

## **Product Environmental Footprint**

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The role of science in society is to help it to advance, in the sense of making the overall living condition of human society better, from the economic, social and environmental viewpoint. In most successful past civilisations, teachers and scientists were amongst the most respected professions in view of their key role for the continuation of our species.

It is possible to identify a cycle of science that usually starts with an important conceptualisation stage, followed by a trial & error stage, and ultimately – in the best cases – a deployment stage. Deployment is what mostly counts from the society perspective because it is when the large effects of any scientific novelty can really be experienced and have an impact on the society as a whole. However, for scientists, that is often the less interesting part of the “cycle” because there is no more room for testing, new theories and intellectual challenges, whilst it is all about “standardisation” of a method or procedure. Of course science continues, but once a certain approach is mainstreamed, inevitably it becomes less interesting from a scientific viewpoint.

This well-known dichotomy between scientific progress and its real-life impact is also valid for Life Cycle Assessment (LCA). We are now living the time when there may be the transition from the trial & error stage to the full deployment stage and the community is leaving this period with a tension between worry and excitement. The Life Cycle Assessment community has progressed about 50 years now and the method has been used for many industry in-house applications, but it has never been mainstreamed in policy making due to a number of limitations that will be discussed in this keynote. This situation might change in the coming months due to the finalisation of the largest trial & error experiment promoted in Europe by the European Commission and led by 24 industry sectors. The LCA-based Product Environmental Footprint (PEF) and Organisation Environmental Footprint (OEF) methods, developed by the Joint Research Centre of the European Commission, represent the best available practice of LCA and, in many respects, have introduced a Copernican revolution in this scientific community.

As all revolutions, the appearance of the PEF/OEF is facing ambivalent reactions within the scientific community and final users (industry, policy makers, consumer associations). The analysis of the reasons behind this and the implications of a wide deployment of PEF/OEF at European and international level, will be the focus of this speech.