

ENVIRONMENTAL MANAGEMENT SYSTEMS AND COMPANIES' SUSTAINABLE PERFORMANCE IN ROMANIA

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ABSTRACT: The implementation of the sustainable development principles at the macroeconomic level is able to ensure creation of the resource-efficient productive systems which have the qualitative characteristics in compliance with the business sustainable model featured in the European Union. This work support the literature in the field and presents the action directions which companies can use for a correct management of the environment issues. The research shows that implementation of the environment management system within the Romania's companies can lead to solving of some conflicts between economy and nature, and contribute to increase the economic performance.

Key words: sustainable business, environmental performance, environmental management, EMAS, environmental indicators

JEL Codes: Q51, Q56

Introduction

Companies from various activity sectors due to their specificity are responsible for some forms of pollution which harm all the components of natural environment. The unfavourable impact of the economic activities related to consumption and outward emissions produces depletion of resources, pollution in air, water and soil, climate changes etc. All these aspects lead to deterioration of the life's quality and have negative consequences on the next future generations. That is why the sustainable development model becomes a necessary, moral and ethic requirement.

The European model of economic growth targets the sustainable development of all economic activities through an adequate formulation of the economic, social and environment objectives. Development of the economy in a sustainable manner is a synthesis of the quality in the activities unfolded by each economic operator. Conversion of companies towards the sustainable production systems will create those conditions to obtain some favourable economic effects not only at the macroeconomic level, but of the local, regional or national economy's one. Directions of the sustainable development formulated at the European level stipulate restructuring actions, re-technology and orientation of the economic agents to the activities which both use efficient the resources and ensure the preservation of the ambient environment.

Transition to sustainable development in Romania is a desideratum but also a necessity originated by the European vision of achieving an economic development model which to respect the natural environment requirements and contribute to the increase of the life's quality.

This paper has as main objective to identify some actions ways that Romanian companies have to put in practice for decoupling their economic activities by the ambient environment in order to improve the sustainable performance. The analysis of some environmental statements of EU's companies highlights advantages related operation with an environmental management system. It brings a plus of knowledge concerning the utility for the Romanian companies to adopt an adequate system for a better management of their environment aspects.

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The results obtained highlight that companies certification in an environment management system and especially their voluntary adhering to the Community's eco-management and audit schema can lead to the continuous improving of impact that economic activities will exert on the ambient environment. The companies' gain in image leads to adding credibility, competitiveness and performance in their economy. In the same time, it will be created conditions for a real transition of Romania to the sustainable vision of the European Union.

Literature review

Within the European Community, last decades were marked by a continue increasing of preoccupations concerning generalization of the sustainable growth. The identification of instruments, methods and techniques for decoupling the economic activities by their negative impact on the environment and society constitutes permanent objectives of decisional and legislative factors of the European institutions. Renewed EU Sustainable Strategy restated the necessity to achieve a growth of a sustainable type in which the environment protection beside the social cohesion and economic prosperity are essential objectives of a continuous action for improve the life's quality for the present and future generations (European Council, 2006).

Nowadays, the European Commission proposes that the action directions to accelerate the sustainable development to follow up the transition to a resource-efficient Europe (SEC 1067, 2011). The efficient use of resources will lead to increase the grade of sustainability of the productive activities on the whole national economy, on branches and companies.

In the literature there are numerous studies which present the relation between economic performance and environment performance as an inverted U shape function (Lankoski, 2000). These researches show that an increasing of the environment performance over one optimum point could diminish the company's profit (Salzmann et al., 2005).

Other case studies demonstrate that business sustainability is not a utopia and cannot generate the costs increasing; contrary it contributes to their reduction, obtaining important gains on the long period of time (Hogevoold and Svensson, 2012). Also, documents issued by the European institutions consider that actions which aim diminishing the ambient environment's pollution can produce favourable economic and social effects.

Also, documents issued by the European institutions consider that actions which aim diminishing the ambient environment's pollution can produce favourable economic and social effects. Since two decades ago the Council of the European Communities has considered that adoption by organizations of an environment management system is an efficient way of putting them on an active behaviour's line concerning environment protection and sustainable growth (EEC 1836, 1993). In the firms' practice, this system's implementation requires the environmental reporting, action which stimulates technological improvements and lead to a general increasing of their environmental performance. In present the Europe's organisations are encouraged more and more to participate voluntary to Eco-Management and Audit Scheme (EMAS) because this regulation is able to stimulate the processes of the sustainable transformation of economies and generates a plus of value added due to the control system of activities, resources savings and improving of the companies' image (EC 1221, 2009).

The transition process of companies and other operators towards sustainability vision is considered a cyclic process in which there are identified four stages: mobilizing actors and executing projects and experiments; evaluating, monitoring and learning; problem assessment; developing the sustainability vision (Loorbach and Rotmans, 2010)..

In Romania, the European vision of sustainable development was integrated in the National Sustainable Development Strategy of Romania 2013-2020-2030. This document establishes concrete action directions „within a reasonable and realistic timeframe, toward a new model of development that is capable of generating high value added, is motivated by interest in knowledge

and innovation, and is aimed at continued improvement of the quality of life and human relationships in harmony with the natural environment” (NSDS, 2008).

The topic of sustainable development has an important place within the specialized studies, many of them present characteristic aspects and advantages of the sustainable development and its correlation with the corporate social responsibility (Cândea, 2007). Other studies present the possibilities of improving and extending the measurement systems of sustainable performance by companies (Mironiuc, 2009; Achim et al., 2010). The aspects of the firms’ orientation to adopt the sustainable reporting are also in attention of some researches (Şendroiş et al., 2006; Burja et al., 2009).

Increasing the companies’ sustainability

The economic activities exert a strong pressure on the natural environment for the whole chain of transformations of the raw materials in products and services for consumption. For this reason transposing in practice of the sustainable principles requires preoccupies of firms for evidencing and control the impact of their activities on the nature and society, and transition to business sustainability model. It signifies a modality of firms’ functioning in which all efforts concerning product design, manufacturing, delivery, distribution and disposal throughout the product life cycle are oriented to the reduction of impact on the life and eco-systems (Hogevold and Svenson, 2012).

Adoption by companies of a responsible attitude concerning the impact produced on the external environment constitutes a main direction of their transition towards an economic growth of sustainable type which is able to ensure firstly for them, the economic advantages through improvement of efficiency and increasing of the competitiveness on market. Within the social dimension, it will appear many benefits for employees related to extend of the corporate social responsibility, and at the entire economy level will be produced an improvement in the quality of life through a better protection of the people’s natural frame. At the same time the commercial and cooperation relationships between companies will create the favourable conditions for diffusion the sustainable practices in various sectors of economy.

It is considered that changes of the production systems in order to obtain sustainable products and services, represents an important modality to restructure the firms’ economy and to orient them toward the sustainable practices. The production systems of sustainable type „generate greater positive or reduced negative social, environmental and economic impacts along the value chain from producer to end” and offer comparative advantages in the competitive environment (Borregaard and Dufey, 2005). Development of the concept of clean products (Shaltegger, 2008) means stimulating of some investments projects for achieving the ecologic production and develop some practices for measure and accounting of the environment performance (Burritt, 2000).

Also, the firms’ increasing contribution to the quality of life imposes adapting of their functions for having a better connexion with complexity of economic, social and environmental demands. Activity of the economic organisms should have to be appreciated through consumers’ satisfaction for the products and services, economic performance registered within a period and ecological and social impact.

Another possibility of studying and improve the companies’ environmental performance is the impact analysis of its inputs and outputs on the natural environment. The results’ analysis will allow to identify of some measures which have to be adopted for increase the companies’ environment performance: new ways of obtaining the ecological products (alternative technologies), materials selection, more efficient utilization of materials, less polluting transport and distribution techniques, optimization of the life cycle, waste management etc. All these aspects could be synthesised in lowering the materials and energy consumption along with diminishing the emissions of toxic substances, and on this base, the pressure on the natural environment will be reduced.

Companies' transition to an economic sustainable growth demands a good management of their activities on the external environment and in line with this it becomes necessary to develop and largely use information provided by the Environmental Management Accounting. Respecting the environmental norms conducts to costs' increasing and if these were significant, it would be necessary a rigorous control of their structure, for reducing them (Burrit, 2006).

The sustainable development of economic agents solicits increasing of qualitative dimension of activity in order to acquire the capacity of achieving the high economic performances concomitant with protection and preservation of the ambient environment. Companies should grow concerns for knowing the external pressures they exert on and adoption of an adequate environmental management system (EC 761, 2001; 2252, 2003; Gara et al., 2006).

Implementation within the firms of an environmental management system ISO 14001 or EMAS is in fact the principal way to introduce an integrated approach of all aspects related to sustainable development. The role which such system has is to introduce a control of economic activities and of impacts generated on the ambient environment. It requires that firms to make efforts to restructure the productive systems, appropriate general organisation and management, and a good administration of production factors.

A comparative approach of the two environmental management systems recommended by the European Union legislation, ISO 14002 and EMAS, highlights the characteristics and advantages obtained by the firms which implemented them (Friemann, 2002; Burja et al., 2009).

The Eco-management and audit schema (EMAS) belongs to the European Community's strategy to promote sustainable growth throughout the EU, aspect which recommended it to be introduced by more and more economic agents. It can improve compatibility between companies' operations and the norms of the European environmental legislations; it imposes the publication of the companies' environmental profile and so, it stimulates increasing of transparency and obtaining of a better image of company. At the same time, EMAS contributes to improve the labour conditions, better management of raw materials and energy, consumption reduction, higher economic performance, aspects which implicitly will lead to increase the environmental performance and transition to development of sustainable type. A study made for DG Environment of the European Commission reveals the main reasons of EMAS adoption by organisations: increasing the resource/production efficiency, transparency for stakeholders, greener products, employees' participation (Vernon et al., 2009).

In order to companies implement an environmental management system of EMAS type, they have to make some preliminary actions as: establish the environmental policy, make the environmental analysis, settle the environmental programme, implementation of the environmental management system, internal audit and prepare the environmental statement. After the registration for an environmental management system was made the stakeholders will be informed (fig. 1).

Introduction of the EMAS ensures compliance of the environment requirements in conditions of transparency for activity. Only in this certification system, organizations have to publish an environmental statement in which they communicate to stakeholders, the own environmental performance.

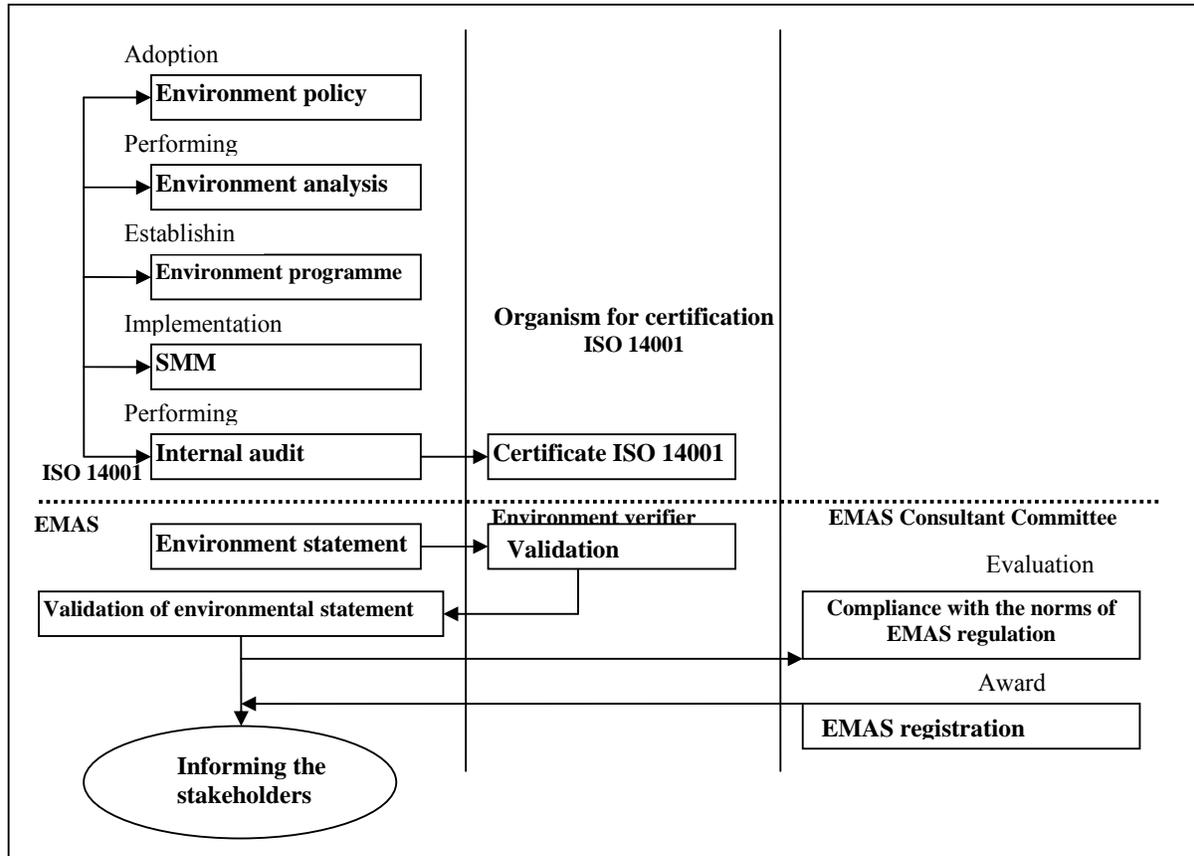


Figure no. 1. - Flow of activities for EMAS implementation (source: <http://www.srac.ro>)

At the moment when Romania joined to European Union, the organizations registered with EMAS had had an increasing dynamic (fig. 2). In 2007 at the EU-27 level, EMAS had been implemented in 3908 organizations and companies, by which 37.5% in Germany, 23.2% in Spain, 19.3% in Italy, 6.5% in Austria and very few in the other countries. In the same year, Romania appears with a single organization registered in EMAS system.

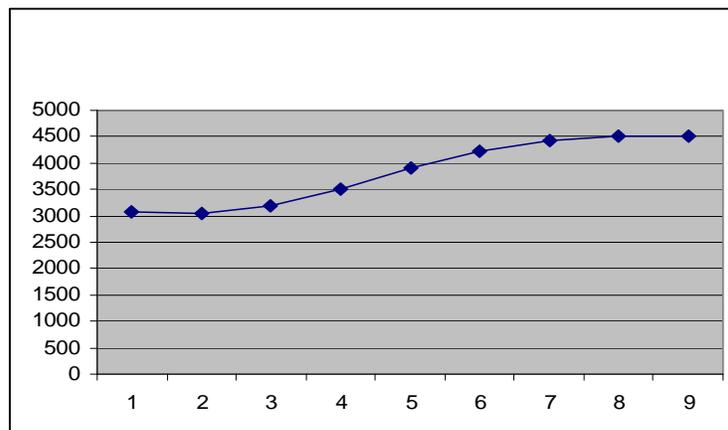


Figure no.2. - Organizations and sites with EMAS registration UE-27, 2003-2011

Source: Eurostat database

In 2011 in EU there are 4511 organizations which function with EMAS, the most being in Germany (29.8%). An important growth of number of organizations with EMAS was registered in Spain and Italy, with a weight of 27.4%, respectively 25.7% from the total European Union's organizations with EMAS. In 2011, Romania has only 5 organizations which implemented this environmental standard, according to the EMAS National Register.

Although in Romania, in comparison with the situation from the other developed countries of EU, the number of EMAS certificated organizations is modest, within its economy is manifested a tendency of a strong increasing in the number of firms which had obtained certification on a management system in compliance with national and international standards.

An important concern both in introduction the environmental management system and for evidencing and analysing of the sustainability grade of firms, is establishing and implementation of the environmental indicators.

Indicators used in reporting the environmental performance of companies

EMAS implementation in companies supposes identification of the main environmental effects resulted from impact of their activities, selection of the most significant environmental aspects and establish the indicators, by whom the environment performance can be evaluated and reported. The analysis of those indicators helps to substantiate the decisions that lead to increase the economic activity quality and their achievement based on eco-efficiency principles. In this way there are satisfied the interests of shareholders and indirect or direct beneficiaries of products or services.

The environmental indicators represent elements by which it is exerted monitoring and measurement of ecological impact in order to substantiate the actions of the environment management programmes. These indicators are numeric expressions which quantify the main pressures that companies generate on the environment. They have to measure the annual factors inputs, annual outputs resulted by the own system and the report between inputs and outputs in order to determine the eco-efficiency (EC 1221, 2009).

Indicators which express the environmental performance are presented in Regulation (EC) No 1221/2009 of the European Parliament and of the Council. They characterize those aspects in which the effects of companies' activity are more significant: energy efficiency, materials efficiency, water, waste, biodiversity and emissions (table 1).

Table no.1.

Environmental performance indicators of organisations

Key environmental areas	A. Indication of the annual input/impact	B. Indication of the overall annual output		R. Ratio A/B
		Organisations in the production sectors	Organisations in the non-production sectors	
Energy efficiency	- total direct energy use - total annual energy consumption (MWh or G) - total renewable energy use (the percentage of total annual consumption of energy -electricity and heat produced by the organisation from renewable energy sources)	- total annual gross value-added (million euro)	number of employees	
Material efficiency	annual mass-flow of different materials used	- total annual physical		

	(tonnes)	output (tonnes)		
Water	total annual water consumption (m3)	- total annual turnover (for small organisations)		
Waste	- total annual generation of waste (tonnes) - total annual generation of hazardous waste (kilograms or tonnes)	- total number of employees (for small organisations)		
Biodiversity	use of land (m3 of built-up area)			
Emissions	- total annual emission of greenhouse gases (tonnes of CO2 equivalent) - total annual air emission (kilograms or tonnes)			

Source: adapted after Regulation (EC) No 1221/2009

EMAS III Regulation (EC 1221, 2009) facilitates selection by companies of those aspects which have a strong impact on the natural environment and establishment of the other indicators for assessment the various pollution types and environmental performance.

The content of the environmental statement published by companies also illustrates the concrete possibilities of quantifying the environment impact.

Environmental reporting of organisations which adopted Community's eco-management and audit scheme reveals which had been the motivations of EMAS implementation and the main benefits obtained.

An analysis was made using some case studies presented by organizations in agriculture sector and food industry (NACE codes 01. to 09 and NACE codes 10. to 15) which function with EMAS and there are in environment database of the European Commission. The findings reveal the main advantages of implementation the environmental management system of EMAS type (<http://ec.europa.eu/environment/>). They are:

- cost control (case study Farmers' Group Nileas)
- increasing output; savings as a result of energy saving measures (case study Franz Dorner & Partner KEG)
- application of the strict basic rules of natural, environmentally friendly and sustainable management in activity; raise a sense of responsibility among all the employees (case study Obermurtaler Brauerei GmbH – Austria)
- better and more efficient use of the limited budget for environmental measures; training of employees in environmental protection measures; exchange of experience with the suppliers about the environmental protection measures adopted; optimisation of the use of technologies; adoption of measures to safeguard against environmental accidents; co-operation with the authorities in order to implement the most up-to-date standards and avoid damage to the environment; information and consultation of the customers about the impact on the environment of activities, materials and products (case study Steinmetz butchery business – Germany)
- reduction of negative impacts, reduction in costs and increasing in added value; enhanced legal security; environmental awareness among employees (case study Dublin Products Ltd, Dunlavin, Co. Wicklow - Ireland)
- decrease fuel and energy consumption; enhance water management; improve waste management; money saved (case study Lee Strand Co-operative Creamery Ltd).

Analyzing also the other aspects resulted from the practice of the organizations registered with EMAS, it can conclude that this management system of environment represents for all type of organizations an important modality to obtain some financial or nonfinancial advantages. In synthesis, the environmental gains obtained through EMAS are: energy and resource saving, financial saving, improve stakeholder relationships (customers, authorities, employees, suppliers etc), improve staff/recruitment retention, increase market opportunities, productivity improvement, reduction in negative incidents, (Vernon et al., 2009). At the same time companies which use the EMAS system prove that they assume the responsibility of environment protection, contributing to the increase of the life's quality.

For Romanian companies, practice and experience of EU's organizations which function with EMAS reveal the voluntary adoption of an environment management system as a possible modality of developing the sustainability level.

Conclusions

The EU's regulation concerning the sustainable development identifies enterprises as being base elements for transposing in practice the environmental objectives.

Operation of firms based on the sustainable development principles demands the stimulation of the actions which can lead to a better management of the environment aspects related to negative generated effects, optimization of the production processes in order to develop sustainable production and consumption, organizational restructuring of the operational and management functions, use of assessment tools and techniques, monitoring and management of the environmental impact, voluntary adoption of an environmental management system etc.

The legislative instruments developed at the European Community level encourage a large participation of organizations in Eco-management and audit scheme and publishing in a rigorous and independent way of some indicators which have to be included in verified environmental or sustainable development performance reports.

Analysis of some case studies of European Union's companies (from agro-food industry) which had made publicly their environmental statements highlighted the main reasons for which they adopted EMAS system, and the advantages obtained.

Although in Romania were initiated ample legislative and institutional actions for stimulation the sustainable development and the environment protection (OM 1018, 2006; Romanian Government, 2008), there is a relative small number of companies which function based on an environmental management system. Most companies had implemented the ISO 14001 system which has an international validity and there are only few companies which adopted the Community eco-management and audit scheme. The increase of the number of Romanian organizations which function based on an environmental management system, efforts made for harmonization the national sectors policies with the environmental policy of EU, besides the advantages demonstrated through results obtained by those organizations which function for a long time based on transparency and responsibility principles for environment and society, all suggest that also in Romania there are real chances to increase competitiveness and sustainable performance.

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