CLEANER PRODUCTION: A STRATEGY FOR IMPROVEMENT AND RISKS PREVENTION TOWARDS SUSTAINABLE DEVELOPMENT

Gilberto Santos1,2 (*), Manuel Rebelo2, Rui Silva2

1 College of Technology - Polytechnique Institute Câvado Ave - Campus do IPCA, Barcelos, Portugal
2 Clegi - Lusíada University - V.N.Famalicão - Portugal.

(*) Email: gsantos@ipca.pt

ABSTRACT

This paper presents an improvement project with strong impact on Cleaner Production and consequent benefits vs. added value for Customers and others relevant Interested Parties. The project results from ideas suggested by the respondents in the scope of an investigation by questionnaire conducted inside a Small and Medium Enterprise. The results highlight the importance of integrated management systems to support the implementation of the project, covering simultaneously the risk prevention and the three pillars - economic, environmental and social, of the Sustainable Development potentiating simultaneously the development of the organizational culture, supported on continuous improvement.

Keywords: Cleaner Production (CP), Sustainable Development, Integrated Management Systems (IMSs), Added Value; Risk Management (RM).

INTRODUCTION

Cleaner Production (CP) is defined by UNEP (2013) as an “integrated preventive environmental strategy” for improved resource efficiency, minimization of risks and environmental impact, and reduced waste and costs in an organization’s operations and the international community has recognized the wide range of different benefits that can be achieved through CP. According to Lopes Silva et al. (2013) CP has been successfully implemented around the world and in different industries. On other hand Battistoni et al. (2013) stated that the literature includes several studies showing the positive link between CP and SD. Yang & Yang (2011), argued that to be really successful an organization has to create value for customers, and according to IISD (2014) are several the benefits of CP. At the same time, and in a perspective of sustained success, meeting the needs and expectations of all the Interested Parties (ISO, 2009), organizations must also improve continuously and optimize the existing Management Systems (MSs) supported on an IMS (Rebelo, et al., 2014) that according to Santos et al. (2011) increases the global performance and efficiency, among several others potential benefits for the organizations and its Interested Parties.

The main objective of this paper is to present an improvement project with strong impact on CP and highlight the importance of Integrated Management Systems (IMSs).

RESULTS AND CONCLUSIONS

Several ideas for improvement were presented by the respondents. On sequence, an improvement project on CP was defined. The table 1 presents the project and some associated actions.
Table 1 - Improvement project on CP and some associated actions

<table>
<thead>
<tr>
<th>IMPROVEMENT PROJECT</th>
<th>EXAMPLES OF ASSOCIATED ACTIONS</th>
</tr>
</thead>
</table>
| Develop and implement a waste management and minimization plan | - Assessment of current waste practices.  
- Evaluation of actual cost of waste management.  
- Define, approve, and implement a waste minimization plan.  
- Minimize disposal liability in a perspective of green products and processes and efficient waste management.  
- Define and implement good practices - Spill prevention, housekeeping, maintenance, specific storages areas for hazardous substances, and technology changes  
- Define a set of performance indicators and associated targets.  
- Implement a written procedure, to systematize the waste management process and associated responsibilities. |

The improvement project will contributes, to the CP in result of a greater or lesser impact of it in the daily routine, and awareness of the Collaborators. Moreover supported in an IMS will bring relevant savings and others contributions for the sustained success and development of the organization.

ACKNOWLEDGMENTS

This work had the financial support of the Portuguese Foundation for the Science and Technology (FCT) through the Strategic Project - UI 4005 - 2014, Project Reference PEst-OE/EME/UI4005/2014.

REFERENCES


