

In the last issue of *World Footwear* we saw how Patagonia has made environmental concern a cornerstone of its business. French footwear research organisation CTC Groupe is conducting a three-year project based on an 'Eco-concept' in order to find ways for all manufacturers to produce better products with less environmental impact.

The Eco-concept in footwear

The Eco-concept for a manufactured product has four primary objectives.

1. Identify the principal sources of environmental damage during its lifecycle.
2. Limit the consumption of natural resources.
3. Optimise environmental impact.
4. Avoid and/or control any transfer of pollution.

Aimed at creating more sustainable consumption, it takes a global view of the environment (energy, materials, rejects, emissions and waste products) at each stage of a product's lifecycle. Factors and constraints such as marketing, production, regulatory and environmental involved at each stage of the project are identified and evaluated. A key factor is that any environmental benefits must not detract from the quality, functionality or optimum use of the product. There are four stages to the process:

- Select a product or a range or family of products
- Identify the principal weak points
- Propose and assess means of improvement and evaluate any benefits
- Control or avoid any resulting transferral of pollution

The CTC project looks at the lifecycle of a shoe from its conception through to the end of its life, evaluating its impact and efficiency related to the demands of the environment, production, performance and company organisation. Although other attempts have been made to introduce a total eco-concept, according to CTC these have been aimed at footwear manufactured from natural materials that was only subjected to light wear and was not particularly technical. No hard statistics have been produced on the success, or lack of it, of these products.

If successfully applied to the outdoor footwear sector, the Eco-concept could

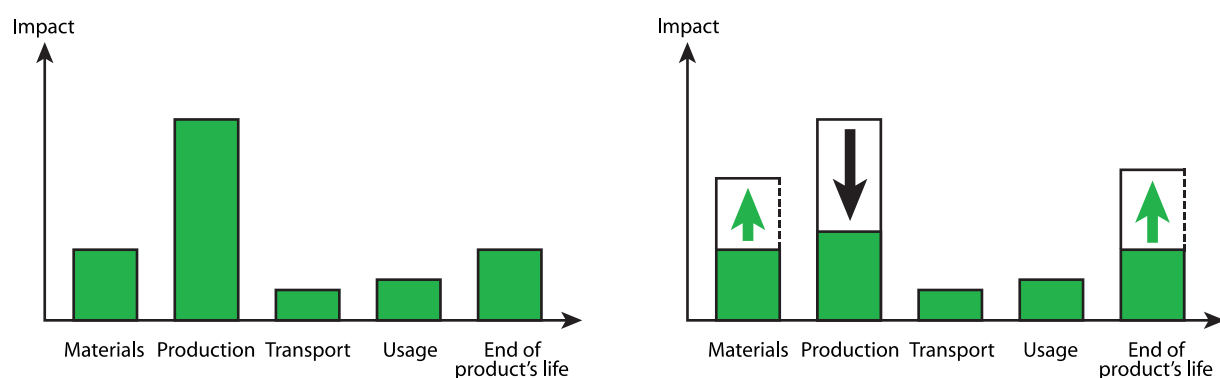
cause a ripple effect across the whole footwear market. Apart from protecting the environment and making a commitment to sustainable development, in adopting an eco-concept those responsible for developing such footwear collections would achieve other advantages:

- Set a product apart from others or complement a collection
- Meet the high expectations of the market and/or customers
- Include partners, suppliers and subcontractors in the concept
- Anticipate future legislation and scheduling of conditions

Objective

The objective is to create an environmental picture of a shoe for the first time and to develop a tool to evaluate its environmental impact whilst avoiding any transfer of pollution. In order to achieve this, the environmental criteria

Movement of environmental impact and the transfer of pollution



of the footwear are identified by analysing the lifecycle of the shoe and quantifying existing products. The principal contributions this project will make are:

- Creation of a formalised process based on the analysis of lifecycles in the footwear sector (particularly outdoor footwear) where little is known at present
- Identification of the priorities in footwear
- A global approach which limits the transferral of pollution and encourages solutions to this problem
- To be able to optimise the choice of components and materials taking into account both environmental factors and technical characteristics

Method

This involves developing an efficient

tool to take an inventory of the flow of materials, energy, etc., both in and out of a system, and then quantifying these flows in order to deduce the environmental impact the product has in terms of the use of raw materials. It also involves an evaluation of the product at the end of its life in terms of different environmental criteria including:

- Exhaustion of natural reserves
- Greenhouse effect
- Acidification
- Contamination
- Photochemical smog
- Exhaustion of resources
- Production of waste

Using these results, manufacturing processes, materials, energy sources, modes of transport, conditions of use of the product and maximising its value at the end of its lifecycle can all be reassessed

to enable the development of new products. Whilst reducing environmental impact, the product must also retain its intrinsic properties and qualities to preserve its functionality. By modifying the lifecycle of a product there is a risk of transferring environmental pollution from one stage to another, one environment to another, or one geographical zone to another, so the Eco-concept must allow any transfer of pollution to become evident and, better still, to avoid it all together.

The project, started in 2005, has had to cope with all the different materials and components that are likely to go into producing a shoe. As a result, other industrial sectors have been brought into the process, notably textiles for fibres and processes, and the plastics industry for types of plastic and formulations. Leather is subject to a separate ongoing environmental project. 🌐

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