067 5
 - 3.1. Life Cycle Impact Assessment (LCIA) Method 5
 - 3.2. Functional or Declared Unit 5
 - 3.3. System Boundaries..... 5
 - 3.4. Cut-off Rules..... 6
 - 3.5. Allocation Rules 6
- 4. Communication and Reporting of PCF Study Results 6
 - 4.1. Required Content of PCF Study..... 7
 - 4.2. Required Content of GHG Statements..... 8
- 5. Review, Evaluation and Data Processing 8
- 6. Versions and Change History..... 8
- 7. Contact 8

1. Scope

The versatile application fields of Schaeffler products require compliance to various industry- and customer-specific requirements for the creation and communication of environmental footprint information.

This document describes the minimal requirements of the Schaeffler Group for determining the Carbon Footprint of a Product or Product Carbon Footprint (PCF) delivered to the Schaeffler Group. It also outlines the requirements for communicating the results, calculations, and the necessary documentation. The goal is the establishment of a common base for evaluating and comparing product-related CO₂e emissions.

In addition to the requirements stated in this document, industry-specific requirements may also apply, depending on the product or service delivered (e.g., the Catena-X Product Carbon Footprint Rulebook for Automotive Technologies, ...).

2. General Requirements

The supplier is obliged to ensure that they can perform a PCF study for the products delivered to the Schaeffler Group according to ISO 14067 and communicate the results accordingly.

For the PCF study appropriate Product Category Rules (PCR) must be applied. PCRs can be provided by industry associations or public authorities.

For certain purchased goods and materials, the application of specific PCRs may be made mandatory by group standards or other industry requirements.

For steel suppliers with own steelworks incl./excl. ironmaking facilities, as approved suppliers of the Schaeffler Group with reference to S 296900 "Quality Assurance Agreement with suppliers of the Schaeffler Group" and the relevant module "Raw material and semi-finished products", the S 269001 "Product category rules for crude steel and semi-finished steel products" must be applied.

If no PCRs are specified or available for the product, the minimum requirements for conducting the LCA or PCF study in paragraph 3 of this document apply.

2.1. Scope of the Study

The scope of the PCF study covers the product lifecycle according to the "Cradle-to-Gate" approach, including resource and raw material extraction, transportation to the production site, and all necessary production steps of the supplier and its sub-suppliers. Internally occurring transportation emissions should also be considered. See section 3.6 System Boundaries for detailed definition.

2.2. Data and Data Quality

To perform the calculation according to ISO 14067, site-specific data for all processes over which the supplier has financial or operational control must be recorded as far as possible.

For processes that together contribute to at least 80% of the footprint, site-specific data should always be used, even if they are not under the financial or operational control of the supplier. The collected data must be representative for the considered processes.

Secondary data may only be used for inputs and outputs if collecting primary data is not feasible. The use of secondary data must be justified and documented with references in a PCF study report as described in paragraph 4 of this document.

2.3. Representativeness of the PCF Study

The calculation and the data used must be representative in terms of geography, technology, and time.

Geographically representative:

The calculation of the product is performed for the respective production location. If the product is produced at multiple locations, a separate PCF study must be conducted for each production location.

Technologically representative:

The PCF study must reflect the current manufacturing route of the product. It is permissible to aggregate products produced by the same process system at the same location to product groups or product families and evaluate them together, if the differences in the total emitted greenhouse gas emissions are less than 5%.

Time representative:

The calculation of the product is averaged over a one-year period. Always use the data from the previous year (business or calendar year) for the calculation. The period over which the data used for the PCF study was collected must be specified.

2.4. Accounting for Chain-of-Custody Models and emission accounting methods

If the chain-of-custody models "Mass Balancing" or "Book & Claim" according to ISO 22095 are used, the changes in the carbon footprint of the assessed product resulting from the application of the accounting method must be reported separately. The same applies for other methods of emission balancing and accounting. The emission surcharges and deductions that are applied for emission balancing must be also reported separately.

3. Minimum Requirements for Determining the PCF According to ISO 14067

The requirements of this paragraph are only valid if there is no PCR available for the assessed product or product family and if no other external or internal standards apply.

3.1. Life Cycle Impact Assessment (LCIA) Method

The contribution to global warming is evaluated as GWP (100) according to IPCC AR6 or climate change total according to EF3.1 and given in the unit kg CO₂e. The LCIA method used must be stated in the report.

3.2. Functional or Declared Unit

The functional or declared unit is the reference unit to which inputs, outputs, and their impacts (e.g., emissions) relate.

As a standard, 1 kg of product is set as the declared unit, e.g., 1 kg of screws, balls, plastic granulate, etc. This applies regardless of the state of aggregation, as the specific density is considered.

For countable products, e.g., a part or a component, 1 piece (pcs) can be set as the declared unit. In this case, the net weight of the part in kg must be specified.

The unit refers to 1 kg or 1 piece of finished, unpackaged goods at the supplier's factory gate. However, the influence of packaging must be considered when calculating the PCF. The factory gate refers to the last gate after which direct transport to a part of the Schaeffler Group occurs.

If a product is typically purchased in a different unit than mentioned above, e.g., m, m², etc., the use of this unit as the declared unit can be agreed upon. In this case, the specific weight of the unit must be specified to allow conversion to 1 kg.

3.3. System Boundaries

The system boundaries define the cradle-to-gate boundary precisely by listing all processes and inputs that can be assigned to the product under study.

If no PCR is available, the system boundaries listed here are to be used, if they are relevant for the assessed products.

- Raw material extraction and raw material procurement
- Production of materials and semi-finished products
- Production of parts and components
- Packaging of parts and components (including materials and all operations necessary for packaging)
- Disposal of production and packaging waste
- Logistics (including internal logistics and transport packaging)
- Energy and material for quality control in production
- Energy for IT process and production control

Emissions not directly related to the production of the product should not be considered.

3.4. Cut-off Rules

The following cut-off rules apply:

- Materials and auxiliaries contributing less than 1% to the total mass input can be excluded if the total exclusion does not exceed 1% of the total mass input.
- Energy inputs contributing less than 1% to the total primary energy input can be excluded if the total exclusion does not exceed 1% of the total primary energy input.
- Emissions to air, water, and soil, as well as waste contributing less than 1% to the total mass output, can be excluded if the total exclusion does not exceed 1% of the total mass output.

3.5. Allocation Rules

If allocation to by-products (system expansion) cannot be avoided in a process module with multiple outputs, the PCF study report must detail how much of the environmental impact is balanced by the allocation to by-products.

4. Communication and Reporting of PCF Study Results

The supplier must provide a detailed PCF study report according to ISO 14067 upon request.

If third-party verified GHG statements or a verified Type III environmental product declaration (EPD) according to ISO 14025 already exists these can also be accepted as proof for the PCF, if the assessment is done according to a publicly available PCR and verified by a third-party accredited to ISO 14065.

If the PCF is not conducted according to a publicly available PCR, third-party verified GHG statements can only be accepted as a proof for the PCF if either a PCF study report or appropriate documentation containing the information required must be provided.

The proof of the use of a validated systematic approach for determining the PCF, e.g., using a validated software tool, is not sufficient to ensure plausibility and comparability of the determined PCF. In this case, either a PCF study report or appropriate documentation containing the information required (see section 4.1) used for the systematic approach or in the software and the subsequent assessment must be provided

4.1. Required Content of PCF Study

The purpose of the PCF study report is to describe the PCF study and the result. It is intended to make the calculation more transparent and comprehensible and enables the auditability and comparability of the results.

It should include the mandatory information stated in the ISO 14067, but must at least include the following information:

- The functional/declared unit or reference flow to which the calculation relates (see section 3.2)
- System boundaries, including the inputs and outputs of the system (see section 3.3)
- A list of the process modules considered in the system
- The selected cut-off criteria and exclusions (see section 3.4)
- The selected allocation procedures (see section 3.5)
- Details on the data used to assess the impact of inputs and outputs:
 - Characterization of the data (primary or secondary)
 - The selected characterization/emission factors, e.g. from databases, name of database and the dataset used
 - For primary data, description of source of the used data, e.g. measured energy consumption multiplied with grid factor, average emissions of purchased steel raw material based on supplier information, etc.
 - Handling of electricity, information about the grid emission factor
- Results of the PCF quantification as a mass of kg CO₂e per functional or declared unit
- The proportion of primary data in the resulting PCF quantification
- Temporal validity range for which the data and the study are representative (see section 2.1)
- Reference to the applied PCR or other additional requirements used in the study

Additionally, the following GHG values must be documented separately in the PCF study report:

- The net amounts of GHG emitted and removed from fossil fuels
- The amounts of GHG emitted and removed from biogenic sources
- The amounts of GHG emitted and removed because of direct land-use change
- The biogenic carbon content in the product (if applicable)
- The GHG amounts allocated to by-products (if applicable, see section 3.5.1)
- The GHG amounts deducted or added through emission balancing or accounting (if applicable see section 3.9)

4.2. Required Content of GHG Statements

GHG statements must at least contain the following information, to be accepted:

- Name of the assessed product or product family
- Emission date
- The assessed production site(s) of the product
- Results of the PCF quantification as a mass of kg CO₂e per functional or declared unit
- The functional/declared unit or reference flow to which the calculation relates (see section 3.2)
- The proportion of primary data in the resulting PCF quantification
- Temporal validity range for which the data and the study are representative (see section 2.1)
- Reference to the applied PCR or other additional requirements used in the study
- The GHG amounts allocated to by-products (if applicable, see section 3.5.1)
- The GHG amounts deducted or added through emission balancing or accounting (if applicable see section 3.9)

5. Review, Evaluation and Data Processing

The provided documents will be reviewed and evaluated internally. If the data is accepted, the PCF values will be processed and stored internally. The data will be used for supplier assessments, internal and external reporting purposes and to answer customer requests.

The provided data can be rejected if they do not fit the requirements of this document, Schaeffler Group standards or other industry-specific requirements.

Neither the provided data nor supplier specific information are directly shared with third parties outside of the Schaeffler Group.

6. Versions and Change History

Version	Date of Change	Changed by	Reason/Subject
1.0	26.03.2025	Michael Schwab	Initiation

7. Contact

In case of any further questions, please, contact your respective Schaeffler buyer.