

*Review*

## Eco-management and audit scheme (EMAS) and its implementation in Serbia

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The way people are doing business are changing fast under pressures such as growing number of environmental concerns, public pressure, regulatory measures, demands of consumers and shareholders for environmentally friendly products and services, so it is becoming more and more important for organizations/companies to demonstrate sustainability of their investment strategies and operations. A management tool for companies and other organizations to evaluate, report and improve their environmental performance is eco-management and audit scheme (EMAS), regulated by Regulation (EC) No 1221/2009. Having in mind intentions of Serbia to join European Union (EU), as well as a fact that Regulation 1221/2009 allows participation in EMAS also for organizations in non EU member countries, it is quite obvious that EMAS implementation will create necessary conditions for more intensive participation of our country in all European processes. In this article, we present Serbian companies included in calculation of stock market index Belgrade Stock Exchange Index (Belex 15) and their stage in EMAS implementation. Research results shows at what stage of EMAS implementation are Serbian "blue chip" companies and future activities needed for them to apply this important EU regulation.

**Key words:** Eco-management and Audit Scheme (EMAS), Regulation (EC) No.1221/2009, environmental accounting, environmental reports.

### INTRODUCTION

#### ESTABLISHMENT AND VOLUNTARY PARTICIPATION IN ECO-MANAGEMENT AND AUDIT SCHEME (EMAS)

##### *Notion and development*

The eco-audit system has developed from classical auditing system, which on the other hand was created as industrial management inventory in corporations that had to make and submit the report on their activities at the end of each year to their auctioneers (Lechelt, 1998). At the end of 70's in the United States of America (USA) shown up different kind of auditing system, which did not include exclusively industrial-management data, but also environmental data. The first eco-audit systems were check of respect of the environmental regulations during

manufacturing activities, because in case of disturbing public (their environment), very strict USA penal system, has predicted significant sums for the agreement and compensation (Lechelt, 1998). Meantime, along with this system of control of the activities of the firm together with the environmental regulations, developed system which controlled functioning of eco-management system in the enterprise, so-called "performance audits" (Lindlar, 1999; Feldhaus, 1994).

Eco-audit systems can have internal or external audit function. Internal eco-auditing is an independent appraisal activity established within a company for the review of operations as a service to management (Lechelt, 1998). The objective of internal eco-auditing is to assist company's management in discovering lacks of environmental

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management system, technical installations and plans, operations, functions and processes of a company. External eco-auditing serves for informing the public or other institutions about company's environmental performance, comprising information about results achieved in relation to defined environmental objectives, as well as about steps for further improvement of company's environmental performance in the future. Impartiality of this system is ensured by the fact that external eco-auditors are independent (both in fact and in appearance) of the company, which is a subject of auditing.

### **VOLUNTARY PARTICIPATION IN ECO-MANAGEMENT AND AUDIT SCHEME (EMAS)**

The new approach to environmental policy is perhaps the most evident in the 1993 EMAS (Waskow 1994, p. 5-9). EMAS does not replace existing community or national environmental regulations or technical standards (Lechelt, 1998), but rather, facilitates voluntary participation by companies in a standardized and auditable community scheme for environmental management (Köck, 1997). Its aim is to promote continuous environmental performance improvements of industrial activities by committing sites to evaluate and improve their own environmental performance and to report to the public on that performance.

In accordance with Council Regulation 1836/93/EEC 281, Environmental Management and Audit Scheme (EMAS I) has been available for participation by companies in industrial sectors since 1995 (Council Regulation, 1993). Since 2001, in accordance with Regulation 761/2001/EC allowing voluntary participation by organizations in a community eco-management and audit scheme (EMAS II), EMAS has been open to all economic sectors, including public and private services, operating in EU and European Economic Area (EEA). The main objective of EMAS II was "to promote continual improvements in the environmental performance of the organizations". Enterprises that have accepted voluntary to participate into EMAS scheme and on the basis of its criteria have established and implemented environmental management system are obliged to inform the public in the form of environmental statement, about their activities and all questions in relation with those activities which have significant impact on the environment (emissions, waste, use of raw materials, etc). From 2008 to 2010 the number of EMAS registered organizations in Europe increased for 28%.

### **ECO-MANAGEMENT AND AUDIT SCHEME (EMAS III) AND ITS SIGNIFICANCE FOR SERBIA**

#### ***Eco-management and audit scheme (EMAS II) – a step further from eco-management and audit scheme (EMAS I)***

Entering into force of Regulation (EC) No 1221/2009 on

the voluntary participation by organizations in a community EMAS on 11 January 2010, initial EMAS I and later on EMAS II Regulation have been revised and modified to so call EMAS III.

Beside amendments and modifications made to increase (even more) quality of the environmental management scheme, regulation also includes new measures for reducing administrative burdens for EMAS registered organizations and creating incentives for raising the attractiveness of the scheme, particularly for smaller organizations.

Certainly the most important innovation of EMAS III regulation for Serbia is the fact that the scope of the scheme has been extended to allow organizations outside of the EU to gain EMAS registration within EMAS verifiers within EU. In relation to that, Article 3 of Regulation (EC) No 1221/2009 states "applications for registration from organizations outside the community, including corporate registration consisting only of sites located outside the community, shall be made to any competent body in those member states that provide for the registration of organizations from outside the community in accordance with the second subparagraph of Article 11(1)".

### **LEGAL FRAMEWORK IN SERBIA**

Even before Regulation (EC) No 1221/2009 entered into force Serbian legislator has shown an intention to follow-up with European environmental trends. Thus, it has adopted a new version of Serbian Law on Environmental Protection (Official Gazette of RS; 2009) which includes a few provisions on EMAS (Law on Environmental Protection, articles 44 to 50). Although, this is the only Serbian regulation promotion and mentioning EMAS, it should be recognized as a positive example of national law-maker. In benefit to this statement, let us remind you that at the time when law on environmental protection entered into force, European Union was still regulating EMAS on a basis of Regulation 761/2001/EC allowing voluntary participation by organizations in a community EMAS II, which has allowed applications for registrations only for organizations in a EU Member states.

After adoption of Regulation (EC) No 1221/ 2009 provisions on EMAS in Serbian Law on Environmental Protection need to be revised and harmonized with EMAS III. Ministry of Environmental Protection is familiar with this request and it is only the question of time when harmonization process shall begin.

According to- still current version of the Law- EMAS procedure in Serbia is voluntary and allowed to all "natural and legal persons .....". Competent body is Ministry for Protection of the Environment, which is also the one to keep and maintain the register of all EMAS participants. Information in Register is public and everyone has a right to access it. Unfortunately, even though

possibility for EMAS participation exists in Serbian since 2004, EMAS register has never been created and Ministry for Protection of the Environment has no data on any request for registration submitted.

### **ADVANTAGES OF ECO-MANAGEMENT AND AUDIT SCHEME (EMAS) IMPLEMENTATION**

European organizations, unlike Serbian ones, know very well that the environmental management system in accordance with EMAS represents not only a company's active approach to the monitoring, management and gradual decrease of its environmental impact, but also increases their credit and the competitiveness, brings cost savings, credibility and order in operating documentation. EMAS implementation and maintenance also improve the communication and awareness of staff and partner companies, enhancing emergency preparedness. Using EMAS, an excellence level, exceeding legislative requirements, may be achieved.

Based on the latest study that has been conducted by European Commission in 2009, the most common reason for EMAS implementation is resource/production efficiency and most common reasons for re-registration are customer requirements. On the other hand, the highest number of respondents as greatest barrier recognizes unclear/unjustified benefits of EMAS implementation. As it can be expected, the highest costs of maintaining and implementing EMAS are in the first year (€40.000 to €65.000 - depending on the size of the company), but later on they decrease significantly (€18.000 to €38.000). Estimated average registration cost, based on previous study of European Commission, goes from €40.000 to €50.000 which is especially important information for our research.

Knowing all those EMAS advantages, we are quite confused what is the real reason for almost zero interest of Serbian organizations for participation in EMAS? We could only guess, but we certainly hope for recent changes. We hope that intensive preparations for European integrations will also affect field of the environment and bring good changes not only in legal framework, but also in awareness of widest public and entire society.

### **IMPLEMENTATION OF ECO-MANAGEMENT AND AUDIT SCHEME (EMAS) IN SERBIAN "BELEX 15" COMPANIES**

Belex 15 Index is one of the most popular and leading index that measures and describes movement of prices of the most liquid Serbian shares and is calculated in real time. Belex 15 is composed of 15 most liquid shares of the following companies: Messer Tehnogas, Soja protein, Energoprojekt holding, Metals bank, AIK bank, Komercijalna banka, Agrobanka, Univerzal banka, Imlek, Metalac, Privredna banka, Tigar, Alfa plam, Telefonija

and Veterinarski zavod Subotica.

Belex 15 companies are synonym for "blue chip" Serbian companies meaning big companies, with huge annual turnover, good financial results and good prospects in the future. Implementation of EMAS is costly and voluntary and this was one of the reasons why we compose our sample of those companies having financial flexibility and strong corporate culture and responsibility needed for EMAS implementation. Companies from the sample were sent an e-mail message regarding EMAS implementation (stage of implementation, future outlook for the implementation, describing reasons why it is not implemented yet and so on). The second part of our research consists of fact findings regarding EMAS on companies' web sites. Our findings are presented in the Table 2 and 3.

As we may conclude from the Table 3, findings are more than disappointing. Only two companies responded on e-mail message out of 15 companies who were sent an e-mail regarding EMAS. One company that responded to our e-mail, and was very willing to cooperate and share its views on this important topic, was Messer Tehnogas, a.d., Belgrade, Serbia. We conducted a personal phone interview with an experienced professional who told us that EMAS probably would be implemented in this company in the year 2011 and told us about problems regarding EMAS implementation. One of the problems mentioned was waste disposal problems. Companies, like Messer, having solid disposal, are much more interesting in EMAS implementation, but one of the problems emerging are situation of having no register of companies certified for solid waste destruction. Because of that, our companies do not know where to bring their waste for destruction, and even if they recognize names of some of these waste recipients, the majority are located in EU and costs of having waste destructed (transportation charges, handling etc.) outweigh incentives for doing it. The second company that replies our e-mail was Metals bank, a.d. from Novi Sad, Serbia. We performed a personal phone interview and found that Metals bank has no EMAS certification and it prepares environmental impact reports only as a part of compliance with European Bank for Reconstruction and Development (EBRD's) environmental and social procedures for corporate lending. In this case, Metals bank prepares environmental reports about environmental procedures applied in the bank and educates its employees on environmental and social risk management. This is due to the fact that when EBRD is exposed to financial intermediaries (Metals bank) in loan transactions, than that financial intermediary should provide reports on environmental and social matters. EBRD demands from financial intermediaries certain reports and other information regarding compliance with environmental standards and EBRD has mechanism to force them to apply those standards.

Second part of our research consists of web site fact findings regarding EMAS. The same sample of

companies was used and results show zero reporting on EMAS matters. Information is presented neither on the group level nor on company level. Sometimes other members of the group has EMAS certification and no information regarding this fact can be found on the web site on other companies in the group (for example, Messer company in Austria has been certified, and Messer, Serbia has no information on web site about EMAS at all). We expected that some of these matters would have been cascaded from the group level to the company level, but obviously this is not the case.

Some of companies from the sample (Energoprojekt, Messer, Metalac, Tigar, Telefonija) provide a link to the environmental part of the web site with only one page providing an overview of company's dedication to environmental and social responsibility issues, usually in the form of Environmental Protection Policy Declaration as a part of ISO 14001 compliance. It seems that this part of web site for companies from the sample does not serve as a communication device; it serves only for cosmetrical purposes.

Many of companies mentioned in the sample have ISO 14001 certification (Sojaprotein, Metalac, Messer, Tigar and Telefonija) as a first step towards EMAS. Alignment with ISO 14001 is completely voluntary, as well as EMAS compliance, and that is why we expect that compliance with ISO 14001 is a first step towards EMAS III implementation. This fact also tells us that 5 out of 15 companies mentioned in the research have made that first step toward environmental consciousness and responsibility.

For the purposes of this research we would like to point out some important differences between EMAS and ISO 14001 (Table 4). Companies ISO 14001 certified need some minor modifications in order to comply with EMAS and those modifications are the following (European Commission, 2008)

- Environmental policy – organization must strengthen its statement of commitment included in its environmental policy to make provisions for regulatory compliance.
- Planning – in planning stage required by ISO 14001 companies should make sure that all items are addressed, specifically items listed in Anex VI which is applicable for EMAS. In initial environmental review companies should make sure that all items from Anex VII of EMAS have been considered and incorporated.
- Implementation – EMAS requires active participation of employees in the environmental improvement program (suggestion book, environmental committee etc.).
- Checking and corrective actions – companies should check the frequency of the audit cycle in compliance with Anex II of the EMAS regulation and should take place at intervals no longer than 3 years
- Certification of ISO 14001– In order to comply with the requirements of EMAS, the ISO 14001 certificate must be issued under one of the accreditation procedures

recognized by the European Union.

From the above mentioned, we strongly believe that 5 companies from the sample with ISO 14001 certification would be the first companies applying for EMAS registration in Serbia. Our believes are based on the following facts;

- Companies are financially viable to support EMAS registration,
- Companies already have environmental policies and they need to adjust them to comply with EMAS procedures which is neither costly nor hard to do,
- Many of these companies are privatized by foreign parent companies and many of their group companies have already apply for EMAS in other EU countries, so historical evidence about EMAS implementation already exists in other group companies and could be used for EMAS implementation in Serbian subsidiaries
- Companies may ask for professional support in EMAS implementation from their foreign group companies,
- Employees included in ISO 14001 certification procedures in Serbian “blue chip” companies could be used for EMAS registration as well, because they already have environmental procedure knowledge and they could share that knowledge with other employees.

What we consider as negative signal is the fact that implementation of EMAS means more public participation in these matters, and it seems that many of “blue chip” Serbian companies are not aware of that. This is based on the fact that only two companies from the sample were willing to answer our questionnaire and to provide us some environmental facts. What surprise us is that all companies from the sample and even those responded to our e-mail messages; treat their environmental reports as confidential. Based on the previous results shown in the Table 1 we may conclude that companies in Serbia lack of corporate responsibility to the general public regarding environmental information transparency, as a necessary condition for EMAS implementation.

Also, we have contacted Accreditation Board of Serbia (ABS) in order to get more information of EMAS implementation in Serbia, since they had conducted many presentations and seminars on EMAS advantages and implementation. Its public relations manager was rather willing to help us in our research. So far, there is no EMAS verifier in Serbia accredited by ABS. ABS, for several years (from the date of enactment of the Act) in its plans enters new accreditation scheme for EMAS verifiers, but it has not been realized so far, since no one signed up. This leads to conclusion that EMAS is not implemented in any organization in Serbia. The only exception could be the possibility that one organization could register abroad, but obviously this is not the case, because no information regarding EMAS is found to support this fact in Serbian companies.

**Table 1.** Number of EMAS registered organizations in Europe.

Country	Number of organizations
Austria	255
Belgium	49
Bulgaria	0
Cyprus	5
Czech republic	26
Denmark	92
Estonia	2
Finland	24
France	17
Germany	1372
Greece	67
Hungary	21
Ireland	8
Italy	1035
Latvia	5
Lithuania	0
Luxemburg	2
Malta	1
Netherlands	7
Poland	20
Portugal	76
Romania	4
Slovakia	4
Slovenia	3
Spain	1217
Sweden	75
United kingdom	62
Norway	21
Total	4470

Source: [http://www.emas-register.eu/statistic.php?view=all\\_sites](http://www.emas-register.eu/statistic.php?view=all_sites),  
accessed 06.05.2010.

**Table 2.** Belex 15 companies by sectors.

Sectors	Listed companies Belex 15
Construction	1
Processing industry	3
Automobile tires industry	1
Food and beverage	2
Banking and finance	6
Telecommunication	1
Medicine	1
Total	15

## CONCLUSIONS AND RECOMMENDATIONS

Implementation of EMAS have some shaded future in Serbia, meaning that some of the most important issues have not been resolved yet, neither on governmental nor

on companies level. Ministry of Environmental Protection in Serbia has a primary responsibility for providing procedures and conditions required by companies to comply with EMAS III. All countries are expected to organize their institutions and procedures in order to

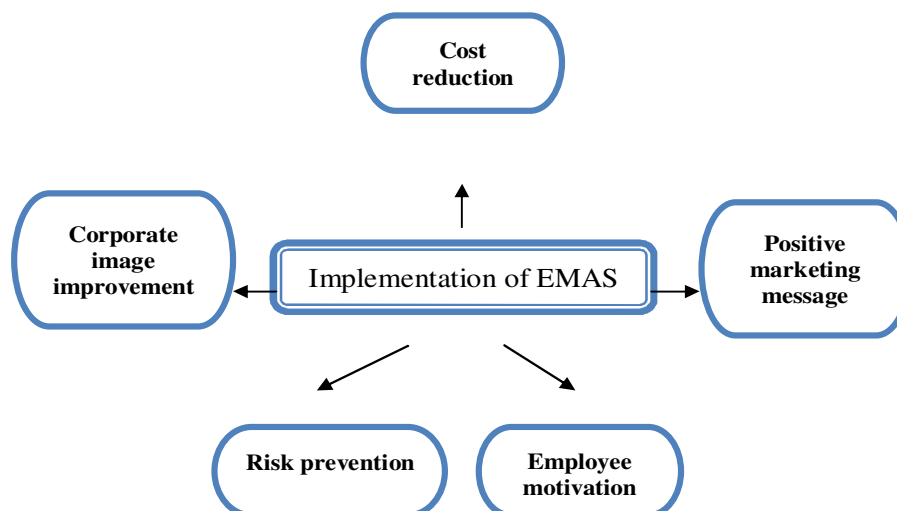
**Table 3.** EMAS facts from Serbian “Belex 15” companies.

<b>Companies</b>	<b>Email request results</b>	<b>Web site facts about EMAS</b>	<b>Environmental protection declaration or ISO 14001 certification</b>
AIK banka, a.d. Niš	N/R (no response)	N/F (no facts)	N/F
Komercijalna banka, a.d., Beograd	N/R	N/F	“Report on progress of the UN global compact 2008”, principles 7,8,9- protection of environment
Energoprojekt Holding a.d., Beograd	N/R	N/F	Link to UN global compact, social responsibility section and declaration to these matters
Agrobanka, a.d. Beograd	N/R	N/F	N/F
Univerzal banka, a.d. Beograd	N/R	N/F	N/F
Soja protein a.d., Becej	N/R	N/F	ISO 14001- environmental protection policy declaration
Imlek a.d, Beograd	N/R	N/F	N/F
Metalac, a.d Gornji Milanovac	N/R	N/F	Environmental protection policy declaration
Metals banka, a.d., Novi Sad	responded	N/F	N/F
Privredna banka, a.d. Beograd	N/R	N/F	N/F
Messer Tehnogas, a.d. Beograd	responded	N/F	ISO 14001 environmental protection policy declaration
Tigar, a.d. , Pirot	N/R	N/F	ISO 14001 environmental protection policy declaration
Alfa plam, a.d., Vranje	N/R	N/F	N/F
Telefonija, a.d. Beograd	N/R	N/F	ISO 14001 environmental protection policy declaration
Veterinarski zavod, a.d. Subotica	N/R	N/F	N/F
Total number of responses	2	0	

**Table 4.** Differences between EMAS and ISO 14001.

	<b>ISO 14001</b>	<b>EMAS</b>
Status	It is a internationally adopted standard	It is an EU regulation
Organization	Does not go toward entities or sites	The entity to be registered shall exceed EU boundaries and go beyond candidate countries for EU
Environmental review	Initial review is recommended but not required	Obligatory preliminary review when it is the first time the organization sets its status
Environmental policy	Does not include a commitment to continual improvement of environmental performance	Commitment to continual improvement of environmental performance
Environmental aspects	Procedure able to identify environmental aspects	Identification and evaluation of the environmental aspects, direct and indirect. Establishment of the criteria for assessing the significance of the environmental aspects
External communication	No open dialogue to the public. Control by public is not possible	Open dialogue with the public. Public Environmental statement (validated for verifiers)
Employees involvement	No involvement of employees	Active involvement of employees
Continual improvement	Required periodical improvement without a defined frequency	Required annual improvement
Internal environmental auditing	Include audit against the requirements of the standard	Includes system audit, a performance audit and environmental compliance audit

Source: European Commission. “EMAS Factsheet“, May 2008, p.1.



**Figure 1.** Advantages of EMAS implementation.

enable implementation of EMAS. Ministry of Environmental Protection in Serbia is currently creating national program and action plan for EMAS implementation, also this Ministry should establish EMAS council and EMAS secretariat. We are hoping that these measures will aid in better implementation of EMAS in Serbia. Also, we consider that education and promotion are key factors in greater EMAS implementation in Serbia. Ministry of Environmental Protection and Accreditation board of Serbia can contribute greatly in education of managers and employees by conducting seminars, promotions on fair trades and exhibitions and conferences on this topic. Especially important is the possibility that organizations that do not belong to EU can be EMAS registered, since Serbia is not EU country. Registration costs could be very important Figure 1 for EMAS implementation in companies in Serbia. They can be quite significant for our companies, and maybe that is the real reason for poor implementation in Serbia. Knowing this, Serbian government and Ministry of Environmental Protection could demand EMAS amongst environmental non-governmental organizations (NGO) at the start, and later on organize financial support for EMAS registration for business organizations. Demanded EMAS application could be desirable as well for greatest environmental pollutants.

Implementation of environmental management system in one company is more than a matter of image, it has multiple benefits. EMAS helps in controlling environmental protection processes and continuous improvement of the environmental management system. By implementing EMAS companies can save resources and reduce environmental impacts. Costs like energy, water and disposal-waste can be reduced. Also, sum of these measures enhances employee motivation and increases performance quality, making the competitiveness of company even stronger. Whole range of organizations to

which EMAS is applicable can benefit from its implementation, and not only industrial sector. We strongly recommend to all managers, especially in Serbia, to implement this regulation because of its numerous advantages.

## ABBREVIATIONS

**EMAS**, Environmental management audit scheme; **Belex 15**, Belgrade Stock Exchange Index; **EEA**, European economic area; **EU**, European Union; **EBRD**, European Bank for Reconstruction and Development; **ABS**, Accreditation Board of Serbia; **NGO**, non-governmental organizations.

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