

RECOMMENDATIONS FOR
THE DEVELOPMENT OF THE
**PRODUCT
ENVIRONMENTAL
FOOTPRINT**

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Environmental Footprint Methods: Points of caution and EEB recommendations for the development of the Product Environmental Footprint

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Introduction

What are the environmental impacts of a product? The “PEF” or [Product Environmental Footprint](#) is an initiative by the European Commission to create a harmonised methodology to answer this question. Since more than a decade this methodology has been under development, and it is safe to say that the Commission did not expect how difficult and politically contested this would be.

The EEB has been involved in the process at different stages, however, given the level of technical knowledge required, it has been difficult to secure enough resources and build up adequate technical know-how to follow the PEF process in detail.

This document aims at summarising the EEB’s previous positions: the shortcomings we see with the PEF methodology, and for which purposes it should therefore not be used. We also aim to give our perspective on where the PEF can nevertheless be useful.

What is the PEF?

The PEF is a standardised methodology that was launched by the European Commission to create a common way of calculating the environmental impacts and resource use of a product system over its entire life cycle – from resource extraction to its disposal. It is therefore a form of Life Cycle Assessment (LCA).

The main reference documents for the PEF are the [general recommendations on the use of the Environmental Footprint methods](#) and the more specific guidelines tailored to different product categories such as apparel and footwear, animal feed or beer, the so called [PEF Category Rules \(PEFCRs\)](#).

The method describes the environmental impacts and resource use of products in 16 environmental impact categories. The categories cover environmental problem fields such as climate change, ocean acidification or the depletion of the ozone layer. The specific categories were chosen because of their relevance and because sufficiently robust assessment methods exist.

However, being “sufficiently robust” does not mean that all methods are equally comprehensive – it simply means that they meet a minimum quality threshold for inclusion. For example, substantial work has been done on the climate change category (“Global Warming Potential”), which is widely regarded as one of the most robust assessment methods. By contrast, other assessment methods remain comparatively basic, have received far less attention, or address environmental problem areas that are still not well understood. This is the case, for instance, for toxicity-related categories (e.g. the “USEtox model”) and for categories related to resource depletion.

Other important impacts are not (yet) covered or not sufficiently covered by the considered impact categories and the underlying assessment models, such as biodiversity loss and microplastic pollution.

Ultimately, the methodology weights the scores for the 16 impact categories into an aggregated single score – the “Product Environmental Footprint”.

Beyond the 16 impact categories, the PEF allows for the inclusion of “additional environmental information”, e.g., for new(er) environmental issues such as microplastics, for which no sufficiently robust assessment methods exist yet. This information is not included in the score but displayed separately. Concrete examples in the context of apparel and footwear include information on the total mass percentage of the product that is certified organic as a proxy for biodiversity impacts and an estimation of the impact of fibre fragments coming from the product’s care cycle.

The process for developing the PEF has been ongoing for more than a decade. The EEB follows the process through participating in the [Technical Advisory Board \(TAB\)](#) and the Environmental Footprint Steering Group. While the TAB mainly consists of technical experts, meets regularly, and provides input on very concrete and technical issues related to PEF development, the Steering Group is made up of associations and Member State representatives and only meetings one to two times a year. Its purpose is to update these actors on ongoing developments and to collect higher-level input.

We also follow the development of some PEFCRs that we consider particularly important or for product groups where our staff holds in-depth knowledge due to our other policy work. Examples include the PEFCR for apparel and footwear and hotel accommodation. The EEB has received support from the European Commission through a Service Contract to follow the PEF development, including TAB meetings and the Steering Group.

For more details, please see some of the resources below:

- [Commission’s website on Environmental Footprint Methods](#)
- EEB report: [“Understanding the PEFCR for Apparel and Footwear”](#) (2022)
- [Open letter on concerns about the PEF methodology and its application to apparel and footwear products](#) (2022)
- ECOS report: [“Reforming Product Environmental Footprint governance”](#) (2024)

Do we support the PEF?

As so often, there is no short answer to this question. For now, our position is **“yes, but...”**. Below, we outline our thoughts on the conditions under which the PEF could be a useful tool.

The EEB's points of caution

Governance & Development Process

Industry Dominance: The EEB criticises the industry-led nature of the PEF and PEFCRs development. The process lacks balanced stakeholder participation, with NGOs, public authorities, and independent scientists underrepresented or having limited voting power. As a result, the development process has been influenced by strong lobbying from specific sectors, which compromises its scientific integrity and public trust.

- *Example Apparel & Footwear PEFCR:* Members of the Technical Secretariat must pay a high fee in order to have voting rights, which limits the influence of stakeholders with fewer financial resources. Moreover, due to the highly technical nature of the work, NGOs, scientists, and public authorities need more than formal representation – they require sustained, long-term funding to build the capacity necessary for meaningful participation.

Transparency: The governance lacks transparency in how decisions are made, including the choice of indicators and datasets, and for public interest safeguards in the governance of PEF processes.

Useful resource: ECOS report [“Reforming Product Environmental Footprint governance”](#) (2024)

Methodological Limitations

Narrow Environmental Scope: The PEF so far does not adequately include some ecological dimensions like biodiversity, toxic chemicals, microplastic pollution, or changes to land use and ecosystem services. While we acknowledge the challenges involved in developing robust assessment models and in capturing environmental impacts and resource use in a comprehensive way, the Commission should actively facilitate the further development of existing models and support the creation of new ones where gaps remain. As long as the methodology lacks key ecological dimensions, it is essential that these limitations are made transparent and duly considered in the interpretation and communication of results – for example, by avoiding aggregation into a single score, which can misleadingly suggest a level of comprehensiveness that does not yet exist.

- *Example Apparel & Footwear PEFCR:* It inadequately addresses the use of highly toxic chemicals like PFAS in textile production, lacks measurement of microplastic shedding, and does not consider impacts on biodiversity or animal welfare.

System Boundaries: System boundaries – i.e. which processes are considered part of the product system and therefore contribute to its impacts on human health and the environment – vary across PEFCRs for different product groups. It is essential to ensure that assessment boundaries cover all life-cycle stages and activities.

- *Example draft Hotel PEFCR:* The draft PEFCR for Hotels focuses solely on the hotel room but excludes crucial parts needed for the overall hotel service. E.g. not included are any

auxiliary services besides the room that the hotel offers like restaurant, spa, garden areas, common areas like lobby and hallways.

No Social or Economic Aspects: PEF is not designed to reflect social sustainability (e.g. labour conditions, human rights, living wages) or economic resilience. The EEB argues that relying solely on PEF could undermine broader sustainability goals. This does not mean that we believe social or economic aspects should be added to the calculation of a single score. But it needs to be kept in mind for the usability and interpretation of the PEF results. This should also be transparent when PEF results are communicated.

- *Example Apparel & Footwear PEFCR:* It overlooks social conditions associated with product manufacturing, such as workers receiving a living wage, and is blind to any possible trade-offs such as environmental gains at the cost of social aspects (e.g., climate change vs. working conditions). It also neglects socio-economic, cultural, and health impacts related to the promotion of certain fibres over others, presenting a narrow view of sustainability that may conflict with the EU's commitments to the Sustainable Development Goals (SDGs).

Favors Efficiency: The methodology tends to reward technical performance (e.g., energy efficiency, physical durability) without assessing systemic changes or sufficiency strategies like product longevity, reuse, and circular business models.

- *Example Apparel & Footwear PEFCR:*
 - Inadequately addressing Fast Fashion: The EEB points out that the PEF methodology cannot capture the fact that consumer usage patterns are complex and are based on factors like price, trendiness, fit, quality and perceived value. It is this low level of 'extrinsic' durability which can contribute to products being discarded after a short useful lifetime. Focusing on the physical durability of apparel products ignores these aspects and can in fact favour the very synthetic fibres which contribute to overproduction and the fast fashion model (synthetic fibres perform best in durability tests).

Use of Averages and Secondary Data: The EEB points out that PEF often relies on generic, secondary data rather than context-specific primary data. This may misrepresent the real-world impacts of individual products or producers.

Useful resource: [Open letter on concerns about the PEF methodology and its application to apparel and footwear products, 2022](#)

So, what should the PEF (not) be used for?

These points of caution don't mean that the entire PEF is useless. And for some of these points, it might not even be possible or desirable to fully integrate them into a rigid methodology and score (e.g. sufficiency). But it means there are limitations to how PEF results can be used, e.g. in policy making and communication.

Concerns about applying PEF in policy

- **Risk of oversimplification:** Applying PEF scores to complex sustainability topics may create a false sense of precision, leading to the wrong policy or consumer decisions.
- The PEF should be seen for what it is, **a method, not a score**. The PEF results should never be used by relying only on the final single score.
- **Inappropriate for green claims:** The EEB warns against using the current PEF methodology as the sole basis for environmental claims (e.g., “green” or “eco-friendly”) or for product labels, as this may mislead consumers.
- **Need for complementary tools:** The EEB calls for complementing PEF with other qualitative and normative assessments, especially for product groups where social and environmental impacts are deeply intertwined.

What the PEF can be useful for

- **For identifying environmental hotspots and improvement potential across the entire life cycle of product systems** – covering material use and extraction, manufacturing, use, and end-of-life management – to support both product and policy development: EF methods and the PEF can help companies seeking to reduce the environmental impacts of their products and services by highlighting the areas with the greatest impact and therefore the highest potential for improvement. Moreover, they have proven useful for developing product standards and policy; for example, the EU Ecolabel uses PEF assessments as a basis for developing its criteria and then adds complementary requirements to address aspects not covered by the PEF.
- **To support legal requirements on calculating a specific environmental impact.** Reference could be made in different legislation to the PEF and the methodologies that were identified as sufficiently robust in the PEF process to calculate environmental impacts such as the Global Warming Potential (GWP). For example, the JRC proposal outlining a [carbon footprint calculation method for photovoltaic \(PV\) modules](#) to inform discussions on Ecodesign requirements for PV panels is based on PEFCRs. However, reference to the single score should not be permitted.

General recommendations

- **Reform the PEF governance** to ensure public interest and science-based input are central to decision-making.
- **Strengthen the role of NGOs, SMEs, and independent experts** in shaping both the methodology and its applications, ensuring they have adequate support to meaningfully contribute.
- **Do not make the PEF a regulatory benchmark** for generic environmental claims, certainly not if methodological gaps remain unaddressed.
- **Only allow "claims" on specific PEF impact categories, but avoid claims on the overall sustainability of a product based on the PEF single score.** Comprehensive information on environmental impact categories and the PEF single score could be made available through, e.g., a digital product passport, however, always accompanied by the relevant and easy to comprehend information that is necessary to interpret such results.
- **Make the database with environmental footprint data publicly available free of charge.**
- **We urge the Commission to strengthen the existing and well-established voluntary EU Ecolabel as the primary tool for identifying the best products on the market,** rather than placing too much emphasis on the PEF. The preferred way forward would be to ensure that the EU Ecolabel continues to serve as the benchmark for the most sustainable products on the market. Within a comprehensive product policy framework – where stringent ecodesign requirements introduced through the new ESPR eliminate the most unsustainable products from the market – we do not see a need to promote the PEF in its use as a label. Nevertheless, indicators calculated on the basis of EF methods could be considered in the context of a potential mandatory ESPR label. In this case, we strongly urge the Commission to ensure that any such score is complemented by qualitative and normative assessments, especially for product groups where social and environmental impacts are closely intertwined. If a single score is displayed, it is equally important that potential trade-offs are made visible – for example, by presenting at least the results for the three most relevant impact categories. This is essential to avoid a false sense of precision that could lead to misguided policy choices or consumer decisions.