

The Environmental Accounting: an Instrument for Promoting the Environmental Management

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Abstract. *Companies and managers usually believe that environmental costs are not significant to the operation of their businesses. However, often it does not occur to them that some production costs have an environmental component. By identifying and controlling environmental costs, environmental accounting systems can help environmental managers to justify these cleaner production projects, and to identify new ways of saving money and improving environmental performance at the same time.*

Key words: ecological efficiency; environmental accounting; environmental costs; performance.

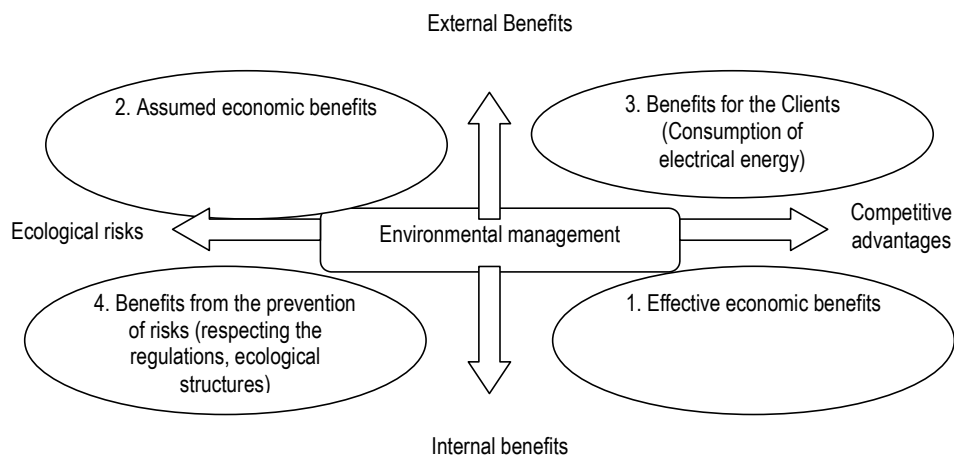
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1. Introduction

A progressive environmental policy can contribute to achieve the objective of the European Council of Lisbon of turning the European Union into the most competitive knowledge-based economy. If the development of a green market can be sustained and encouraged, the businesses and the citizens will respond with technological inventions and with an administration that will determine the growth, the competitiveness, the profitability and the creativity of work. The leaders of the organizations and of the companies have already integrated the principles of the sustainable development into their business strategies. Solving the present environment problems requires a strategic approach, too (besides a legislative approach), with the purpose of introducing the necessary changes in production and consuming. It is absolutely necessary to optimally use a whole series of instruments and measures through which is influenced the decision making process of companies, consumers, citizens and of the ones that adopt the policies from other fields.

The environmental accounting represents a method of measuring the performance of any type of organization (governmental departments, industrial producers, etc.) in relation to the environment and in economic terms. The environmental management accounting is a subsystem of the environmental accounting, used in general to offer informational support for the decision-making process of a company, even if the obtained information can be used for other purposes, too.

At the level of an organization, the environmental accounting is used in order to identify measures that promote the sustainable environmental management. The implementation of measures that ensure a balance between the decrease of the costs and the decrease of the impact on the environment is a crucial aspect for the sustainable environmental management. The diagram presents the general scheme of the environmental accounting (figure 1).



Source: Toshiba Group (1999)

Figure 1. Environmental accounting – instrument for the management

2. Internal instruments of the environmental accounting

As internal instruments of the environmental accounting can be used, interdependently, the following: the segments environmental accounting, the system of environmental accounting EcoBalance, the corporate environmental accounting.

The segment environmental accounting is an instrument of the environmental accounting that allows selecting an investment object, or a project connected to the environmental protection from a series of projects or operations carried out by the enterprise and the evaluation of the effects on the environment for a certain period. The effect of the investment in the environmental protection will be calculated on the basis of the concept “return on investment”. The calculation result is used internally for the decision-making process in the sustainable environmental management.

The system of environmental accounting EcoBalance: it is an internal instrument of the environmental accounting that offers support for the activities of sustainable environmental management. All the processes and operations are represented from the perspective of the environmental accounting, on the basis of the data concerning the impact upon the environment valid for each activity.

The corporate environmental accounting is an instrument that allows presentation to the public of the processed and compiled information. The data of the EcoBalance system are turned to good account and there are calculated (as quantities and values) the cost and the effect of the activities of preserving the environment, by using indicators and formulas.

The process of processing the environment-related information in an organization will logically follow the next major steps: identifying the processes that are expensive

and have a major effect on the environment on the basis of the accounting system EcoBalance for each operation; examining the alternatives for the improvement plans that have as purpose reducing the impact on the environment through rational, economic approaches; establishing the efficiency of each possible approach by using the segment environmental accounting, so that it is chosen the method that leads to the best results; measuring the economic efficiency of the activities of environmental protection and the ecological efficiency of the activity of the company as entity, by using the corporate environmental accounting.

The first step in developing an environmental accounting system is connecting the environmental management to the financial accounting. This is realized by establishing the environment-related aspects of the organization and by selecting the ones considered being significant and about which the managers wish information. These represent cost objects of the environment.

The expression “environmental aspects” is defined as:

- (a) Initiatives to prevent, reduce or remedy the harms done to the environment or to preserve the recyclable and non-recyclable resources (such initiatives can be required by the environmental laws or norms in force, or by contract, or they can be carried out voluntarily);
- (b) Consequences of breaking the environment laws and norms;
- (c) Consequences of the damage made to the environment, to others or to the natural resources; and
- (d) Consequences of the indirect obligations required by law (for instance, obligations for the damage made by the previous owners).

On the other hand, at the level of the financial accounting, the environmental aspects affect the financial situations under the following forms:

- Introducing environmental laws and norms can lead to asset depreciation and therefore, to the need to reduce their accounting value;

- Failing to respect the legal requirements concerning the environment aspects, such as exhaust fumes or deversarile de waste or changes in legislation with retroactive effect, can incur remedy costs, compensation costs or legal costs;
- Some entities such as the ones from the extractive industry (gas, oil or mining exploitations), chemical enterprises or recycling companies can create obligations related to the environment as a direct consequence of the carried out activities;
- The implicit obligations incurred by a voluntary initiative; for instance an entity could have identified the contamination of the soil and, without any legal obligation, could have taken the decision to remedy this problem, because it is preoccupied with its long-term reputation and its relation to the community;
- An entity may need to present the existence of some contingent/probable debts if the expenses concerning the environment aspects cannot be estimated reasonably; and
- In extreme situations, non-observance of certain environment laws and norms can affect the continuity of an entity according to the continuity

principle and, as a consequence, it can affect the information presentation and the basis for drawing out the financial statements.

The identification of the significant environment-related aspects for the environmental accounting will depend to a great extent on the purposes of the old system of evaluation of the environment aspects. A lot of organizations have or are implementing environmental management systems that point out the environment-related aspects of the company's activity and identify the resources and the results obtained from those activities. Still, the purpose of a management system that facilitates the environmental accounting can anyhow differ from the model indicated by the international environmental management standards, such as ISO 14001.

3. Environmental management indicators

The environmental management uses indicators to accurately evaluate the level of the sustainable management and to facilitate its subsequent improvement. With this purpose, the indicators must be based on the following three reference elements as are shown in table 1, as the Toshiba Group (1999) used.

Environmental management indicators

Table 1

Element	Explanation	Quantification Ratios	Meaning
a) Economic benefits of the activities of preserving the environment	Shows how rational from an economic point of view are the activities of environmental protection.	$\left(\frac{\text{Economic benefits}}{\text{Costs of protecting the environment}} \right)$	If this coefficient is higher than 1 (the economic benefits are equal or higher than the environmental costs), then the sustainable management is considered being efficient. If the presented indicator is higher than 1 (the economic benefits and the decrease of the social costs equal or exceed the environmental costs), then the sustainable management is considered viable. This indicator is used to evaluate the positive evolutions in the efficiency of the investments and of other projects.
		$\left(\frac{\text{Economic benefits} + \text{Decrease of social costs}}{\text{Costs of protecting the environment}} \right)$	
		$\left(\frac{\text{Decrease of the ecological impact}}{\text{Costs of protecting the environment}} \right)$	
b) The ecological efficiency of the economic activities	Shows if the ecological impact of the economic activities is acceptable and if these activities answer the social requirements.	$\left(\frac{\text{Sales}}{\text{Total ecological impact (in quantitative or value units)}} \right)$	This equation is used to evaluate if the ecological impact corresponds to the dimensions of the business. The equation is used to establish if the profit corresponds to the impact on the environment.
		$\left(\frac{\text{Added value from economic activities}}{\text{Total ecological impact (in quantitative or value units)}} \right)$	
c) Environmental management	It is used to establish if the process of environmental management is appropriate.	The internal audit, the local reports, the development processes of the ecological technology, ecological levels, „green“ acquisitions and other aspect are analyzed.	

The environmental accounting must function as an instrument for the measurement of the economic efficiency of the activities of environmental protection and of the ecological efficiency of the activities. In this context, the objective of any Romanian organization should consists in setting the ground for an environmental accounting system that evaluates the sustainable environmental management and that offers support for assisting the

managerial decision. The development and the permanent improvement of the environmental accounting system represents an essential condition of the organization's sustainability, so that this one becomes, on one hand, an instrument that supports the decision-making process, and on the other hand, an indicator for the sustainable environmental management that accurately evaluates the activities of environmental protection.

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