ENVIRONMENTAL REPORTING IN THE ENTERPRISE AND RELATED ISSUES

MIROSLAVA POLANKOVA¹, FRANTISEK MANLIG¹, RUZENA KRALIKOVA²

¹Technical University of Liberec, Liberec, Czech Republic ² Technical University of Kosice, Kosice, Slovakia

DOI: 10.17973/MMSJ.2015_10_201537

e-mail: miroslava.polankova@tul.cz

The article deals with environmental reporting in the company. The environmental reporting, new trends and its benefits are describes. Environmental reporting can actively monitor, manage and gradually reduce the negative impact of companies activities on the environment. The other concepts that are closely related to reporting are also describes in the article. It's environmental communication and audit, environmental management system (EMS) and environmental management accounting (EMA). In the article is a case study from the company producing automotive components. The interconnectedness clarified issue in the context of environmental reporting are describes in the aim of the final chapter. These voluntary instruments are analyzed and evaluated using SWOT analysis. The environmental management system leads to corporate responsibility, the gradual reduction of operating costs and to the competitiveness compared with enterprises which already has this system implemented. Thanks implemented environmental system enterprise easily obtains information which is required in the environmental reporting.

KEYWORDS

environment, accounting, audit, ecological, management

1 INTRODUCTION

Implementation of environmental management system influences the growing interest of the public, pressure from customers and business partners, and especially aware of own responsibility for the state of the environment. This system is implemented voluntarily and the enterprise can actively monitor and manage the impact of its activities on the environment, enterprise can gradually reduce all its negative environmental impacts. The introduction of the environmental management system leads to a reduction of operating costs, gain competitive advantages of enterprise, responsibility and other benefits. Thanks to the introduction of environmental managerial system business better and easier obtain information which publishes their reports in especially due to requirements of environmental activists, offices or due to requirements arising from the business relationships. Environmental reporting is by interest groups perceived very positively and enterprise whit it visibility and coming to the public consciousness as a subject who openly to inform about their problems and try reduced its negative effects on the environment. Industrial enterprises began to provide reports on environmental care in response to growing public dissatisfaction and concerns environmental pollution by enterprise. Enterprises oblige the public's right to information through the issuance of environmental reports. In addition, it is

currently obvious part of business culture and competitive weapon.

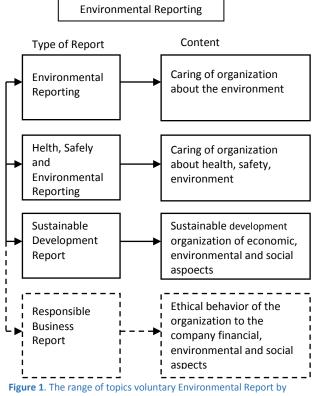
Environmental reports began in this time becoming more detailed. Since 2000, the environmental reporting is moving toward a holistic reporting that deals with economic, social and environmental aspects. The result of this type of reporting are messages which related to the concept of sustainability. The main reason for making these types of environmental reporting are the requirements of environmentalists, offices and investors who requested more information on the environmental impact of the activity of enterprise on the outer environment. The number and importance of environmental reporting in the world gradually grew and continues to grow. The aim of today's environmental reports is increasingly a tendency to take the reader and provide him unlimited access to information through the Internet. Today's environmental reports contain more details, includes a wider spectrum of problems, performance indicators and more additional quantified information. In connection with the present form of environmental reports can be recorded new trends. Standardization of reporting is one of the new developing trends besides internet and multimedia reporting. Environmental reporting is important part of environmental communication, which is directed from the enterprise to different target groups, which are own employees, offices, government, investors, customers, the public, etc. Because of the importance of environmental reports is the aim of Articles familiarization with them and their related issues using a brief literature search. The dependencies and the relationships between environmental managerial system, environmental management accounting and reporting are describes.

2 ENVIRONMENTAL REPORTING

Environmental reporting is a report on environmental protection. It contains data both verified (audited) or not, regarding environmental risks, environmental impacts, policies, strategies, objectives, costs, liabilities and environmental profile. Company uses environmental reporting to inform the public about its environmental performance. The primary objective of any enterprise is to inform mainly about fulfilling legal or other regulations relating to environmental protection. The advantage of environmental reporting is to help create and maintain the relationship between companies and stakeholders. In the Czech Republic environmental reporting is not legally modified, specific the correct form of reports is not known yet. Environmental reporting is one of the written communication tools. Therefore, it serves the enterprise for the issue of reports about how fulfills their environmental goals. Enterprise informs in them about the impacts of its business activities on the environment, and includes also other important information for those who are interested this information. There are the employees of the company, company management and external subjects, state authority, investors, suppliers, competitors and others. The report, issued by enterprise, is technically called the environmental report. [Pavaloaia 2015, Jones 2010]

The definition of environmental reporting according to Catalogue of voluntary tools - Sustainable Consumption and Production (2005): "Environmental reporting or the reporting about behavior of the enterprise towards the environment is an information tool that company voluntarily informs interest groups (eg. shareholders, state authorities, suppliers, customers, the public, etc.) about their environmental profile, it is about their influences exerted on the environment and about the activities which in this area has done or intends to do. Environmental reporting is usually issued with the company's Annual Report, either as a part thereof or as a separate publication, according to the character of the company and its environmental activities." [Enviros 2005]

The range of topics voluntary environmental report is shown in Figure 1. Organizations today use one of the following types of reports. Other aspects are on certainly picked up originally purely environmental issues.



[Student 2005] modified by the author

Environmental reporting is summarized and evaluated using SWOT analysis. Table 1 summarizes and simply describes the strengths and weaknesses of reporting, opportunities and threats.

Strengths		Opportunities	
	Information tool Universal application Costless It removes the cause of the negative impact on the environment	 Used to inform the public - after completion uniform indicators suitable for comparing the environmental performance of individual enterprises Enables the detection of causes of negative impacts on the environment 	
Weaknesses		Threats	
-	Small regulatory character The need steady pressure on businesses	 An enterprise can indicate only its positive action. 	

Table 1. SWOT Analysis – Environmental Reportingby [Enviros 2005] modified and supplemented by the author

Probably the most important is the threat of abuse of reporting. Since this is a voluntary instrument company should be responsible and specify their positive but especially negative effects of their activities on the environment in reporting.

3 ENVIRONMENTAL REPORTING AND RELATED ISSUE

It should be noted interdependencies between environmental reporting and issues, which will be explained below. Environmental reporting is connected with the environmental management system and environmental audits. Environmental reporting is based on the EMAS II regulation, which defines the requirements for an environmental statement, issued by enterprises for interested parties. In environmental reports are stated also information resulting from environmental management accounting.

3.1 EMS according to ISO standards 14 000 or according to EMAS II

EMS is an environmental management system. This system allows the company top management to better control individual cost of companies. Relevant examples are consumption of raw materials, energy, water and other resources that are used in the enterprise activity.

One of the main aims and senses implementation of this system is to protect the environment. It should be important to monitor and be able to deal with the waste that arises from production for a company. Advantageous to the enterprise is the subsequent processing and use of certain wastes. It is also important that the enterprise carefully and timely check the status of emissions, dust, noise at their workplaces and cared for maintaining the cleanliness and health and safety in the workplace. Enterprise particularly management of the enterprise, should lead by example and motivate their employees for this activity. The important part is thus cooperation with the employees within the environmental management system and environmental protection. The company should sufficiently informed about the activities in this area its employees and motivate them to achieve environmental objectives. Finally, it is also important to communication with the public in the field of environmental protection. [ISO standards 14000 2009]

The introduction of EMS in the enterprise is entirely voluntary and depends only on the decision of top management. The introduction of this system, enterprise will not only contribute to environmental protection but mainly obtains great advantages for themselves. By checking their operating costs achieved their gradual reduction, strengthen the good reputation of the company and to improve relationships with business partners or government. If an enterprise intends to introduce an environmental management system, offers two possibilities to implement EMS:

- according to international standards ISO 14000 (in particular according to ISO standards 14001),
- according to the European program EMAS II (Eco-Management and Audit Scheme).

EMS introducing enterprises most frequently through by ISO standards 14000 because EMAS II requirements are too burdensome for the administration, time and financial consideration. ISO standards 14000 can be applied in enterprises of all types and sizes. The main difference between EMAS II and ISO is that what the EMAS II prescribes or requires, either ISO standards 14000 it does not specify or given problem only recommended. If EMS introduced according to EMAS II, it provides the enterprise competitiveness not only within the

single EU internal market, but also in the Czech Republic. Strengths Implementation of the system according to EMAS II is beneficial due to increased awareness of the public view. On the other hand, the standard EMAS II is introduced into companies more difficult, because its disadvantage is requirement of large administrative demands. Therefore, most companies have no interest restoring EMAS II certificate and transferred the validation of the ISO standards 14000. This testifies about the considerable superiority and implementation of EMS according to ISO standards 14000. [Klasterka 2007, ISO standards 14000 20091

Table 2 lists the strengths and weaknesses and the opportunities and threats for EMS according to ISO standards 14000. Table 3 shows SWOT analysis for EMS according to the European program EMAS II. In Tables 2 and 3 are shown the main difference for the introduction of EMS according to ISO standards 14000 or according to EMAS. The introduction of EMS according to EMAS II is more costly and greater demands are required than by the introduction of ISO standards 14000. However, ISO standards 14000 is the basis for other voluntary tools and it is standardized.

quirement
election
en public
.)
ementation
ation
ce payments
in more
s loans or
s loans or
s loans or edibility
edibility
edibility of the
edibility of the ly
edibility of the ly 60 14001

Opportunities

Strengths Opportunities Table 3. SWOT Analysis – EMS according to EMAS II Widespread Universal Use the certification for by [Enviros 2005] modified and supplemented by the author The clear structure extensions tools used Create a framework for The internal need to the implementation of a improve management number of voluntary system The requirement of instruments customers for the The standardized Enables continuous introduction of EMS improving ISO 14000 describes **Enables** communication other tools within the supply chain / Use EMS for marketing within the life cycle of the enterprise Binding to suppliers Promoting his ability to increases market action be a market factor Has a regulatory action Increase its regulatory action Weaknesses Threats Can be introduced The biggest threat is formally poor or lax labor external [Student 2005] Not required external auditors Can be certified formally, reporting about environmental profile it reduces regulatory the Enterprises can put small ability of instruments goals in improving Uncertainty of Obligatory reporting is requirements in not conducted in the standard ISO 14001 appropriate context allows different The requirements of the interpretations standard are Certification is indeterminate sometimes awarded without already be consistent with legislation Incorrect interpretation of the EMS applies only to management again leads to a reduction in Darnall 2009] the regulatory ability Wrong setting targets may lead to their failure

As already mentioned, EMAS II program contains in itself all the requirements of ISO standards 14000. If an organization receives the verification and registration of EMAS II, the same time it also conforms with ISO standards 14000. Because of

implement

that the EMAS also requires certain mandatory elements which ISO standards 14000 only recommends. The enterprise may also decide on the basis of SWOT analysis for the method of introduction of the environmental management system.

3.2 Environmental audit

"Environmental audit (audit protection of the environment) is a management tool. It is a systematic, documented, periodic and objective evaluation of the performance of the organization, management system and processes designed to protect the environment to facilitate management control applied by management and to assess compliance environmental policy."

Environmental audits are conducted periodically. The frequency of audits is usually 1-3 years. Certifying Authority requires repeating audit after approx 3 years. If the internal audit finds some disagreement, it must be documented and representative for the leadership EMS must initiate corrective action. Their task is verify the functionality of implemented EMS and fulfillment of environmental policies. Environmental audit is performed according to ISO standards 14000 or according to EMAS II. Audit is internal or external. Internal audit may be performed by employees of the company who are trained to do it or it performs by outside worker. In the enterprise must be prepared regulations for internal audit, which should be defined principles of audit. Plan of internal audits are processed by leadership representative for EMS. In the audit must be defined in writing the audit objectives and audit frequency for each type of activity. [Klasterka 2007,

3.3 Environmental Communication

Environmental reporting is an important part of environmental communication. It is important not only communication internal, but also external. It is necessary to define the purpose and goals of communication, where the organization wants to

to perform

achieve. During setting goals is a good idea to answer the questions: Why communicate? About what communicate? With whom communicate? When to communicate? They should be established one or two goals that are in accordance with the communication strategy. It is important that these environmental goals are always measurable.

Environmental communication can have an informative, moral or ethical character; preventive character - when the company foresees problems and thus explains how problems cancels and how preceded them; reacting character - eg. residents noticed damage to the environment and the company tells them how is care that it does not happen again. The most common form of communication of enterprise with its surroundings is through the Internet. Larger enterprises sometimes prefer a personal meeting with citizens, neighbors of company, business competition, offices and other constituents. The most popular form evaluation of communication is through the questionnaire. If a company has implemented EMS, they can use information from the periodically repeating audits. ISO standards 14000 requires the introduction of a system of communication with the public. Environmental communication can be carried out according to ISO standard 14063, which comes from the basic series of ISO standards 14000. This standard of enterprise provides principles, policies of strategies, methods and practical examples for internal and external environmental communication. It is intended for organizations regardless of their size, type, location, structure and products or services. [Klasterka 2007]

3.4 Environmental Management Accouting (EMA)

Definition of Environmental Management Accounting according to Manual by CEMC for experts and leadership of organizations (2005): "The EMA focuses on the costs which are spent in the context with the consumption of materials, energy and water, with production of waste and management of waste. These costs are referred to as environmental costs. They are part of the running costs. The subject of interest EMA is therefore the identification, analysis, management and reduction of environmental costs through measures which provide economic effects and they are associated with a positive impact on the environment". [Student 2005]

Due to environmental management companies, especially top management, have better experiences and decision support. The introduction of environmental management accounting is one of the requirements of EMAS II. The advantage of environmental management accounting is acquisition overall survey about the costs and revenues associated with environmental issues, which may be helpful in search of possible of savings when deciding on future activities. Table 4 shows the SWOT analysis for environmental management accounting. The main disadvantage of environmental management accounting is laboriousness its introduction because many of the necessary data cannot be determined directly from the account, but it is necessary to calculate or modify the existing system (analytical accounting, bookkeeping methods, etc.) it is possible determined the data in the future. [Jones 2010]

Strengths		Opportunities		
-	Economic evaluation of results of specific environmental measures Basis for further decisions Basis for environmental reporting Universality of use	-	Priority of the prevention It can be very eco- efficient and bring profits Integration with other tools (EMS)	
Weaknesses		Threats		
-	Not developed methodology, disunity procedure Can be relatively laborious Absence of uniform indicators incomparable results, erroneous conclusions	-	Contains sensitive data, it is necessary to count with a reluctance to publishing Inadequate data may lead to erroneous conclusions	

 Table 4. SWOT Analysis – Environmental Management Accounting by [Enviros 2005] modified and supplemented by the author

4 CASE STUDY FROM THE ENTERPRISE

Case study relates to a company which is engaged in manufacturing of automotive components. The company has implemented environmental management system according to ISO standards 14000. This standard of environmental management system helps enterprises decrease its ecological intensity, and reduce the pollution and waste. The company opted for implementation of the environmental management system according to ISO standards 14000, because it is a global company located in the United States. The implementation of environmental management system according to EMAS II relates to the countries of the European Union.

The company set itself the aim to reduce its energy intensity by 30 percent by year 2018 and have achieved a 11.7 percent reduction through the end of year 2012. Other environmental goals by year 2018 are to reduce waste intensity by 20 percent, to reduce water intensity by 10 percent and to reduce greenhouse gas emissions intensity by 30 percent. The company its goals gradually the meets and everything publishes using the environmental reporting. Sustainable development also focus extends to their supply partners. It cooperates with more than 100,000 direct and indirect suppliers throughout the world and expects them to conduct their operations in an environmentally and socially sustainable manner. They use a variety of tools to assess suppliers, including background checks, self-assessment surveys, site visits and audits. Of course, companies should be deal with how to mitigate its impact on the environment, but it is also important to give priority to cooperation with other companies that are also environmentally responsible. Therefore, these companies have an advantage in the competitive struggle.

5 CONCLUSION

The aim of this paper was to highlight the main differences between the various methods of the environmental management system in the form of a brief literature search and summarize the dependence of environmental reporting and environmental management accounting. Environmental reporting is also based on environmental audits carried out within the established system EMS. The main objective of the environmental audit is performance evaluation organization, management system and processes designed to protect the

environment, rating of necessary documentation, whether it is using and employees are acquainted with its. Information about the results of audits must provide leadership of organization EMS. This information from environmental audits are published through environmental reporting of interested parties. We can see the interdependence not only with environmental reporting, but also the environmental management system (EMS). One of the requirements of EMAS II is the environmental management accounting. EMA is an important sources of information that are included in environmental reporting for external interested parties. It provides financial (eg. On environmental costs, liabilities, cost savings, etc.), non-financial information expressed in specific units (eg. raw materials, energy, water, waste, etc.), which for the management of the enterprise are used for a correct decision. This information can significantly help to enhance corporate image and improve relations with interested parties, and especially to "revive" published environmental reports. Figure 2 illustrates the relationship between environmental management accounting, environmental management system and environmental reporting.

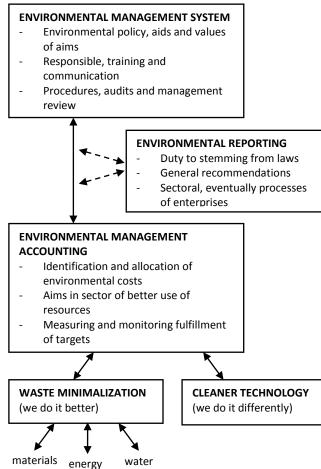


Figure 2. EMA, EMS and Environmental Reporting by [Student 2005] modified by the author

It is important to deal with this issue and also to inform the public about the current state of manufacturing companies and their impact on the environment. For information and subsequent measures can serve environmental reporting and other voluntary tools.

ACKNOWLEDGEMENTS

The research reported in this paper was supported by targeted support for specific university research within the student grant competition TUL (Project 21010 - Complex optimization of manufacturing systems and processes 2).

REFERENCES

[Darnall 2009] Darnall, N., Seol, I., Sarkis, J. Perceived stakeholder influences and organizations' use of environmental audits. *Accounting, Organizations and Society* [online]. 2009, vol. 34, issue 2, s. 170-187 [cit. 2015-04-14].

DOI: 10.1016/j.aos.2008.07.002

[Enviros 2005] Enviros s.r.o. Analysis and evaluation of selected voluntary tools support USV [online]. 2005 [cit. 2015-04-03]. Available from

<<u>http://www.enviros.cz/udrzitelna_spotreba_a_vyroba/vyzku</u> m_podpory_usv/vystupy/katalog_dobrovolnych_nastroju_usv/ analyza_vybranych_nastroju_usv.pdf>. (in Czech)

[ISO standards 14000 2009] Environmental management: The ISO 14000 Family of International Standards [online]. ISO Central Secretariat. Switzerland, 2009 [cit. 2015-04-14]. ISBN 978-92-67-10500-0. Available from

<http://www.iso.org/iso/theiso14000family_2009.pdf>

[Jones 2010] Jones, M. J. Accounting for the environment: Towards a theoretical perspective for environmental accounting and reporting. *Accounting Forum* [online]. 2010, vol. 34, issue 2, s. 123-138 [cit. 2015-04-07].

DOI: 10.1016/j.accfor.2010.03.001

[Klasterka 2007] Klasterka, J., Ruzicka, P., Babicka, I., Remtova, K. EMAS environmental management system and audit: Manual EMAS [online]. Issued by the Ministry of the Environment. Prague. 2007. [cit. 2015-04-14]. Available from

<http://www.cenia.cz/web/www/web-

pub2.nsf/\$pid/MZPAPFIVNKW4/\$FILE/planeta1_final.pdf>
(in Czech)

[Muransky 2000] Muransky, J., Badida, M. Sustainable development in mechanical engineering. 1. Vyd. Kosice: Technical Univerzity of Kosice, 2000. ISBN 80-7099-519-X (in Slovak)

[Pavaloaia 2015] Pavaloaia, L. Environmental Information Reporting and Certification in Annual Reports. Procedia Economics and Finance [online]. 2015, vol. 20, s. 503-509 [cit. 2015-04-07]. DOI 10.1016/s2212-5671(15)00102-1.

[Student 2005] Student, J., Hyrslova, J., Vanecek, V. Sustainable Development and Business: A Guide for Professionals and management of organizations [online]. CEMC, 2005 [cit. 2015-04-05]. 89 s. Available from

<<u>http://www.enviweb.cz/download/ea/publikace_ur.pdf</u>>. ISBN 80-85990-09-1 (in Czech)

CONTACTS

Ing. Miroslava Polankova doc., Dr., Ing. Frantisek Manlig Technical University of Liberec, Studentska 1402/2, 461 17 Liberec, Czech Republic <u>miroslava.polankova@tul.cz</u>, <u>frantisek.manlig@tul.cz</u> <u>www.ksa.cliquo.cz</u>

doc. Ing. Ruzena Kralikova,PhD Park Komenskeho 5, 042 00 Kosice, Slovakia <u>ruzena.kralikova@tuke.sk</u> www.ksa.cliquo.cz