

The development of Product Environmental Footprint (PEF) Category Rules (PEFCR)

Erwin M. Schau¹, Karen Allacker¹, Camillo De Camillis¹ and Rana Pant¹

¹European Commission, Joint Research Centre, Institute for Environment and Sustainability,
Via E. Fermi 2749, I-21027 Ispra (VA), Italy
E-mail contact: erwin.schau@jrc.ec.europa.eu

Introduction

The European Commission's "Roadmap to a Resource Efficient Europe" [1] proposes ways to increase resource productivity and to decouple economic growth from both resource use and environmental impacts, taking a life-cycle perspective. One of its objectives is to: *Establish a common methodological approach to enable Member States and the private sector to assess, display and benchmark the environmental performance of products, services and companies based on a comprehensive assessment of environmental impacts over the life-cycle ('environmental footprint')* [1].

The Environmental Footprint (EF), launched by the European Commission's Joint Research Centre in close cooperation with Directorate-General for the Environment, provides specific guidance for comprehensive, robust and consistent environmental assessment of products and organisations. This is an important step forward to ensure robust decision support for business and policy. However, in order to be more relevant to the situation and problems of specific product categories more specific guidance on how to conduct an EF study is required. This contribution focuses on products, not on organisations.

The Guide on Product EF (PEF) [2] demand more specific requirements that need to be defined in so called Product Environmental Footprint Category Rules (PEFCRs). These PEFCRs are seen as crucial for EF studies aiming at business-to-business (B2B) and business-to-consumer (B2C) communication intended to be used for comparisons and comparative assertions.

The role of PEFCRs are to increase the reproducibility, consistency, comparability and relevance of PEF studies, but also to increase the efficiency (reduce time, efforts and costs) of PEF studies by directing the focus on the most important processes and impact categories.

1. Materials and methods

The PEF Guide includes several requirements for the development of PEFCR. According to this, the PEFCR shall specify the following non exhaustive list of model parameters:

- system boundaries and related processes/activities to be included;
- downstream scenarios;
- use-stage scenarios and associated time span for the use stage;
- transport, distribution and storage scenarios;
- end-of-life scenarios.

In addition the PEFCR shall specify the data quality requirements; where the use of generic data is permitted; for which processes specific data shall be collected; the requirement of additional environmental information, if any, and identify the most relevant EF impact categories and justify any exclusion of the default EF impact categories.

The following sources of information are to be taken into account when developing PEFCRs:

- The recent development of guidelines on the development of Product Category Rules (PCRs) led by the United States Environmental Protection Agency [3]
- Existing and developing PCRs and specific sector guidance such as;
 - The European Food Sustainable Consumption and Production (SCP) Round Table[4]
 - European Standard EN 15804: 2012 - Sustainability of construction works. Environmental product declarations. Core rules for the product category of construction products[5]
 - Supplementary requirement (for seafood and horticultural products) to the PAS2050 [6]
 - GEDNets PCRs for Environmental Product Declaration (EPD)[7] and the PCR library [8]
 - the Repository of good practice in France (related to BP X 30-323) [9]
- Knowledge and experience from a broad spectre of stakeholders

2. Results and discussion

The definition of the product category needs to be done in a way that allows for meaningful comparison of products fulfilling an equivalent function. The product categories can be defined based on three main options: 1) Based on material characteristics or specific product, such as product category “plastic”, “steel”, “glass”, “bottle of drinking water”, “personal car”, “plane” 2) Based on a specific function, such as “beverage container”, “transport of 1 person over 1 km”, “transport of 1 tonne over 1 km”, “1 litre of drinking water at consumer”, or 3) Based on a specific need, such as “housing”, “eating”, “transport” (like, e.g. the EIPRO study [10]). There are different pros and cons of these different options that will be discussed in the presentation.

The definition and modelling of a generic or average European product(s) as representative for a Environmental Footprint Category will be discussed. This is necessary as an input in the PEFCR development process, but also to form a benchmark in that category.

The PEFCR should identify and focus on what matters most. For the selection of relevant impact categories in EF studies, a “default list” of 14 midpoint Life Cycle Impact Assessment (LCIA) categories is provided in the PEF (models and characterisation factors based on the ILCD Handbook [11]). If and how this list can be reduced for the product category as well as choosing the right system boundaries, that include the relevant processes, will be discussed.

An example of a PCR that seek to be in line with the PEF and PEFCR [12] is the ENVIFOOD Protocol for the food sector [4]. This is an initiative co-chaired by the European Commission and food supply chain partners (e.g. governments, business associations, NGOs) which aims to establish the food chain as a major contributor towards sustainable consumption and production in Europe. The ENVIFOOD Protocol is currently a draft document which will be changed in the coming months due to a consultation process and a testing phase involving multiple organisations from different constituencies.

3. Conclusions

The PEF Guide provides specifications for comprehensive, robust and consistent environmental assessment of products. However, PEFCR are needed to increase the reproducibility, consistency, comparability and relevance of PEF studies, but also to increase the efficiency (reduce time, efforts and costs) of PEF studies. This is done by specifying further requirements and directing the focus on the most important processes and parameters in each product category. This contribution describes how this is done in the development of PEFCR and discuss some of the options.

4. References

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