

THE PILL

LIVING LIFE IN NATURE

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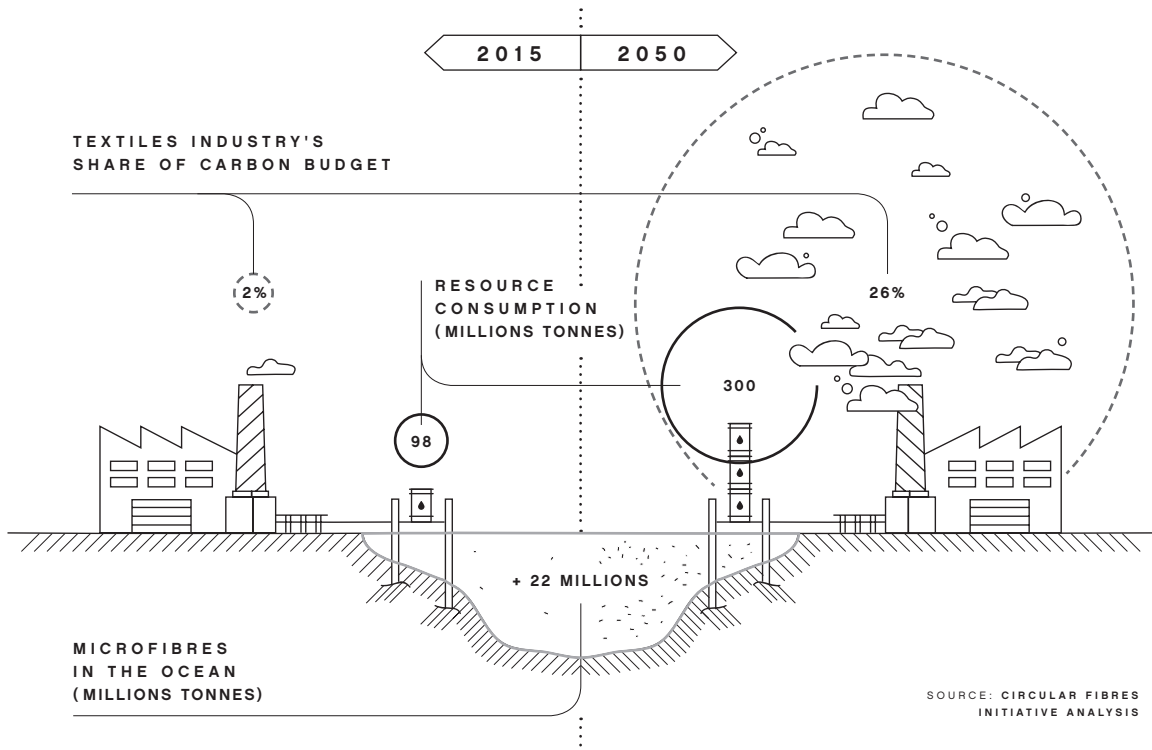
Circular Design

Is it more sustainable for the environment a recycled polyester or an organic cotton jersey? A t-shirt made of wool or of hemp fiber? The answer to these questions is anything but obvious and it depends on various aspects.

To answer it is necessary to "Measure Sustainability" during all phases of a product's life cycle: from the extraction of raw materials to the production of materials and energy, to the various transport phases, passing through the production steps that transform the raw material into semi-finished products and then into a product ready to be distributed and sold, up to the use phase and till to the disposal at the end of its life. It's easy to understand: the type of material used, the type of treatment and therefore the place of cultivation and production, but also the

ease of reuse and/or recycling at the end of life have a decisive influence on the degree of sustainability of a product. All these variables can be managed already during the definition phase of the concept and design. In fact, it has been estimated that about 80% of the impacts generated by a product can be attributed to the design choices (Design Council, 2012). The conscious choice to improve the sustainability of products and to live outdoors in perfect harmony with the environment must therefore be supported by objective and reliable metrics and data.

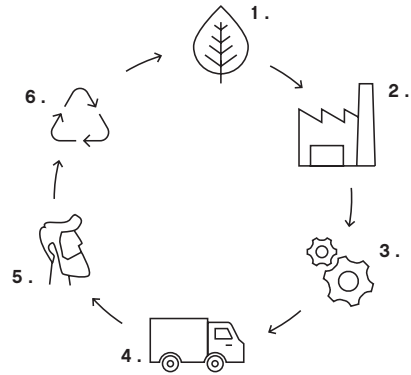
THE NEGATIVE IMPACTS OF THE TEXTILES INDUSTRY ARE SET TO DRASTICALLY INCREASE BY 2050



The management of a huge amount of information and data is made possible through the use of tools such as Life Cycle Costing to evaluate the economic aspects, the Social Life Cycle Assessment for the measurement of social aspects and the Life Cycle Assessment for the environmental aspects.

(1.RESOURCES / 2.PROCESSING / 3.MANUFACTURING / 4.DISTRIBUTION / 5.USE / 6.END OF LIFE)

FIG. 1



But how can you measure the impacts associated with the life cycle of a product? And consequently, how do you design and choose a truly sustainable product?

With the growing sensitivity towards a more sustainable type of development able to "meet the needs of the present without compromising the ability of future generations to satisfy their own" (Brundtland report, 1987), various methodologies and instruments have been implemented, able to measure the impacts generated by the numerous human activities from an environmental, social and economic point of view.

Coming to products, these instruments in fact measure the impacts throughout the entire life cycle, thanks to the creation of mathematical models whose purpose is to describe reality in the most faithful way possible. Thanks to these models and the use of specific databases, it is therefore possible to calculate, for example, the total amount of water needed to produce a certain good (Water Footprint), the emissions of greenhouse gas (Carbon Footprint), but also the conditions of work in certain phases of the production cycle as well as the economic externality linked to the various processes.

The management of a huge amount of information and data is made possible through the use of tools such as Life Cycle Costing to evaluate the economic aspects, the Social Life Cycle Assessment for the measurement of social aspects and the Life Cycle Assessment (Fig. 1) for the environmental aspects. In particular, the LCA analysis - created in the late 60s to be used by some big US companies and by the US Environmental Protection Agency (US-EPA) as a decisional support - is one of the most used tools in the world for the "evaluation of energy and environmental loads related to a process or activity, through the identifica-

tion of energy and materials used and waste released into the environment" (ISO 14040 and 14044). The result of such analysis and therefore their reliability depends strongly on the quality of the data used and on the completeness of the model.

In addition to be able to compare two or more products/processes it is necessary to use the same metrics and rules. For this reason, various schemes have been created, some of these internationally regulated, such as the Environmental Product Declaration, the Product Carbon Footprint and the Product Environmental Footprint. Etc. whose function is to measure and communicate the environmental performance of specific product categories.

In this way it is possible to have an objective measure, more or less partial, of the sustainability of a product in order to base one's choices. Particularly interesting for the Outdoor sector is the Higg Index, developed by the Sustainable Apparel Coalition with the aim of creating a common metric for the sustainability of clothing, footwear and home textiles.

Launched in 2012 as a result of a collaboration between Walmart and Patagonia, the Higg Index is in continuous development and it is based on three modules: brand module, facility module and product module.

Recently was presented the new Product Environmental Footprint module, very useful to support the designer in reducing the 80% of environmental and social impact on those aspects where he has decision-making power on. Although the Higg Index is not yet a certificate or a label, it is certainly the reference point for the Outdoor sector and maybe, in the near future, we will be able to find products labeled on the basis of this environmental index.