

Eco Audit, an Easy and Fast Tool That Helps Eco-Product Design

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Abstract: The object of this paper is Eco Audit tool, which is embodied in the Eco Selector database of CES software package. This tool helps the Approach of Eco-product Design, to identify the phase of product lifecycle with greater environmental impact than the other phases of life. Between too many environmental impacts indicators, the approach puts in epicentre of attention, the energy consumption during the life of product or the footprint of CO₂ that is released in the atmosphere as a stressor. Then, the strategy of optimization, through the computerized selection of materials or processes, aims to find the eco product that spends less energy as possible. By the help of Eco Audit tool, the designers can distinguish the phase of product life, during which the product spends more energy. It will be an easy and fast way that designer can perform since the earliest design stages. In a short time can explore with 'what's if' scenarios in order to find the best choice. The proposed approach and the use of the Eco Audit tool are illustrated by the mean of selected materials for "Glina" bottled water. Some simulations were done by changing the materials of bottles, forms of transport, modes of use and disposal, to evaluate which material of bottle spends less energy throughout the life cycle. If this bottle material has consumed less energy over life, it will be the best solution, because it's ecological for the environment.

Keywords: *Eco-Product Design, Eco Audit Tool, Energy, Environmental impact, Life Cycle Assessment, Stressor.*

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