



## 3<sup>rd</sup> INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

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“CLEANER PRODUCTION INITIATIVES AND CHALLENGES FOR A SUSTAINABLE WORLD”

# Cleaner Production and Environmental Sustainability: Case of a Plastic Industry in Serra Gaúcha

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### Abstract

Given the large consumption of natural resources, environmental impacts, the organizations have been incorporating into their strategies the concept of sustainability. Today, the organizations are becoming the object of new expectations about their responsibilities to society as agents that dispose of financial and technological resources to solve with more agility, decisiveness and direction environmental problems. Cleaner Production (CP) incorporates technological, economic and environmental processes, products and services in order to increase efficiency in the use of inputs and raw materials to reduce waste, non-generation, minimization and recycling of waste generation, providing economic and environmental benefits. The most important aspect of CP is that it requires not only technological improvement, but the application of know-how and a change in management behavior. These three factors together are what makes the difference compared to other techniques related to production processes. The objective of this research is to examine the results obtained by the implementation of CP in production processes in a plastic industry of the Serra Gaúcha. The current case produces accessories for the furniture industry and construction, is active on the national and international markets for about fifty-six years. In implementing a CP strategy, the company has developed a new process for producing a polystyrene handle. From this case study, a qualitative research was executed and the results show a reduction of 90.3% of the waste of raw materials and other contaminants, as well as a reduction in production costs by 36,4% of the polystyrene handle. Another improvement from the CP process occurred in the substitution of materials for the painting of handles through the use of new technologies, causing a 60% reduction in loss of material in use, and a 9.6% reduction in acquisition costs inputs for the painting. Furthermore, it is noteworthy to mention that in addition to CP practices, the company treats all its effluents and wastes from the production process, contributing to the economic and environmental sustainability of the organization.

**Keywords:** *cleaner production, environmental sustainability, plastic industry.*

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São Paulo – Brazil – May 18<sup>th</sup>-20<sup>th</sup> - 2011