

## EUROPEAN DEVELOPMENT OF ECO-MANAGEMENT AND AUDIT SCHEME (EMAS) IN THE EUROPEAN UNION

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### **Abstract:**

The paper presents the implementation of the Environmental Management and Audit Scheme System (EMAS) in Poland and the European Union. It analyzes the existing rules on the implementation and the process of its implementation. It also defines the benefits and costs arising from the registration of organizations in the system. The paper presents the current status of implementation of EMAS in the European Union.

**Key words:** *eco-management, audit, scheme, system, EMAS*

### **ECO-MANAGEMENT AND AUDIT SCHEME SYSTEM (EMAS)**

Threats to life and development of society and the natural environment are closely linked to the rapid economic development throughout the European Union. The result of economic development becomes irrational use of resources by manufacturing companies and deepening environmental degradation. The increase in environmental awareness, especially the younger generation, competition and state authorities through the use of a number of regulations encourages companies to pay particular attention to the protection of the environment. Therefore, most of the manufacturing companies voluntarily implement various programs and management systems to reduce their negative impact on the environment. One of the instruments is the European Environmental Eco-Management and Audit Scheme (EMAS).

The aim of this paper is to examine the current state of implementation of the Eco-Management and Audit System (EMAS) in Poland and the countries of the European Union.

EMAS (Eco-Management and Audit Scheme) is a European instrument for environmental management aimed at businesses, public service agencies, organizations. The program promotes the concept of voluntary pro-environmental action to reduce the negative functioning of these organizations on the environment [7]. This means that the system seeks and promotes organizations that go beyond the basic level of environmental actions in exchange for the certificate of registration. Use of the system logo by organizations indicates that the company is environmentally friendly and is considered to be trustworthy.

EMAS is designed to support continuous improvement of the environmental effects of the activities of the organization. This is possible through the development and implementation of systems, policies and environmental programs of the organization, followed by a systematic and periodic appraisal of the implemented systems. An impor-

tant issue is also the provision of information on environmental performance, a dialogue with the public and the active involvement of employees in the scheme implementation [9].

### **LEGAL BASIS OF THE EMAS SYSTEM**

Already in 1993, it emphasized the role of industry in the creation of the state of the economy, and responsibility for the natural environment. In that year, the European Union published a V Programme of Action for the Environment "On the road to sustainable development." The program defined the aims and principles for achieving sustainable development and the general framework for action in this area. Program included the creation of new instruments used in environmental protection, inducing companies to active environmentally friendly operation.

At that time, the European Commission adopted its first Regulation No 1836/1993 of the European Parliament and of the Council of 26 June 1993 allowing voluntary participation by companies in the industrial sector of the Community to Eco-Management and Audit Scheme (EMAS) [11]. The regulation came into force in April 1995. Adjusts automatically force all European Union countries, with the aim of preparing the member states the appropriate administrative structure, which allowed companies registrations in the community scheme EMAS. The system has been used primarily in production, but it also introduced experimentally in public administration, health and education.

In 2001 it was made the first verification of the EMAS Regulation, and was published a new Regulation No 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organizations in a Community Eco-Management and Audit Scheme (EMAS) [12]. The changes in the document included the following EMAS II the scope of the system. The system invited non-industrial organizations: public institutions, schools, associations, etc. The regulation also included the

content requirements of ISO 14001. Regulation came into force in Poland at the time of accession to the European Union.

The existing EMAS regulation was enacted in 2009 by the European Parliament [13]. It entered into force in January 2010. The document shall be considered as a continuation of the existing solutions and is often named as EMAS III. The document was changed: it clarified definitions, it invited to participate in system institutions and organizations, both public and private, from the European Union and other countries, it established a pattern of the EMAS logo (Fig. 1) and clarifies the task of verification.

Polish EMAS is based on EU regulations, the national EMAS Act and other legislative regulations of the Ministry of Environment. Polish legal basis is the Act of 15 July 2011 on the National Eco-Management and Audit Scheme (EMAS) [14]. Under the Act a national eco-management system consists of: the Minister responsible for the environment, the General Director of Environmental Protection and the Polish Centre for Accreditation. The Minister of the Environment is responsible for the policy for the development of the system and cooperating with the European Union organizations. List of registered in EMAS system leads the General Director for Environmental Protection. According to the Act also makes EMAS registration and reject the entry, suspended or deleted from the register of organizations. Polish Accreditation Centre conducts accreditation of environmental verifiers.



Fig. 1 EMAS logo [18]

The European Eco-Management and Audit System is an important instrument reducing the negative impact of business on the environment. Therefore, it is also one of the main tools of Integrated Product Policy, which involves care for the natural environment while meeting the needs of consumers [1].

#### **BENEFITS AND COSTS ARISING FROM THE IMPLEMENTATION OF EMAS**

The EMAS is not only the rights and responsibilities, they are also all sorts of profits related to being environmentally friendly. First of all, one of the advantages of being a member of EMAS is to belong to the group of companies, institutions or companies which fulfill environmentally friendly conditions [17]. EMAS also shows the commitment and responsibility of companies to society. An important advantage of the implementation of the system is to improve the cooperation of organizations with consumers,

investors and the local authority. The system also increases employee engagement and improves relations with the media and facilitates collaboration with various environmental organizations such as: Greenpeace [2]. The implementation of the environmental program significantly improves the image of the organization and improves its credibility among all stakeholders.

A well-implemented EMAS system brings many benefits that are reflected in finance and economics and can bring significant savings in business of an organization. Use of the system contributes to the rational use of resources and reduce energy and water consumption. Another benefit is the reduction of fees for the use of the environment and reduction of penalties resulting from non-compliance of environmental regulations by reducing the amount of waste and reduce pollutant emissions. Companies that have already implemented the system may notice reductions of the costs of transport, storage and packaging of the product. The use of the program makes it easier to build business relationships, receive priority in the receipt of tenders or requests to companies that need to have an environmental management system [5].

An important benefit to the organization is to improving the quality, conditions and job security. Proper implementation of the system reduces the possibility of accidents and may limit their potential consequences. With the system operation may also notice an increase in environmental awareness among employees.

Members of EMAS have the opportunity to expose their participation in the program by placing the EMAS logo. Logo is used as an attractive marketing tool and a means of communication between organizations with buyers and stakeholders. The logo may be used only in accordance with the EU Regulation and should not be placed on products and packaging.

Implementation of EMAS is also associated with different costs and outlays that must bear the businesses and organizations. An important cost is the companies' own work in preparing to implement the program. Often this involves an analysis of the current state of employment and selection of people with the right skills to be able to perform certain tasks related to the implementation of the system. If a trader can not rely on such qualified personnel, he must employ new people, that meet certain criteria, or use a series of training on the system to create a well-functioning team responsible for the system implementation. The company should also create a new workplace for the proxy for the implementation of an environmental management system. It associates with salaries, insurance, social security benefits or costs associated with additional training [6].

The additional cost associated with the system is a cost to cooperate with consultants from the outside. An important advantage of working with experts is to reduce and streamline the process of system implementation. Another type of expenditures incurred by companies is the cost of changing the way of business organization in accordance with legal provisions in force relating to environmental protection.

Companies and organizations wishing to implement EMAS are required to pay a registration fee. The EU's EMAS Regulation sets for the actions that member states may charge a fee and can include, costs of providing information

to interested organizations or provide assistance for specific departments. The registration fee is determined by the Act on the national EMAS and the Minister of Environment Regulation defines the special rate variation fee due to the number of employees in the organization and the organizational form of companies [10]. The basic registration fee is 1000 PLN, while the maximum amount can not exceed 3000 PLN [14]. The registration fee should be set so as not to prejudice the participation in EMAS and not were a heavy burden for small and medium-sized enterprises.

### STAGES OF IMPLEMENTATION OF EMAS

The implementation of Eco-Management and Audit Scheme consists of four stages.

The first stage of implementation of the system, the decision to implement the system must be initiated by the top management of the organization. Management estimates what benefits to the company will bring implementation of the system, and how high will be the costs. At the time of the decision the company ensures that will bear all the costs involved in implementing the system.

The next step is the preparation the initial environmental review. The purpose of the environmental review is to prepare a comprehensive analysis defining the relationship between the activities of the organization and the natural environment. Edition an objective assessment involves a careful analysis of the materials on the environmental impact of the organization, techniques and technologies used in the production or the product itself. The environmental review should be objective, comprehensive and complex.

The review should include: [3]

- identification legal and other requirements to which the organization must adapt,
- evaluation of feedback in relation to the pre-existing failures, leaks, etc.
- identification of all environmental aspects of major environmental impacts associated with the activities of companies,
- setting criteria for the description of the environmental impact,
- analysis of current operating procedures and practices of environmental management.

In organizations that have not implemented earlier an environmental management system this step is obligatory. However, the companies that have implemented such a system so far is not necessary to carry out the review, if the data from existing systems are sufficient.

The third phase of implementation of the system is the implementation of environmental management system. Solid basis for the implementation of EMAS is effectively running program ISO 14001. EMAS, however, extends the scope of activities ISO 14001, applies in particular to main-

taining communication with stakeholders [4]. The program provides an open dialogue with the local community, customers or partners. The company should provide all stakeholders with detailed information about its environmental impact, eg by organizing regular meetings, preparing open days or transmitting information through the newspapers or website. You should also take care of the internal communication with employees. Provision of information about the company aims to increase the involvement of employees.

The next step is the preparation the environmental statement. This is the most important document of the EMAS scheme through which the company provides information about environmental impact or the actions taken to improve the impact. The declaration shall specify, among others: the organizational structure, environmental objectives and targets, a summary of the activities of the company, a description of the environmental aspects and data on the environmental impact. Make sure that any person interested in information about companies can in an easy and simple way find environmental declarations.

The last step is the verification and registration organizations in EMAS. Verification is carried out by an accredited environmental verifier. The verification consists of a pre-audit and the basic audit. The first audit is designed to check whether the environmental management system has been implemented in the right way. If a company receives a positive assessment, the basic audit can be made. The verification procedure assesses the compatibility of environmental policy, environmental review and management system with the requirements of the EMAS Regulation. It is also checked or internal audits fulfill certain requirements [15].

Company after positive verification should submit a registration application to the General Directorate of Environmental Protection. The application should include: environmental statement signed by the environmental verifier, the completed form and registration fee. The competent authority transmit to the organization information about the registration and submit the registration number and logo. It is possible to refuse registration of an organization, if it is determined that the organization does not comply requirements [8].

### ANALYSIS OF THE IMPLEMENTATION OF EMAS IN THE EUROPEAN UNION

Collection and analysis of data relating to the implementation of EMAS in the European Union occupies the European Commission. The Commission has been collecting data since 1999. The data are available nationwide through the website. Detailed information are updated every six months (Fig. 2).

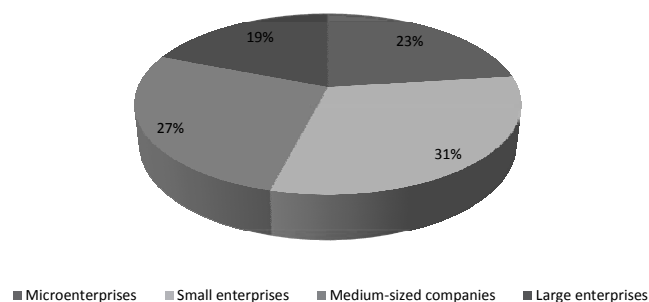


Fig. 2 The use of EMAS, depending on the size of the company [16]

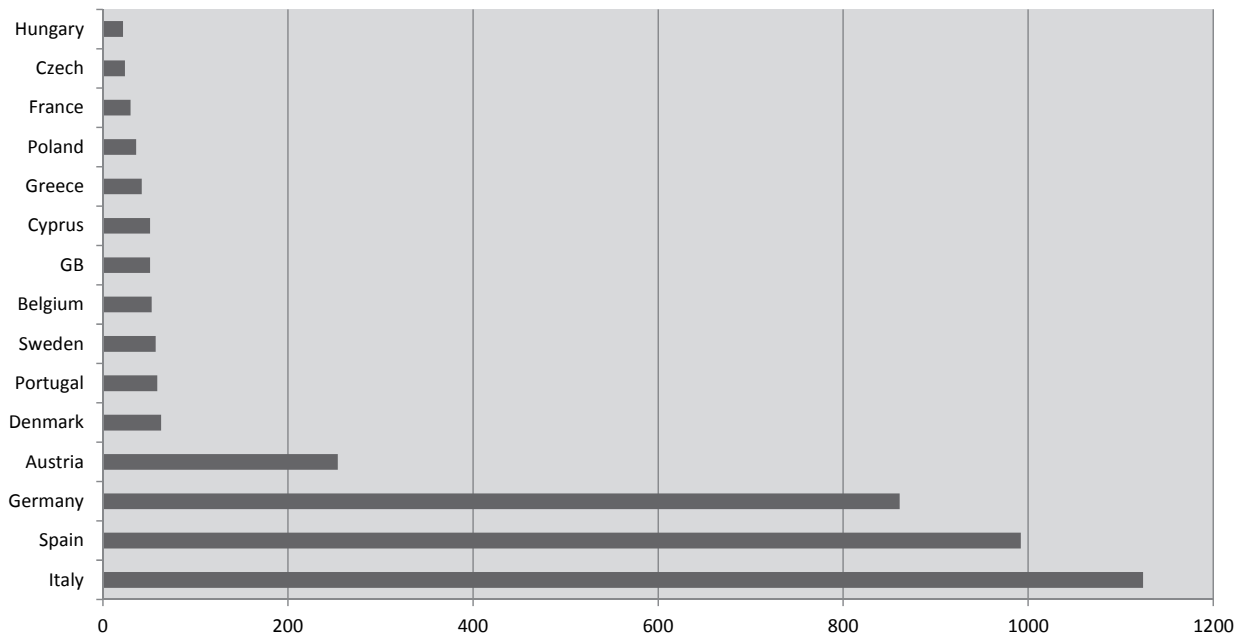


Fig. 3 Number of organizations that implemented EMAS system [16]

The Environmental Eco-Management Audit Scheme can be implemented in all companies, regardless of their size. The European Commission data shows that over 30% of existing programs is being implemented in small enterprises (employing 10 to 49 employees and not exceeding the equivalent of the annual turnover of 10 million Euro). It is followed by medium-sized companies (50 to 249 employees, an annual turnover of 50 million Euro) and micro-enterprises (up to 9 employees and not exceeding two million EUR turnover per year). EMAS is being implemented in every fifth large enterprises (employing 250 workers and more) – Fig. 3.

The latest data show that by the end of the first quarter of 2013 already 3780 organizations decided to implement EMAS system (Fig. 4). The undisputed leader in the implementation of the system is Italy, where it has been almost one third of all registrations. The second place is Spain, where it has been implemented every four system. Germany is ranked third (22%). In comparison with other members of the European Union, Poland is ranked 12<sup>th</sup>. Until

now decided to introduce a system 36 companies and organizations. These include: the Municipality of Wrocław, Arctic Paper Kostrzyn, Municipal Water and Sewage in Lublin, Ministry of Environment, Enterprise Construction of Roads and Bridges in Minsk Mazowiecki and the Center of Oncology in Bydgoszcz.

In 2011, the number of implemented systems EMAS was the highest and amounted 4542. The least systems registered in 1999, and their number was 2316. From this year, it can be seen a marked increase in the number of systems installed until 2012, where the number was 3911 companies and organizations. At the turn of 2000 and 2001 witnessed an increase in the number of organizations participating in EMAS and amounted 642. Then, there was a significant decrease in the number of implementations of the system, until the year 2004 (3055). Since 2005, again there had been an increase implementation by 2011. The largest decrease in EMAS registered organizations took place in 2013 and compared with the previous year decreased by 751.

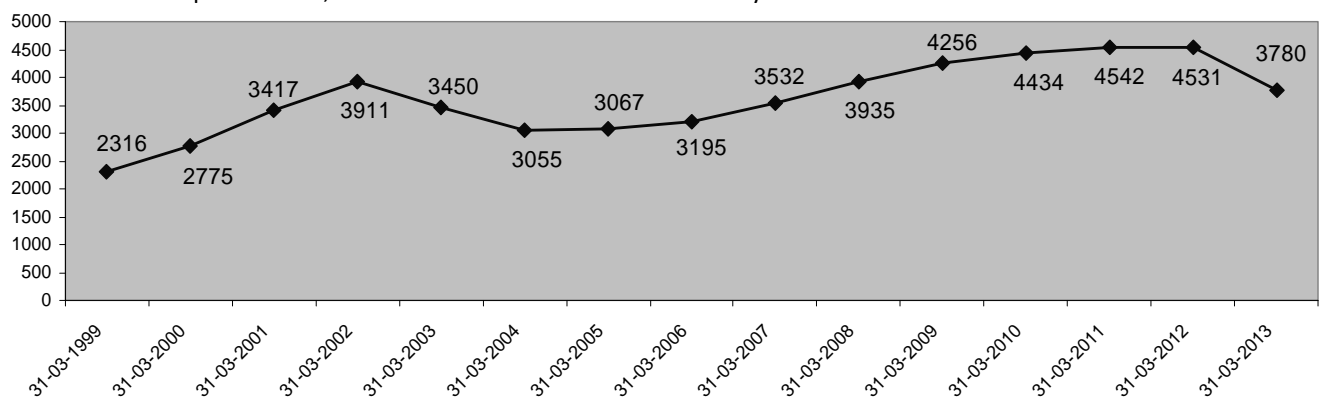


Fig. 4 Number of EMAS implemented in different years [16]

**SUMMARY**

Eco-Management Audit System seems to be an interesting initiative for businesses wishing to reduce their negative environmental impact. However, the small number of registered organizations in Poland and the decreasing number of organizations implementing EMAS system in the European Union tends to reflect on the obstacles to decide on the registration system and the ways to attract to increase the number of companies wanting to conduct its business in accordance with EMAS.

The main reason for the low interest of the system is the lack of sufficient knowledge on the subject and very high costs of implementation and maintenance of the organization. Entrepreneurs also point to a long and tedious procedure of registration and the lack of facilities and encouragements from the state. The most effective way to change this situation is to reduce the fees for those who want to introduce a system for your business and keeping the state's education policy, informing about the benefits what brings the use of EMAS.

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