

# GREEN ACCOUNTING – A CHALLENGE FOR THE ACCOUNTANT SPECIALIST

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*Abstract: Green or environmental accounting describes an effort to incorporate environmental benefits and costs into economic decision-making. Corporate environmental accounting is concerned with a business's environmental impact, national environmental accounting tries to accomplish the same at a national level.*

*Key words: green accounting, sustainable development, environmental protection*

We all wish to live better and better. But we ask ourselves if the planet is it still viable, if it can still satisfy our wishes without affecting it?

The emergence of some important problems concerning the environment has altered the indifference in some of us and stimulated the initiative of others regarding the necessity of doing something to remediate those problems.

This way, the specialists have come to the conclusion that the liaison between a safer environment and the hope of an increasing quality of the people's lives involves taking some decisions.

In conclusion, at The United Nations Conference for the Environment, taking place in Rio de Janeiro, in 1972, the term *sustainable development* was for the first time used. The message of this conference was to find those strategies which offer the possibility to protect the resources of the natural environment in the process of social and economic development, in other words, to achieve a sustainable development.

From that moment onwards, this concept has signaled people's doubts about the future of the planet. This way, in 1983, The World Committee for Environment and Development was founded. In 1987, in the Brundtland Report, published by this committee, the main problems of the environment were underlined.

In this report, sustainable development was defined as a strategy of economic development intended to harmonise the economic and social progress, without affecting the natural equilibrium of the planet for a development which must respond to the actual necessities without affecting the capacity of next generations to satisfy their own necessities.

Some time later, in 1992, at The United Nations Conference for Environment and Development, taking place in Rio de Janeiro, concrete directions of action for environmental protection were established, from among which we can mention: the elaboration of a guiding document for the administration of the environment in almost all the world (21<sup>st</sup> Agenda), the cooperation between the poor countries and the rich one, the harmonization of the concept of economic increase with sustainable development, the rights and the obligations of the states concerning the environment.

In 2002, at The World Summit for Sustainable Development, which took place in Johannesburg, it was stressed the fact that the main actor on the world market which must take action for the realization of sustainable development is still the enterprise, which is interested more in itself than in the others, even ignoring the environment.

Being conscious of that, more and more enterprises have started to take into consideration the environment in their programs and action plans, especially when they observed the improvement of their own image, a better satisfaction of the clients and, through this, a competitive advantage.

This fact led to the elaboration of some norms 'to facilitate the enterprise managers' understanding of the necessity of integrating the environment in their administration, and to facilitate the development and improvement of the environmental administration system'<sup>381</sup>.

In Romania, this objective of major public interest, namely the environmental protection, is regulated by The Governmental Urgency Ordinance no. 195 in 2005 approved and modified by Law no. 265 in 2006.

The Ordinance mentioned above refers to the economic and social activities with impact over the environment (dangerous substances and different waste; chemical fertilizers and pesticides, radiations), natural resources protection and the biodiversity preservation (the waters and the aquatic ecosystems; the atmosphere; the soil, the subsoil and the terrestrial ecosystems; protected areas and natural monuments; human establishments).

According to the ordinance mentioned above, for the realization of the European integration process, the principles which govern the entire activity of environmental protection are settled, and they marked out the directions of economic activity rules to accomplish the sustainable development objectives, elements which take into account the public interest and which constitute extraordinary emergency situations. This way, the system of environmental management was defined as 'a component of the general management system which includes the organizational structure, the planning activities, the responsibilities, the practices, the procedures, the process and the resources for the elaboration, the application, the realization, the analysis and the maintenance of the environmental policy'<sup>382</sup>.

The realization of sustainable development by the enterprises determines the appearance of 'green accounting' or 'ecological environmental accounting'. This was also determined, on the one hand, by the necessity of resolving the increasing problems of the natural environment and by the necessity of taking pertinent decisions concerning the environmental policy of the enterprise, and, on the other hand, by the growing concern of the different users of the financial statements regarding the impact of the enterprise over the environment.

Green accounting represents 'a process of identification, calculation, control, analysis and reporting of the costs generated by the enterprise-environment relation, resulting from the prevention, the limitation and the elimination of the effects of ecological disasters with a favorable impact over the company and the environment'<sup>383</sup>.

The idea of identifying, calculating, controlling, analyzing and reporting the costs generated by the company-environment relationship also has at its basis the fact that this cost sometimes has an order of magnitude which is closely related to that of the company's benefit. Thus, the environmental costs represent the potential sum of maximizing the profit by taking environmental measures. Practically, these expenses regarding the company-environment relationship could be avoided by adopting an efficient policy of environmental protection, and, therefore, the company will be exempted from possible recoveries of environmental damages, fees or penalties owed to organizations which protect the environment, etc.

The methodology of administering the costs generated by the company-environment relationship which is facilitated by green accounting comprises two stages:

1. the former stage consists of identifying, collecting, and controlling the costs generated by the company-environment relationship and of elaborating the environmental financial statements (reporting);
2. the latter stage consists of analyzing and interpreting the data in the environmental financial statements and, on their basis, decisions are taken regarding the correcting measures to be introduced so that, in the future, it could become possible to reduce at least those costs paid in order to remove the environmental damage, according to the principle saying that 'it is better to prevent rather than to combat'.

**The costs generated by the company-environment relationship** are collected from among the following:

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<sup>381</sup> Tabără, N., Nuță, F. M., *Normalizare și globalizare în gestiunea și contabilitatea mediului*, in <Finanțe Publice și Contabilitate>, no. 5/2007, published by The Ministry of Economy and Finances.

<sup>382</sup> \* \* \* *The Governmental Urgency Ordinance no. 195 on December 22, 2005*, approved by The Environmental Protection Law no. 265/2006

<sup>383</sup> Caraiani, C., Jianu, I., *Contabilitatea verde – o perspectivă a schimbării în contabilitate*, in <Contabilitatea, expertiza și auditul afacerilor>, no. 5/2007, Published by C.E.C.A.R., București 2007.

- the acquisition prices (or production costs) for machinery, equipment, means of transport,
- or the acquisition prices of ecological raw materials which, being higher than the ordinary ones, ensure an increased level of environmental protection and, consequently, they ensure the prevention, decrease and even elimination of costs generated by environmental pollution;
- fees or penalties resulting from polluting the environment.
- The structure of the costs deriving from the company-environment relationship could be
- the following:
- the costs of preventing the noxious effects over the environment resulting from the company's activity;
- the costs of limiting or abolishing these effects;
- the costs of regenerating the affected environment.

**The documents used in the determination and analysis of the evolution of environmental costs** are represented by:

- the environmental report, defined in G. U. O. no 195/ 2005 as being part of the
- documentation of plans and programs, and which identifies, describes and assesses the potential significant effects over the environment, their application and their rational alternatives, taking into account the objectives and the corresponding geographical area, in compliance with the enforced legislation;
- the environmental balance sheet, defined by the same regulation as a document
- elaborated by individual or corporate bodies attested by the law, aiming to obtain the notification for establishing environmental obligations, or to acquire the environmental licence which contains the elements of technical analysis, by means of which one could get information about the activity's causes and consequences of cumulated, anterior, current or prospective negative effects, so as to measure the real impact on a certain location;
- the risk evaluation study, which completes the environmental balance sheet, in case there
- is a significant impact over the environment;
- the primary documents, functioning as informational support, in which the costs generated
- by the environmental protection are recorded; these documents are similar to those employed for recording the other company costs;
- the general chart of accounts, including subsidiary accounts specific for the company-
- environment relationship;
- compulsory accounting books, which present, in corresponding subsidiary accounts, the
- costs involved in the company-environment relationship;
- synthesis documents and environmental accounting records (a distinct set from the
- compulsory ones) which reflect the company-environment relationship.

**The work force** involved includes:

- the agents issuing the primary documents;
- the environmental protection department which verifies the way in which the company-
- environment relationship develops;
- the accountancy and financial department which registers the transactions and the events
- related to the company-environment relationship;
- the economic analysis and diagnosis department, which analyses the ratio between the
- costs and the benefits generated by environmental protection, the extent corresponding to the various categories of environmental costs within the total environmental costs and within the total costs of the company, also making proposals about measures to be taken so as to improve the company-environment relationship, etc.;

- the company's management taking environment-related decisions.

Ecological accounting can be used in different contexts and with different meanings<sup>384</sup>:

- in the context of the national accounting, the green accounting is named the accounting of natural resources and it has a macroeconomic dimension, it offers information about the consumption, the quantity and the quality of natural resources, which can be regenerated or not;
- in the context of the financial accounting, green accounting refers to the financial estimation and reporting of environment costs and debts related to them, according to the accounting standards;
- in the context of the managerial accounting, the green accounting is orientated to offer the necessary information in taking economic decisions concerning the investment, the level and the structure of the production and other things, starting from the environmental costs of an organization / a department / a line of production / a system.

The system of national accounting can offer an image of the relation existing between environment and economy, unifying the information offered by the entities concerning the environment. The first "satellite-accounts" of the environment were published in 1986. Those accounts were covering the next areas: the continental waters administration, the elimination and recovering of waste products, the protected natural spaces (national parks, regional parks), the protection of maritime spaces, or hunting.

In the actual stage regarding the reflection of national accounts at the international level, a planetary evaluation of the natural patrimony and an evaluation of the deterioration suffered by the environment are still very difficult to do. The preference is to elaborate physical accounts able to describe the whole natural patrimony of a country with its different components, presenting, on the one hand, the uses of natural resources, and, on the other hand, presenting the degradation of natural environment caused by the economic activities.

Still, the specialty literature offers some examples of accounts, also presenting the account shown bellow, which tries to cover the entire natural patrimony.

#### The environment account<sup>385</sup>

Resources	Uses
Initial Inventory - High estimation adjustment of the known reserves - Natural increase - Increase of man-made elements - Imports + Pollutions = Final Inventory	- Low estimation adjustment of the known reserves - Natural decrease - Artificial decrease + Samplings - Exports

Just as with financial accounting where the double effect is at the basis of transactions' logic, in the case of ecological accounting the same principle operates: affecting an element corresponds to replacing and counteracting the deficiency or the evil done. The synthesis of this information can be reflected in the annual financial statements by introducing some green headings. An example of an ecological balance sheet, adapted by Professor Neculai Tabără, after reading the example presented by Raffegeanu in the work *Memento Practique Francis Lefebvre Comptable*, presents the next headings:

<sup>384</sup> Caraiiani, C., Jianu, I., *Contabilitatea verde – o perspectivă a schimbării în contabilitate*, in <Contabilitatea, expertiza și auditul afacerilor>, no. 4/2007, published by C.E.C.C.A.R., București 2007.

<sup>385</sup> Tabără, N., *Contabilitatea națională a României*, published by Sedcom Libris, Iași, 2005.

1. inventories for the environment protection (equipments used for the environment protection, equipments for the recycling or the economy of energy, equipment which reduces the pollution and other negative effects);
2. flow associated to the usage of equipments destined to protect the environment (the amortization of equipments; works, supplies and exterior services; staff expenses attributable to the environment protection activities; the purchasing cost of the energy destined to the maintenance and to the functionality of the equipments; pollution royalties paid; depollution bonus received; subsidies and loans with special interest rates acquired for the financed equipment; provisions for risks);
3. flow associated to the production activity (the purchasing cost of the energy and raw material on the physical unit of sold product; purchasing and sale of lands);
4. natural patrimony of the enterprise (built and non-built land areas);
5. flows (the volume of spent energies on the physical unit of sold product; the volume of net emissions of pollutants and residue inventories; sold and bought land areas).

The fair view of the financial position and the fair view of the enterprise performance will be completed if we add the information about the implementation of the environmental policies concerning the impact of the company's activities over the environment and over the population (here we also include the financial statements' users).

In our country this information is presented now in the environmental report, defined by The Governmental Urgency Ordinance no. 195 in 2005 as a part of the plans or programs documentation, elaborated by the companies, which identifies, describes and evaluates the possible effects which could have a major impact over the environment, and which also analyses the rational alternatives of those plans and programs, taking into consideration the objectives and the geographical area involved. The companies which respect themselves include some indicators in this environmental report, as: the land area allocated for the wastes administration, the number of the elucidated or investigated incidents in a determined period, gas emissions with specific greenhouse effects, recycling rates for different wastes.

Moreover, ecological environment accounting is also a managerial tool, with many goals: the control of environment costs; the realization of investments in less polluting or even in ecological technologies; the promotion of some production process and the promotion of some less polluting products, improving environment-related performance.

The traditional accounting methods do not take into consideration the environment costs and the performance concerning the environment, whereas environmental accounting includes the calculation of environmental costs structured as follows<sup>386</sup>:

1. conventional calculation of the environment costs, having as objectives the detailed reporting of environmental protection costs and noxious factors costs which affect the environment;
2. calculation of costs related to losses, which includes: the prevention costs, the protection costs, the material loss costs, the costs of the loss generator flow;
3. cash flow accounting, which identifies and analyses the totals costs concerning both the used materials and the flow generated by them, the loss generated, the efficiency of the usage of materials and energy aiming at generating a minimum level of loss.

As far as the investments in depollution or antipollution technologies are concerned, including the quality of raw materials and materials used, they contribute essentially to the prevention, diminution or even elimination of the noxious effects over the environment.

Lastly, we present some advantages that companies could have by implementing ecological environmental accounting:

- informing the enterprise about the effects of the activity over the natural environment and over the population;
- sustaining the decisional process concerning the action plans for the environmental protection;

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<sup>386</sup> Dumitrană, M., Caraiani, C., Dascălu, C., *Contabilitatea și mediul ecologic – viziune conceptuală și informațională*, în *Congresul al XVI – lea al profesiei contabile din România*, Ed. C.E.C.C.A.R., București, 2006.

- the increase of the financial statements users' trust and also the attraction of new investors;
- the realization of sustainable development.

In conclusion, ecological environment accounting attempts to measure the performance of an organization and of a national economy in relation to the environment and, in economic terms, by means of the monetary evaluation of environment costs associated to the development and functionality activities, and the evaluation of economic benefits brought by an advantageous environmental management and other measures.

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