

LIFE GreenShoes4All

MARIA JOSÉ FERREIRA, VERA PINTO, JOANA GOMES, JOSÉ RODRIGUES-CTCP

The worldwide production of footwear continues to increase, generating jobs, business and new opportunities to promote sustainability. There is also a proliferation of so called 'eco' labels or schemes, and misleading 'green' claims. Consumers find this confusing and manufacturers that want to 'go green' or produce 'green products' find it hard to truly differentiate their products from these. Many footwear companies are committed to develop and produce eco and user-friendly shoes but need the right tools to do so and in a usable format. Life Cycle Assessment (LCA) standards may be too flexible to guarantee reproducibility and comparability of results. The EU footwear ecolabel is an important tool but misses out on environmental performance differentiation. For example, the carbon footprint calculation is relevant as regards improving in-house support products but not for benchmarking purposes. In this respect, Product Environmental Footprint (PEF) could play an important role.

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The LIFE GreenShoes4All project is designed to create a Product Environmental Footprint methodology to help companies involved in manufacturing footwear to measure the environmental performance of their products. As Maria José Ferreira, CTCP R&D director and the project's coordinator explains, "The PEF methodology aims to introduce several important improvements compared to other existing methods including, among others, clear identification of the potential environmental impact categories to be looked at to perform a comprehensive LCA, setting minimum data quality requirements and clearer technical instructions for addressing some critical aspects of a LCA study."

In line with the roadmap towards a resource efficient Europe, the LIFE GreenShoes4All project and metrics will also encompass supply chain activities from the extraction of raw materials

and industrial production through to product use and waste management. The project will propose more tangible targets on raw materials selection, waste polymers (plastic, foams, rubber, etc.) and greenhouse gas emissions. Improved transparency in these areas could help foster innovative ecodesign within the footwear industry, consolidate trust in environmental performance measurements and unlock a market for greener products.

The partnership involved includes research organisations, training centres, national footwear associations and manufacturers of footwear and components from Belgium, Portugal, Romania and Spain, all working to achieve the following objectives:

- Implement the first draft of Product Environmental Footprint Category Rules (PEFCR) for companies in the EU footwear sector;
- Validate sustainable business models for recycling plastic in the footwear sector;
- Reduce greenhouse gas emissions of new shoe manufacturing processes by 15%;
- Reduce polymer waste in shoe manufacturing partners by over 70%.

Various teams are carrying out initial footwear PEF methodology implementation and evaluation of EU representative shoe types as a project test-basis and deploying new footwear recycled materials, components and product concepts. Additionally, the potential of new digital flexible technologies powered by Step2Footure and other projects, including advanced surface treatments (e.g. plasma and laser), additive manufacturing and cyber-physical systems are being considered, together with more sustainable business models, to create synergies. Results so far are encouraging.

However, the EU footwear and allied trade businesses goal of becoming Sustainability Leaders requires joint efforts and further future research and

innovation at EU and national levels regarding truly eco-friendly materials and product concepts based in PEF evaluation, digitally connected factories throughout the supply and value chain, plus new consumer, planet and data driven economic models. The project commenced in October 2018 and will run four years. In 2020, it will be opened to new EU stakeholders aiming to apply the draft methodology and ecodesign approaches to its products and all will then be welcome onboard. 



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