

"Gheorghe Asachi" Technical University of Iasi, Romania



PRODUCT ECODESIGN IN COMPANIES WITH ISO 14001 CERTIFIED ENVIRONMENTAL MANAGEMENT SYSTEM

Gregor Radonjič^{1*}, Aleksandra Pisnik², Damjan Krajnc³

¹University of Maribor, Faculty of Economics and Business, Institute of Technology, Razlagova 14, 2000 Maribor, Slovenia ²University of Maribor, Faculty of Economics and Business, Institute of Marketing, Razlagova 14, 2000 Maribor, Slovenia ³University of Maribor, Faculty of Chemistry and Chemical Engineering, Laboratory for Process Systems Engineering and Sustainable Development, Smetanova 17, 2000 Maribor, Slovenia

Abstract

Product eco-innovation based on ecodesign principles is based on the idea of including the environmental aspects of a product over its entire life-cycle, thus providing the opportunity for manufacturing companies to intervene earlier during product development processes. The aim of this study was to gather information and evaluate the situation regarding ecodesign within the ISO 14001 certified medium and large manufacturing companies in the Republic of Slovenia by means of a questionnaire. The goal was to identify the most important environmental criteria taken into account during product development and to reveal whether ecodesign measures as a result of adopting ISO 14001 certification being promoted or not. The results revealed that companies channeled most of their product-development attention towards waste and energy reduction during manufacturing processes, reduction of material consumption per unit of product, reducing air and water emissions, as well as the replacement of toxic and hazardous substances. The importance of different ecodesign criteria 'reduction of material consumption per unit of product' was reported as the most important criterion for Slovene ISO 14001 certified manufacturing companies. Most of the analyzed firms considered the ISO 14001 standard to be a very useful tool, or at least a useful tool, for helping them to accelerate and establish product ecodesign activities.

Key words: ecodesign, environmental management system, ISO 14001, products

Received: November, 2011; Revised final: July, 2012; Accepted: August, 2012

_

^{*} Author to whom all correspondence should be adressed: e-mail: gregor.radonjic@uni-mb.si; Phone: +386-2-2290-229; Fax: +386-2-2527-056