Eco-Efficiency in the Strategy Planning of Communal Waste Management

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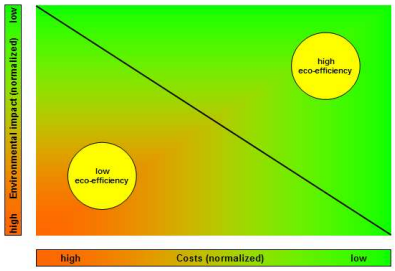
The pursuit of sustainability gains increasing importance for social and industrial issues. The ability to face this topic in strategy planning and evaluation will become an essential factor for the success of most companies. In this context, climate change and global warming are ubiquitous and have to be antagonized. Due to limited financial resources a well-balanced relation has to be established between environmental concerns and economic aspects. The eco-efficiency analysis, developed by BASF S.E., is an appropriate tool to find a well-balanced relation between both aspects. The result is an eco-efficiency portfolio, which shows the interdependency of current costs and environmental impacts.



The tool is particularly attractive for communal waste management companies: On the one hand legal regulations pledge them to sustainability and on the other hand public funds are restricted. Against this background our research team “Communal and Environmental Economics” at the FH Mainz (www.FGKU.de) is going to adopt the eco-efficiency tool in a practical approach to two selected public waste management companies in the federal state of Rhineland-Palatinate: The project will be executed together with the municipal districts of Ludwigshafen and Altenkirchen and in coordination with the State Department of Environment, Forestry and Consumer protection of Rhineland-Palatinate, who also funds this study.

The target of this development project is to determine and illustrate the status quo of the current interaction of the criteria mentioned above and to compare it to two further conceivable waste management strategies in an eco-efficiency portfolio. For this purpose, disposal processes for five categories of waste will be analyzed concerning their environmental impacts and costs. For the economic analysis all costs of the disposal process will be calculated and divided by the number of citizens in order to obtain a standardized figure. The ecological research part of the environmental influences will be examined with focus on six main evaluation criteria (land use, energy, resource consumption, emissions, toxicity and risk potential). For that reason, all relevant inputs and outputs are to be collected and finally aggregated in order to receive a suitable figure for the comparison of ecological and economical values in the eco-efficiency portfolio. Based on this portfolio, the crucial factors can be identified by means of sensitivity analysis.

Communal waste management companies will be shown how to rate different ways to reach a certain status of environment within their budget or they will have the opportunity to calculate possible costs to achieve a more preferable environmental status. Using this approach, we are going to contribute applied sciences to the Citizen Value discussion.