



## Footwear environmental footprint category rules implementation and innovative green shoes ecodesign and recycling.

### LIFE GreenShoes4All project: a step forward reaching a Circular Economy in the footwear industry

Footwear worldwide production reached 24.3 billion pairs in 2019, with about 3 pairs of shoes per capita (Europe: 4.4 pairs for each person). Footwear consumption in Europe represents about 15% of the total production. Waste generation is a consequence of footwear consumption increase, and the landfill is still the main destination of such waste.

The European footwear industry is determined to increase the level of sustainability and innovation in the shoes' production and recycling process. More and more footwear companies are rethinking their business models, and want to create both innovative and attractive products through efficient technologies and processes that take into consideration the environmental challenges with the minimum cost increase.

In this respect, LIFE GreenShoes4All represents an essential tool for supporting the European footwear industry in reducing the environmental impact of footwear products, the CO<sub>2</sub>, and other greenhouse gases emissions within the footwear sector, towards an EU low carbon economy and targeting **“Zero Waste to Landfill”**.

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- Performing shoes with a lower PEF
- Eco-design guidelines and PEFCRs
- Results of demonstrative experiments
- Market analysis: "Green consumer" & companies producing in an eco-friendly way

» *Is your company producing goods in an eco-friendly way?*

TAKE SURVEY

» *Are you a "green consumer"?*

TAKE SURVEY

The project is focused on four main Member States, which together represent the **highest percentage of footwear production in the EU: Italy, Portugal, Spain, and Romania.**

By promoting the great added value of the PEFCRs methodology, the project consortium, constituted by research organisations, training centres, national footwear associations, and



manufacturers of footwear and components from four Member States (BE, PT, RO, SP), intends to achieve a Single Market or Green Products, one of the project's specific objectives.

In addition, the project responds to the priorities of the EU Green Deal, which at the same time represent the core of EU Recovery and more than 30% of the NextGenerationEU funding package will be spent directly on green objectives.

### Performing shoes with a lower environmental footprint

LIFE GreenShoes4All is contributing in the implementation of Product Environmental Footprint (PEF) methodology for footwear by analysing the PEF on **30 EU representative shoe styles** and developing new approaches to recycling polymeric waste materials and developing innovative recycled materials and components with high performance. Ultimately, the calculation of PEF methodology on 30 footwear models will contribute to the creation of a benchmark and a set of recommendations and lessons learned that will be available to footwear manufacturing companies.

The project complements the work carried out by a **Technical Secretariat (TS)** in charge of developing and implementing Product Environmental Footprint Category Rules (PEFCRs) for certain categories of apparel and footwear products during the ongoing Transition Phase. In this context, project partners are working together with fashion brands and with European associations.

The advantage of a **PEF benchmark** is twofold: it will reduce companies' costs, while providing unique criterion on which "green labels" should be based. The latest should reduce the number of labels in the market and offer consumers more transparent information. The benefits of the PEFCR were already confirmed by the

- *The PEFCRs are specific guidelines to calculate the relevant environmental information of products. This initiative was developed by the European Commission in 2013 and consists of three phases: Environmental footprint pilot phase, Transition phase and the possible adoption of policies implementing the PEF. The European Commission aims to a harmonised method for assessing the PEF and to put an end to the various "green labels" which are confusing for consumers.*

results of the Environmental Footprint Pilot Phase, which showed that consumers generally prefer to buy products that are environmentally friendly and acknowledge the environmental performance in their choices. PEF information has proven to be relevant, trusted and understood by the consumers.

Within the LIFE GreenShoes4All, five shoe models from footwear beneficiary companies were selected to implement the PEF/Life Cycle Assessment (LCA) and to calculate their environmental impact. The models' selection took in consideration the need to analyse those with considerable differences in terms of materials, constructions, production processes, application/use. The results of the analysis indicated that those with lower environmental impact materials and less weight had a relevant impact on the reduction of footwear EF. The application of eco-design to footwear products was also potentially a good approach to reduce the environmental footprint of the shoes.





The lessons learned and recommendations resulting from PEFCRs demonstration experiments under the framework of the LIFE GreenShoes4All project will be communicated to European Commission and widely disseminated to footwear stakeholders and to stakeholders from other involved sectors (i.e. automotive).

### Ecodesign guidelines and PEFCRs: the recipe for success to produce EU green shoes

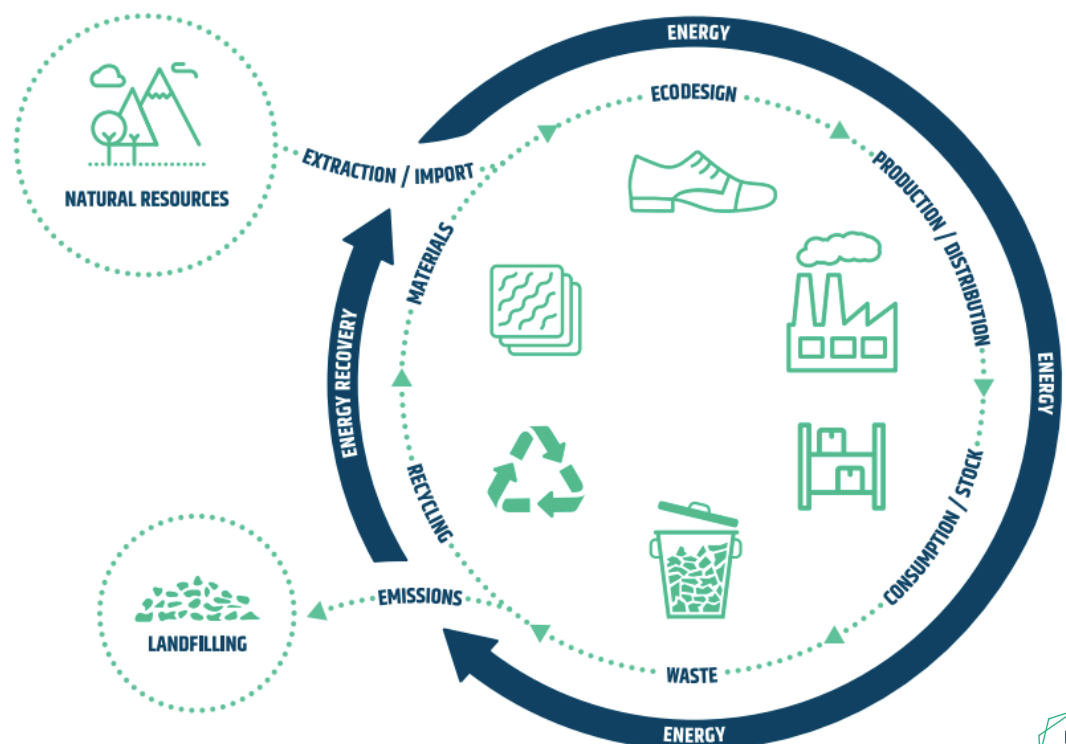
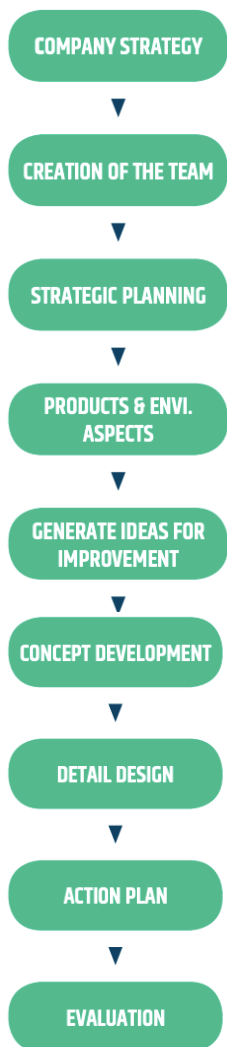
EU companies committed to develop and produce eco and user-friendly shoes lack the right tools to pursue their objective. The often face different obstacles and their progress is slowed down by the proliferation of eco/green labels/schemes and misleading green claims, which is also highly confusing for consumers. Other relevant instruments such as the EU footwear ecolabel miss the environmental performance differentiation.

The consortium considers that PEF and eco-design could be the recipe for success to produce green shoes and to reduce the EF for footwear. Especially, this approach would constitute an innovative and new methodology not yet used by footwear companies.

To support companies in reaching consumer expectations on more sustainable products by, among others, integrating environmental aspects in the design of new footwear concepts with lower PEF, **the project partners have defined an eco-design methodology and developed a public Ecodesign Guide available in several languages.**

The guide offers information on the most important steps in the ecodesign process, with ten ecodesign strategies and their concrete application in the footwear industry related to the design process, materials and components, production techniques, distribution and sale; use and end-of-life. Furthermore, it emphasises that, in order to adequately implement the ecodesign methodology for footwear, it is fundamental to consider several aspects, starting from the lowest possible environmental impact of the product, and continuing with functionality, aesthetic quality, costs, safety, use, materials and processes.

Ecodesign methodology

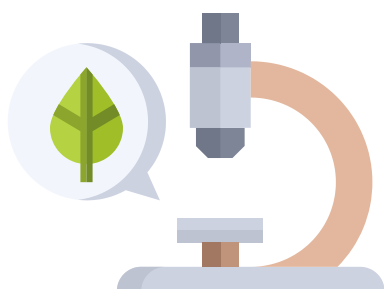


## LIFE GreenShoes4All demonstrative experiments: recycling automotive waste to produce added value footwear products

As part of their commitment to “Zero waste to Landfill” and an EU low carbon economy, project partners are also working on new approaches to recycling polymeric waste materials and developing innovative recycled materials and components with high performance.

The qualified project partners have experimented with polymeric waste materials generated during production process in the footwear sector and automotive industries (powder rubber) with potential for recycling and defined the needed pre-treatment processes. In addition, waste materials from other industries, i.e. powder rubber from the production of tyres, were considered to be used in the development of footwear components with higher performance, promoting at the same time the industrial symbiosis. The partners have also started to experiment on the development of new recycled thermoplastic and thermoset materials.

At the end of the project, the experiments will be extended to footwear beneficiary and non-beneficiary companies, that will be contacted and invited by technological centres and national associations to participate. Furthermore, the beneficiaries will be able to commercialise the recycled materials/parts and shoes.



## Consumers and companies are committed to reduce the footwear environmental footprint

The project analysed the market situation in terms of sustainable footwear in different EU countries through two types of questionnaires in 6 languages (EN, FR, IT, PT, SP and RO),

one dedicated to consumers and one to shoe and components manufactures. The questionnaires received until December 2020 have gathered more than 400 replies.

According to the first analysis of the questionnaires, **consumers**:

- ✓ *Are aware of environmental concerns and value pursuing a more ecological and conscious consumption behaviour.*
- ✗ *Would like to be informed about the environmental and technical performance of the product.*
- ✗ *Consider the information about the repair and recycling of the footwear very or quite significant.*
- ✓ *Are willing to separate the recycling components of footwear and to pay higher price for more ecological footwear.*
- ✓ *Still consider quality, durability, comfort and price as very important when purchasing a pair of shoes.*

Furthermore, the results indicate that **companies** are concerned about the environmental issues and are addressing these aspects. They are interested in and are implementing measures to be more sustainable and reduce the environmental footprint.

We wish to invite you to participate in the correspondent survey, either as manufacturing company and/or as a consumer at <https://www.greenshoes4all.eu/>. Thank you!

## Partners



LIFE GREEN SHOES 4 ALL · LIFE17 ENV/PT/000337

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implementation and innovative green shoes ecodesign  
and recycling

<https://www.greenshoes4all.eu/>

### Contacts

Lead partner: CTCP – Centro Tecnológico do Calçado de Portugal

<https://www.ctcp.pt/>

Communication: European Footwear Confederation

[www.cec-footwearindustry.eu](http://www.cec-footwearindustry.eu)



The LIFE programme is the EU's funding instrument for the environment and climate action created in 1992. The current funding period 2014-2020 has a budget of €3.4 billion.