



# Product Carbon Footprint (PCF) Verification

**Add value.  
Inspire trust.**

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Demonstrate your commitment to environmental sustainability today. TÜV SÜD's product carbon footprint verification offers you and your stakeholders transparency regarding your greenhouse gas emissions.

### **What is a Product Carbon Footprint (PCF)?**

The Product Carbon Footprint (PCF) is a method for measuring, managing, and communicating greenhouse gas (GHG) emissions related to a lifecycle of goods or services.

PCF is based on the methodology of Life Cycle Assessment (LCA) but focuses exclusively on the issue of global warming, which is caused by greenhouse gas emissions. The result of a PCF analysis is a total GHG emission value expressed in CO<sub>2</sub>-equivalents linked to a defined unit of product or service.

Many companies use LCA-based methods to identify stages or processes of a product lifecycle that generate a significant carbon footprint. PCF can trace your product's carbon footprint starting from the extraction of the needed resources, production, use, and where applicable to the end of life of the product.

### **Why is it important to provide a Product Carbon Footprint?**

A PCF is calculated for many reasons and often a third-party verification is required. Most common motivations are:

- **PCF contributes to global sustainability efforts**  
Due to world-spanning sustainability efforts such as the EU's Green Deal or the US Inflation Reduction Act of 2022, companies are more and more incentivised or even required to measure and report their potential impact on the environment.

Currently, these efforts are mainly focused on climate change. These overarching sustainability efforts gain relevance as they are translated into industry-specific regulation. For instance, there are regulations that require verified product carbon footprints for industrial and EV batteries.

- **Boosting environmental sustainability without compromising core IP**

Direct emissions often only contribute a small share to the total product's carbon footprint, while emissions outside single companies' spheres of influence may highly influence the footprint due to a complex and globalised supply chain.

OEMs and brands that wish to boost their market reputation and product differentiation through environmental sustainability claims can influence upstream supply chains to make accurate and reliable product emission data available. By including TÜV SÜD, the core IP of the suppliers is not compromised, as the PCF can be validated and/or verified by an independent and impartial third-party.

- **Building credibility**

To enhance their market reputation and reassure stakeholders, companies should provide assurance that the results of their carbon footprint calculation for goods or services are trustworthy.

The Life Cycle Assessment standards ISO 14040 & ISO 14044 serve as basis for the Product Carbon Footprint and are heavily referenced in the PCF standard ISO 14067.

As the LCA methodology has significant leeway in its application, a uniform critical review is necessary to build credibility. For PCF validation and/or verification (ISO 14064-3), this review approach is included in TÜV SÜD's quality-ensuring process to offer the highest trust possible in the PCF report.

- **Maintaining reputation**

For a company to be free of unclear or untrue product claims on product sustainability, or to avoid being accused of "greenwashing", an assessment such as a PCF study is an absolute must.

The next step towards reducing the risk of untrue claims, is to have extensive checks performed by an impartial third-party – only then can a company be certain and reliably trusted about their claims.

### TÜV SÜD PCF Services

TÜV SÜD offers an unbiased pool of trained experts to validate and/or verify a PCF for virtually any product. Our experience and expertise in PCF verification add credibility to the results and statements of your PCF and add value to your brand. TÜV SÜD can also minimise any reputational losses of your brand by substantiating your product claims.

Our PCF validation and/or verification activities ensure quality and trust, which can boost sales and improve business at scale. Even as you enter new market segments with novel products, customers can be convinced of the environmental quality of your product through our industry-leading third-party assessment.

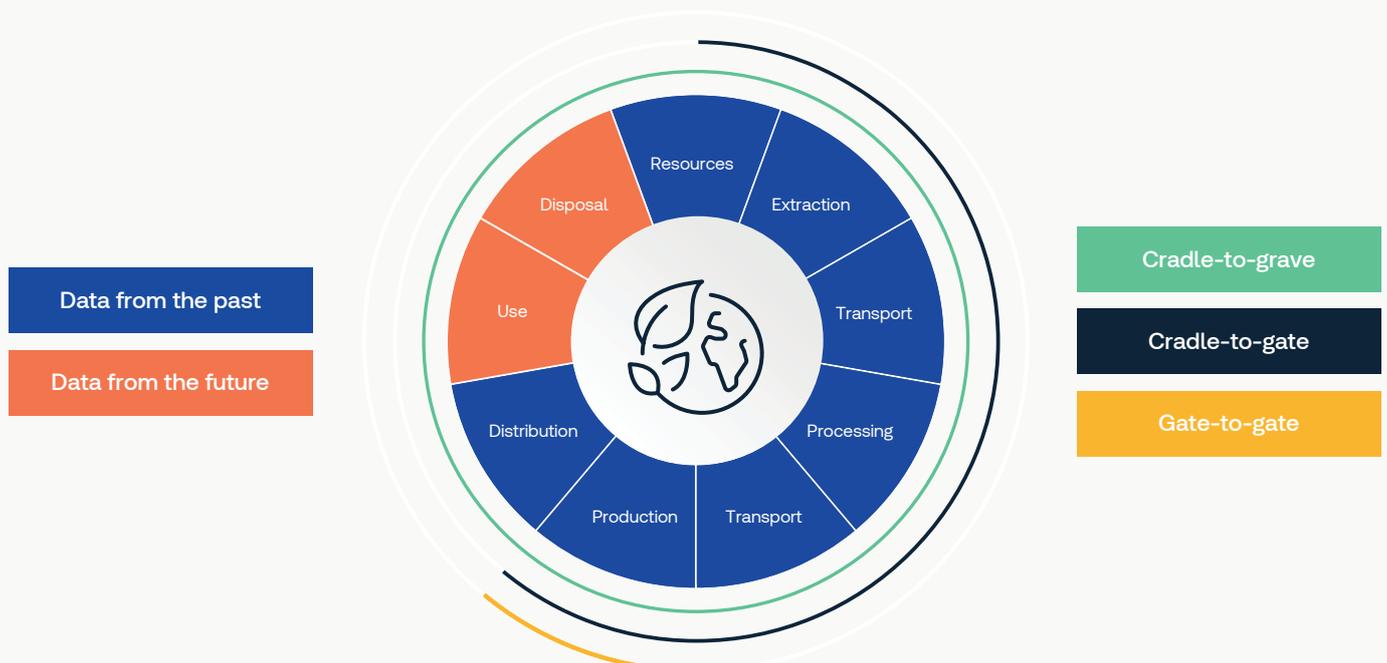
### TÜV SÜD service offering includes

- **PCF verification/validation**

A verification is a confirmation of a claim, through the provision of objective evidence, that specified requirements have been fulfilled. Our PCF verification process consists of evaluating one or several claims based on historical data. As PCF verification becomes compulsory for more and more products, TÜV SÜD can prepare your company for a more regulated market that prioritises sustainability.

Our PCF verification is conducted with strict adherence to ISO 14064-3, 14065, 14067, 17029, and applies to cradle-to-gate assessments. When modelling the whole life cycle, future activities often need to be included. Their plausibility can be validated through TÜV SÜD's mixed PCF engagement option.

## Validation & verification for PCF studies under the ISO standards



- **Life cycle assessment critical review**  
If your company is unsure whether a PCF assessment is sufficient to make your products more environmentally friendly or sustainable, you can opt for a Life Cycle Assessment (LCA). As this is a more comprehensive solution that includes but isn't limited to GHG emissions, your company can better quantify further potential environmental impacts of your product's life cycle and make more informed decisions to reduce such potential environmental impact.

Commonly assessed potential environmental impacts are water use, abiotic resource depletion, ecotoxicity, eutrophication, and many more. As there is considerable leeway in the application of the LCA methodology, a thorough critical review process (ISO 14071) is recommended to ensure trustworthiness, reliability, and comprehensiveness.

- **Joint development of large-scale LCA/PCF assurance procedures**  
As more products require verified sustainability information, TÜV SÜD can assist companies in creating a larger project framework for trustworthy environmental data of product categories or for products from multiple manufacturing locations.

TÜV SÜD also adapts to the needs of digital platforms and sharing approaches to enable a standards-based, transparent assurance process that can shape future ecosystems governing LCA/PCF exchanges and calculations.

## Process of LCA critical review and PCF verification project





#### **Who can benefit from PCF verification/validation?**

PCF will become relevant for all producing companies. This includes but is not limited to manufactures of consumer electronics, textiles, batteries, household products, automotive components, and industrial goods. The trustworthiness is generated through the independent third-party validation and/or verification activity.

#### **Why choose TÜV SÜD?**

As TÜV SÜD is an internationally accredited testing and certification body, you can be assured that we conduct our testing with the highest degree of professionalism and conformance to international guidelines and standards. Our international network enables us to offer certification, validation, verification and auditor engagement on every continent, certifying organisations' compliance on a global scale.

Our global network of labs and experts combining with these circular economy principles can help your organisation with the requirements and available standards and schemes for different industries.

#### **Add value. Inspire trust.**

TÜV SÜD is a trusted partner of choice for safety, security and sustainability solutions. It specialises in testing, certification, validation, verification, auditing and advisory services. Through more than 25,000 employees across over 1,000 locations, it adds value to its customers, inspiring trust in a physical and digital world.

### **Related services**

#### **TÜV SÜD provides the following related services**

- Recycled content verification and certification
- Recyclability certification of packaging
- Biobased testing
- Supply chain traceability
- Chemical safety of raw materials and products (based on RoHS, POP, REACH regulations)
- Chemical safety of process chemicals according to ZDHC (Zero Discharge of Hazardous Chemicals)
- Biodegradability testing and certification