

WHY LEARN AND USE THE PRODUCT ENVIRONMENTAL FOOTPRINT (PEF) METHOD?

Getting familiar with PEF now, helps your business to prepare for the future.

- PEF helps to understand, prioritize, and improve your own supply chain and use of resources through a life cycle approach. It can help you put in place **measures to save resources** and focus on areas that have the largest impact on the overall environmental performance of your products.

- PEF can be used to **communicate environmental performance to clients** or businesses within the supply chain through a standardised approach.

- If a PEF Category Rules (PEFCR) are used, PEF allows you to **compare your product's** environmental performance with that of similar products in the European market.



BACKGROUND

To ensure fair competition among manufacturers and **improve comparability** and **communication** of the **environmental performance of products**, the European Commission (EC) proposed the **PEF method** as the default way to evaluate and measure the environmental impacts of products throughout their **life cycle**¹ (from extraction of raw materials to their production, transportation, use and disposal).

WHAT IS THE PEF METHOD?

The PEF is a life cycle-based method, with detailed rules on how to calculate the environmental contribution of products to a fixed set of 16 environmental impacts (such as contribution to global warming, water scarcity and land use). The method gives precise guidance to model, collect data, and analyse the results for all the flows in and out to the environment, during a product's entire life cycle.

WHAT IS A PEFCR?

For certain product categories (such as for apparel and footwear), the PEF method is complemented by PEF Category Rules (PEFCRs). These provide additional guidance on specific aspects and parameters that are most relevant, to calculate the PEF, for a specific product category. Having a PEFCR contributes to increased consistency of the results and it reduces the cost of conducting a PEF study.

16 ENVIRONMENTAL IMPACTS CONSIDERED IN THE PEF METHOD



Climate change



Water use



Land use



Acidification



Eutrophication, terrestrial



Particulate matter



Resource use, mineral and metals



Resource use, fossils



Ozone depletion



Human toxicity, non-cancer



Eutrophication marine



Ecotoxicity freshwater



Eutrophication, freshwater



Human toxicity, cancer



Ionising radiation, human health



Photochemical ozone formation, human health

¹[https://eur-lex.europa.eu/legal-content/EN/TXT/?_csrf=c210354f-eaad-4b3c-b08a-23ff6f4cbf54&lang1=EN&lang2=choose&lang3=choose&uri=PI_COM:C\(2021\)9332](https://eur-lex.europa.eu/legal-content/EN/TXT/?_csrf=c210354f-eaad-4b3c-b08a-23ff6f4cbf54&lang1=EN&lang2=choose&lang3=choose&uri=PI_COM:C(2021)9332)

² Each PEFCR is based on an average product sold in the EU market (for example an average women shirt of size 38, to cover the upper body including the entire arm). PEFCRs are currently developed on a voluntary basis and led by consortia (called technical secretariats) together with industry actors representing at least 51% of the EU consumption market (in terms of turnover).

THE APPAREL AND FOOTWEAR PEFCR

is being developed in Europe on a voluntary basis by a multi-stakeholder coalition of industry organizations (such as Nike, Inditex and Gore-Tex) and led by the Sustainable Apparel Coalition (SAC). It covers 13 sub-categories of final clothing and footwear products. The final PEFCR is expected to be published by the end of 2023.



THE 13 PRODUCT SUB-CATEGORIES COVERED BY THE APPAREL AND FOOTWEAR PEFCR REPRESENTATIVE PRODUCTS – RP

WHAT IS A PEF STUDY?

A PEF study measures the environmental impact of a product over the fixed set of 16 environmental categories, following the PEF method or the PEFCR (if available). A PEF study provides recommendations on how to improve the environmental impact of the product along its life cycle.

10 STEPS TO DEVELOP A PEF STUDY

- 1 Identify the goal and scope of your study. 
- 2 Draft a detailed flow diagram with all processes and activities involved. 
- 3 Identify the data needs and collect company-specific data
 - Perform the data collection.
 - Perform the data quality assessment.
- 4 Model the entire system that is being analysed
 - Identify the secondary data needed.
 - Follow the modelling rules outlined in the PEF and the PEFCR.
- 5 Perform the impact assessment. 
- 6 Check the model and assess the data quality. 
- 7 Data collection iteration: if the quality requirements are not reached. 
- 8 Fill in the PEF report template. 
- 9 Verification and validation
 - Invite the external reviewer (or review panel).
 - Organise the mandatory onsite visit.
- 10 Finalisation
 - Update the final report including all reviewer comments.
 - Remove confidential information and publish the non-confidential version of the report.
 - Share the aggregated EF-compliant dataset of the product with the European Commission.

WHO CAN DO A PEF STUDY?

Any company within the product value chain (e.g., the retailer of the product, the distributor or the manufacturer) can perform a PEF study, as long as they obtain the product-specific data so that:

(i) the list of ingredients (**bill of materials**) is specific to the product in scope, and

(ii) the **manufacturing processes** of the product in scope is modelled with product-specific data (e.g., the amount of electricity needed for weaving or stitching shall be directly measured at the factory producing the product, or the amount of heat needed for gluing shall be derived from the manufacturer of the product).

HOW MUCH DOES A PEF STUDY COST?

The cost of a PEF study depends on the complexity of the supply chain and the data availability (or easiness of gathering data). A comparative **life cycle assessment study**, ready for communication to external stakeholders, can cost around 40,000 and 60,000 Euro. Applying the PEF method will lower this cost as it gives standard guidance on how to build the model and avoids methodological discussions. **Applying a PEFCR** further lowers the costs of a PEF study, due to the specific product focus and its additionally detailed guidance. The use of a **PEFCR-based software** tool would reduce the costs even further and would be an added value for SMEs.

A PEF study (including the model, new datasets, the results, and the report) always needs to be reviewed by an independent external review panel. This cost is additional. The **external review** cannot be avoided to achieve PEF-compliance and must happen before any external communication of the PEF results can be made by the company. Without a reviewed PEFCR-based calculation tool, the costs for the external review of a PEF study can raise-up to 8,000-10,000 Euro.

WHAT ARE THE BENEFITS FOR COMPANIES JOINING THE INTEX PROJECT?

The United Nations Environment Programme (UNEP) is implementing the EU-funded InTex project to promote innovative business practices and economic models in the textile value chain. InTex supports selected textile SMEs in Kenya, South Africa, and Tunisia to calculate their product environmental footprints and develop sustainable business models:

- InTex allows selected textile SMEs to receive technical and financial support to conduct a PEF study and calculate their product's environmental footprint.
- InTex SMEs will learn the needs and requirements to apply PEF and will benefit from exposure to international exchanges and expertise.
- InTex SMEs will stay at the forefront of new environmental developments, showing leadership (e.g. fulfil the increasing requirements from buyers), and maintaining competitive advantage.



IMPORTANT REFERENCES

PEF METHOD:

- **First PEF method, published in April 2013:** Commission Recommendation on the use of common methods to measure and communicate the life cycle environmental performance of products and organisations
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32013H0179>

- **Most recent PEF method, published in December 2021:** EC (2021)9332 Commission recommendation on the use of the Environmental Footprint methods to measure and communicate the life cycle environmental performance of products and organisations
https://environment.ec.europa.eu/system/files/2021-12/Commission%20Recommendation%20on%20the%20use%20of%20the%20Environmental%20Footprint%20methods_0.pdf

POLITICAL CONTEXT:

- **Context on the need of PEF in the European market:** Single market for green products
<https://ec.europa.eu/environment/eussd/smgp/index.htm>

- Details on the initiative for substantiating green claims:

https://ec.europa.eu/environment/eussd/smgp/initiative_on_green_claims.htm

PEFCRS AVAILABLE OR UNDER DEVELOPMENT:

- Different PEFCRs made available so far by the European Commission:
https://ec.europa.eu/environment/eussd/smgp/PEFCR_OEFSR_en.htm

- Current PEFCR under development in 2021 and 2022:
https://ec.europa.eu/environment/eussd/smgp/ef_transition.htm

- Textile PEFCR under development (stakeholder registration required):
<https://webgate.ec.europa.eu/fpfis/wikis/display/EUENVFP/PEFCR+for+ap>



InTex