

Environmental Management and Audit Scheme (EMAS) in the Slovak Republic as a voluntary instrument of the environmental policy of the European Union

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Abstract: *The Environmental Management and Audit Scheme (EMAS) was created as a voluntary instrument of the European Union's environmental policy. Organizations that choose to register to the scheme, both within and outside the European Union, have different reasons for joining and are influenced by different ways. Given that, it is a public standard for the environmental management system, for a registered organization it is a form of presentation of its environmental behavior and a continuous commitment to mitigate the impact of its activities on the environment.*

Keywords: *Environmental Management System (EMS), ISO 14001, Eco-Management and Audit Scheme (EMAS)*
JEL codes: Q51, Q56

1 Introduction

The emergence of environmental management can be linked to the emergence of environmental movements to protect the environment in the second half of the twentieth century, in response to several environmental accidents as well as massive environmental damage. The issue of ecology began to appear in the media, which forced a legislative intervention of several countries leading to international treaties and agreements in the field of environmental protection. In half a century, in addition to the focus of economic activities, the subject of the companies' interest has shifted to other aspects of business, namely to social and environmental impacts. In all three areas, companies should act in a context of social responsibility and thus contribute to business sustainability. To prove that companies do this, it can be the implementation of systems, that support sustainable development and subsequent certification. Also in the field of environmental protection, effective management of the impact of a particular entity requires an appropriate system. So far, the most widespread are the **environmental management systems (EMS)**. Their goal is to develop, implement, manage and monitor the environmental activities of organizations (Daddi et al., 2018, Melnyk, Sroufe, Calantone, 2003), they represent a way for companies to internalize environmental problems (Merli, Preziosi, Ippolito, 2016). Businesses that have decided to implement an environmental management system can do so, for example, through the international standards of the group ISO 14000 issued by the International Organization for Standardization or the Environmental Management and Audit Scheme (EMAS), one of the European Union's voluntary environmental policy instruments.

The ISO standards of the ISO 14000 group, ISO 14001 is the standard according to which the requirements of the environmental management system are implemented and certified. ISO 14001 is a globally accepted and applied standard for environmental management systems. It was published by the International Organization for Standardization in 1996 and last amended in 2015. The basic purpose of ISO 14001 is to promote environmental protection and pollution prevention. The standard does not set any

absolute requirements for environmental behavior, but emphasizes compliance with legislative requirements concerning components of the environment. The basis is the identification of all possible environmental aspects that have an impact on the environment. The environmental management system according to the requirements of the ISO 14001 standard is intended for all organizations, regardless of their field of activity or size, for companies that want to actively improve their approach to environmental protection and avoid fines. Other benefits of the established system are gaining a competitive advantage, easier obtaining permits and licenses, reducing the risk of environmental accidents and emergencies, more economical use of energy, raw materials and increasing business credibility.

The Environmental Management and Audit Scheme (EMAS) is a voluntary environmental management instrument for organizations wishing to assess and improve their environmental behavior. EMAS is a reliable and effective market management instrument for organizations that want to improve their environmental behavior through added value compared to the requirements of environmental management systems according to the international standard EN ISO 14001, in particular: in accordance with environmental legislation guaranteed by the state; in the mandatory information to the public through the organisation's environmental statement; in increased employee involvement. (SAŽP). EMAS beyond the ISO 14001 standard requires the so-called "Environmental statement", which must be externally verified once a year and publicly available. It must contain a description of the organization and its activities, products and services; environmental policy and a brief description of the EMS; a description of all significant direct and indirect environmental aspects; description of long-term and short-term goals; a summary of the organization's available data and environmental behavior; other factors related to environmental behavior; a reference to the applicable legal requirements relating to the environment; the name and number of the accreditation or license of the environmental verifier and the validity declaration date

Environmental behavior improvement can also be ensured through the use of informal environmental management systems, but certification according to ISO 14001 or EMAS registration have remained dominant and comparatively successful in this area since its inception (Neugebauer, 2012). They are included among the so-called soft (voluntary) instruments of environmental policy (Testa, Iraldo, Frey, 2011) in contrast to direct regulations based on binding obligations for organizations obliged to comply with specific limits on environmental emissions and economic instruments of environmental policy such as taxes and fees, subsidies, tradable permits (Hawkins , 2000).

The aim of this paper is to evaluate the status of registration in the EMAS scheme in Slovakia in the context of the scheme's development as an instrument of the environmental policy of the European Union.

2 Methodology and Data

The object of this paper is the EMAS scheme in Slovakia. The sources of the information obtained were the international legal framework of EMAS and the resulting Slovak legislation, as well as the national **EMAS Register**, which was maintained and updated by the **Slovak Environment Agency (SAŽP)**. Within the Slovak register, all organizations registered in the scheme until the end of July 2021, their environmental statements as well as financial statements and annual reports published in the register of financial statements were examined. The results obtained by analysis and comparison of the obtained data were presented in the form of graph and tables. An important source of information was also the result of those international studies that analyzed the reasons for EMAS registration in selected countries and compared them with the reasons for certification of environmental management system according to ISO 14001 (Heras-Saizarbitoria, Arana, Boiral, 2015), further examined the motivation of organizations introduced environmental management systems rather than "followers" influenced by trends or external pressures or factors (Montiel, Husted, 2009), examined the use of eco-efficiency indicators by companies from different sectors of activity (Heras-Saizarbitoria et al., 2020, Boiral, Henri, 2017) and, last

but not least, the results of analyzes investigated the causes of the declining trend (Merli, Preziosi, Ippolito, 2016; Daddi et al., 2018) of the number of organizations registered in EMAS internationally. These information became the subject of comparison with the existing situation at the national level in the Slovak Republic.

3 Results and Discussion

Since the **EMAS** Scheme's adoption by the European Council - the EEC Council Regulation No 1836/93 is a voluntary instrument to assess, manage and improve the environmental behavior of the participating industrial organizations within the EU and the European Economic Area. Gradually, the scheme was opened up to the manufacturing sector (in 1995) as well as to the economic sector, including private and public services – Regulation (EC) No 761/2001 (**EMAS II**). The EMAS II Regulation was entered into the legal order of the Slovak Republic by the Act of the National Council of the Slovak Republic No 468/2002 Coll. on environmentally verified management and audit, which was revised and replaced by Act No 491/2005 on environmental verification and registration in the European Community eco-management and audit scheme. The adoption of Regulation (EC) No 1221/2009 on the voluntary participation of organizations in the Community scheme for environmental management and audit (**EMAS III**), the Regulation of 2001 was replaced by 351/2012 Coll. on the environmental verification and registration of organizations in the European Union scheme for environmental management and audit. In 2017 Annexes I, II and III of the EMAS Regulation were amended to include the changes associated with the revision of the ISO 14001:2015 standard.

The Slovak Environment Agency (SAŽP) is a legal entity authorized by the Ministry of the Environment of the Slovak Republic to perform the function of the competent body of the Slovak Republic for EMAS. Receives and reviews applications and performs activities related to the registration of an organization in the scheme of EMAS. It maintains and updates the National EMAS Register and notifies changes to the European Commission, provides assistance to organizations in complying with the requirements of environmental legislation and cooperates in the development of international technical standards for environmental management. As of July 25, 2021, there have 40 organizations with a valid registration been registered in the EMAS Register of the Slovak Republic. In the list of environmental verifiers with accreditation granted by the Slovak National Accreditation Service (SNAS) until 2024, resp. 2025 for the EMAS scheme, 3 verifiers have been listed, 2 organizations have submitted an application for maintenance of registration and 4 organizations have applied for registration in EMAS in the Slovak Republic.

Table 1 Number of organizations in the scheme of EMAS in the Slovak Republic

	2008	2015	2017	2018	2019	2020	2021
Number of new organizations per year	1	1	1	1	5	19	12
Total number of organizations with valid registration	1	2	3	4	9	18	40

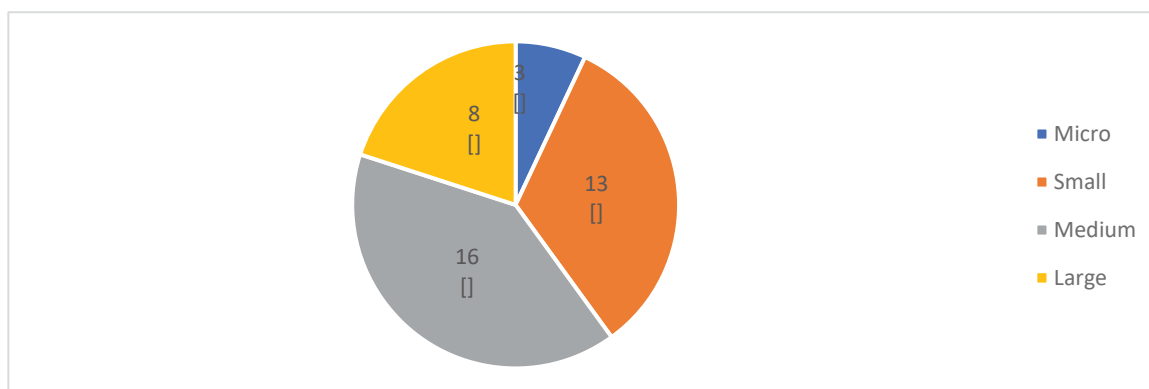
Source: own data processing by <https://www.emas.sk/register-emas-v-sr/>

The data given in Table 1 show that the first registration in the National EMAS Register in Slovakia took place only in 2008. The registration of other organizations took place every year, with the exception of 2009-2014 and 2016, when not any organization in the EMAS scheme was registered in the Slovak Republic. The first organization registered in 2008 is the largest collective organization on the Slovak market offering solutions for the take-back of electrical appliances, used batteries and accumulators and packaging waste. It promotes cost-effective and innovative recycling strategies in order to respect the concept of individual producer responsibility. It is a member of the European Recycling Platform (ERP), has implemented EU regulations in the field of recycling of electrical and electronic equipment. It is the company with the longest confidence in the EMAS scheme, and in

November 2021, the 13th anniversary, of the company's entry into the scheme, will expire. As the first producer responsibility organization (OZV), it has implemented an integrated management system in accordance with ISO 9001 and 14001 standards, OHSAS 18001 (currently ISO 45001). The newest organization in the EMAS scheme, registered since 7.7.2021, is a company doing business in the construction industry and has also implemented a management system in accordance with ISO 9001: 2016, ISO 14001: 2016 and ISO 45001: 2018.

Each of the forty registered organizations in the EMAS scheme in the Slovak Republic had an environmental management system in place in accordance with the ISO 14001 standard earlier than to be registered in EMAS (SK EMAS Register, 2021). The predictions (Neugebauer, 2012) regarding EMAS and ISO 14001 currently seem to apply in Slovakia, and the two standards complement each other. ISO 14001 has further been developed as a global industry standard, while EMAS has become a premium standard or standard for small and medium-sized enterprises and non-industrial organizations. This is evidenced by the **Sectoral Reference Documents (SRD)**, which have been developed to support the implementation of EMAS in the areas of: retail, tourism, food and beverage production, agriculture, construction, public administration, automobile, waste management, electrical and electronic equipment, manufacture of finished metal products and telecommunications. The number and percentage of individual organizations registered in the EMAS scheme in the Slovak Republic according to size criteria is shown in Graph 1. The representation of economic activities by sections of the SK-NACE code in organizations registered in the EMAS scheme in the Slovak Republic is shown in Table 2.

Graph 1 Number and percentage of organizations registered in the EMAS scheme in the Slovak Republic as of 7 July 2021 according to size criteria



Source: Self-management under <https://webgate.ec.europa.eu/emas2/public/registration/list>

Table 2 Representation of economic activities by sections of SK-NACE code in organizations registered in the EMAS scheme in the Slovak Republic

SECTION C	INDUSTRIAL PRODUCTION
SECTION E	WATER SUPPLY, WASTEWATER TREATMENT AND WASTE DISPOSAL SERVICES
SECTION F	CONSTRUCTIONS AND BUILDINGS
SECTION G	WHOLESALE AND RETAIL TRADE, REPAIR OF MOTOR VEHICLES AND MOTERCYCLES
SECTION H	TRANSPORT AND STORAGE
SECTION M	PROFESSIONAL SCIENTIFIC AND TECHNICAL ACTIVITIES
SECTION N	ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES

Source: own processing according to <https://www.emas.sk/register-amas-v-sr/>

Conclusions

Since its adoption in the late 1990s, the Environmental Management and Audit Scheme (EMAS) has been a voluntary instrument of the European Union's environmental policy, focusing first on companies in the industrial sector as the most polluting one. The economic sector, including private and public services, was also gradually opening up. This affected not only the number of new organizations participating in the schemes, but also the scope of activities carried out by these organizations and as well as the way in which the environmental behavior indicators were reported and so as the quality of reporting. At present (July 2021), 3,953 organizations are registered in the EU EMAS schemes. The number of new organizations, organizations renewing their registration in schemes and organizations that decided not to renew their registration differ by countries and depend on several factors: industry, country, motivation, pressure from suppliers and customers, image building, legislation, financial resources organizations.

The number of organizations registered in EMAS schemes in the Slovak Republic is currently 40 (July 2021). The first registration in the schemes took place in the Slovak Republic only in 2008. The number of new organizations has been growing year-on-year since 2018. Registered organizations are active mainly in the sectors most polluting to the environment, it means construction and industrial production. While the number of newly-registered organizations, e.g. in the Visegrad Four countries, is stagnating, the number of newly-registered organizations in EMAS schemes in the Slovak Republic is growing. (EU EMAS Register (2021)).

Acknowledgments

This paper has been supported by the VEGA project 1/0121/21 "The Analysis of Impact of Crises Related to COVID-19 on Financial Health of Entities in the Slovak Republic".

References

- Boiral, O., Henri, J.F. (2017). Is sustainability performance comparable? A study of GRI reports of mining organizations. *Business & Society*, vol. 56(2), pp. 283-317.
- Daddi, T., De Giacomo, M.R., Frey, M., Iraldo, F. (2018). Analysing the causes of environmental management and audit scheme (EMAS) decrease in Europe. *Journal of Environmental Planning and Management*, vol.61(13), pp. 2358-2377.
- EU EMAS Register (2021). Accessed 25 July 2021. Retrieved from <https://webgate.ec.europa.eu/emas2/public/registration/list>
- Hawkins, R. (2000). Use of Economic Instruments and Green Taxes to Complement an Environmental Regulatory Regime. *Water, Air, and Soil Pollution*, vol.123, pp. 379-394.
- Heras-Saizarbitoria, I., Arana, G., Boiral, O. (2015). Exploring the dissemination of environmental certifications in high and low polluting industries. *Journal of Cleaner Production*, vol.89, pp. 50-58.
- Heras-Saizarbitoria, I., Garcia, M., Boiral, O., Diaz de Junguitu, A. (2020). The use of eco-efficiency indicators by environmental frontrunner companies. *Ecological Indicators*, vol.115, pp. 106451.
- Melnyk, S.A., Sroufe, R.P., Calantone, R. (2003). Assessing the impact of environmental management systems on corporate and environmental performance. *Journal of Operations Management*, vol.21(3), pp. 329-351
- Merli, R., Preziosi, M., Ippolito, Ch. (2016). Promoting Sustainability through EMS Application: A Survey Examining the Critical Factors about EMAS Registration in Italian Organizations. *Sustainability*, vol. 8(3), pp. 197.
- Montiel, I., Husted, B.W. (2009). The Adoption of Voluntary Environmental Management Programs in Mexico: First Movers as Institutional Entrepreneurs. *Journal of Business Ethics*, vol. 88, pp. 349-363.
- Neugebauer, F. (2012). EMAS and ISO 14001 in the German industry - complements or substitutes? *Journal of Cleaner Production*, vol.37, pp. 249-256.

SAŽP: Slovenská agentúra životného prostredia. Retrieved from <https://www.sazp.sk/zivotne-prostredie/environmentalne-manazerstvo/schema-pre-environmentalne-manazerstvo-a-audit-emas/co-je-emas.html>.

SK EMAS Register (2021). Accessed 25 July 2021. Retrieved from <https://www.emas.sk/register-emas-v-sr/>

Testa, F., Iraldo, F., Frey, M. (2011). The Effect of Environmental Regulation on Firms' Competitive Performance: The Case of the Building and Construction Sector in Some EU Regions., *Journal of Environmental Management* , vol. 92 (9), pp. 2136–2144.