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Product Ecodesign model based on Life Cycle Assessment

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Abstract

Product life cycle thinking is essential in the path to sustainability by expanding the focus on the production site to the whole product life cycle facilitates the links between the economic and environmental dimensions within a company. Life cycle thinking is about widening views and expands the traditional focus on manufacturing processes to incorporate various aspects associated with a product over its entire life cycle.

Implementation of environmental requirements into product development is important both from an environmental and business perspective. The most directly achieved benefit is the reduction of environmental impacts from increased levels of consumption, in other words the mitigation of causes of environmental problems both at global and local level. Ecodesign (also design for the environment, life cycle design, environmentally-conscious design) is the systematic methodology that incorporates environmental considerations into the design process of products.

At the heart of eco-design is the concept of the product life cycle. Product life cycle starts with resources taken from nature, goes on to the production of materials and manufacturing processes, packaging and transport, the use and maintenance of a product and finally concludes at the end-of-life stage. The term life cycle thinking refers to the integrated approach that has to be applied with the aim of designing more environmentally compatible products.

The investigation studies of applying Eco-design model in Lithuanian industry have been done in the framework few international projects, academic and scientific research. The main objectives of the study were to make analysis of eco-design situation in Lithuania, to create dynamic model for systematic use of different tools for the environmental product development and to apply this model in the process of creation of new products in Lithuanian industry.

Key words: *Life Cycle, Ecodesign, Product development, Environmental performance*