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# The History of the Product Environmental Footprint (PEF)

## History & Definitions

In assessing how to create a universally comparable product life cycle standard, the European Commission decided that sector-related standards were not good enough. So they created the **Product Environmental Footprint (PEF)**, a multi-criteria measure of the environmental performance of a good or service throughout its life cycle. PEF will integrate life cycle assessment into politics, policies, programs and ultimately regulations. PEF is the European Commission's answer to Grenelle II, a French initiative to take more concrete measures toward solving environmental issues. Along with PEF, the European Commission created the Organizational Environmental Footprint (OEF), which tracks the environmental impact of organizations.

There are four phases of PEF: the Preparatory Phase, the Pilot Phase, the Transition Phase and the Implementation Phase. At the time of the publication of this article, we are at the end of the Pilot Phase and moving into the Transition Phase, both of which will be described in greater detail below. Let us first elaborate on how PEF works and how thinkstep has been involved up until now.

The **PEF Category Rule (PEFCR)** is a set of specific rules created for different product groups. It was designed to inform consumers through environmental declarations and the certification of products. In order to ensure comparability, the European Commission needed specific rules for different product groups because you cannot use the same criteria when assessing, for example, milk production and the manufacturing of shoes. Once a PEFCR for a specific product group is completed, it is used as the basis for creating a PEF for particular products that fall within that group.

When applying these PEFCRs, you need to use datasets and the database. Depending on the origin of the datasets and how the data is collected, calculations can be slightly different. If companies were to approach their calculations with different datasets, then—even if they apply the same PEFCR—they will get different results, because the datasets are different. To avoid using different datasets, the European Commission asked certain organizations to create datasets for the PEF database. Because of our expertise with data in multiple sectors, the European Commission selected thinkstep to create 8 out of the 15 PEF lots (group datasets).

When a manufacturer creates a PEF according to PEFCR, it has to use PEF data that has been harmonized across a particular industry, for example, in calculating the PEF for the manufacturing of batteries. PEFCR, in combination with the datasets, allows calculations for products to become comparable with other similar products.

The European Commission also created the **PEF Guide**. The PEF Guide specifies the procedure for how to create PEFCRs, describes all the rulesets and outlines the method for modelling the environmental impacts of the material/energy flows and the emissions and waste streams associated with a product throughout its life cycle. The process of creating the PEF Guide is the main reason the pilot phase was extended for as long as it was. The goal was and is to create a harmonized system.

Because of our commitment to and expertise in data maintenance, thinkstep has been providing harmonized, high-quality, complete and meticulously detailed data with system boundaries, making it highly applicable.



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The PEF databases determine the quality of the PEFCR.

## Preparatory Phase (2008-2013)

In 2008, the European Council invited the European Commission to develop methodology for carbon audits for organizations and carbon footprints for products. During this Preparatory Phase, the EC performed studies on carbon footprints and corporate greenhouse gas reporting. It became clear that for a range of products and sectors that greenhouse gas emissions are not the most significant environmental aspect. It was concluded that other environmental impacts of products and organizations should be taken into account. Consequently the EC decided to extend the work into other environmental aspects. That led in 2011 to the creation of two further focused and harmonized methodologies, namely PEF and OEF, common methodological approaches to enable member states and the private sector to assess, display and benchmark the environmental performance of products, services and companies in order to promote sustainable consumption and production. This phase defined rules and established the importance of lifecycle thinking in the EU.

## Pilot Phase (2013-2018)

We are currently at the end of the Pilot Phase. The Pilot Phase defined 25 PEF pilots with the goal to specify the PEFCRs, to learn which datasets works or do not work, to test and ultimately to move closer to using the datasets and PEFCRs with real products. thinkstep won the bid for 8 out of 15 dataset lots. These datasets were used in the remodelling of 21 PEF pilots according to the PEF Guide and the individually developed PEFCRs.

With the end of the Pilot Phase, the European Commission will release the PEFCRs, the model of representative products and the datasets to anyone wanting to do a PEF study.

## Transition Phase (2018-2021)

The Transition Phase allows anyone to test the PEFCRs in actual applications and extends the number of PEFCRs to be developed. This phase is intended to lead towards regulation: declaration, labelling and implementation. During this phase, 51% of the businesses that have applied and have passed the criteria will be allowed to proceed with creating a PEFCR. thinkstep applied and won the bid to provide a PEF Helpdesk (Support Project for PEF Transition) on behalf of the European Commission. Companies wishing to create a PEF or a new PEFCR may do so with thinkstep's help in any sector.

## Implementation Phase (2021-202?)

The Implementation Phase is the regulatory phase. In this phase, the European Union will tell us in which cases it becomes mandatory to follow the PEF rules in order to claim the environmental impact on products.

### thinkstep's PEF Experts

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