ENVIRONMENTAL MANAGEMENT IN POLISH ENTERPRISES

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Abstract
On the basis of the conducted comparative analyses it is possible to conclude that the level of the environmental proactivity of Polish enterprises is low, and the most important factors stimulating the implementation of proactive environmental practices include the involvement of management staff. In the paper there is also presented the current status of the implementation of ISO 14001 and EMAS in Polish enterprises compared to the EU countries, which belongs to voluntary commitments of the enterprise in the development of environmental management. ISO 14001, when compared to the Community system – EMAS, is significantly more popular among Polish enterprises. However, the interest in the implementation of both standards is little in comparison with the lead countries and it mainly results from lack of encouragement from the State. However, it is possible to observe slow, though systematic, growth in the implemented standards following ISO 14001 and EMAS.

Key words: *environmental management, corporate environmental proactivity, determinants, ISO 14001, EMAS*

INTRODUCTION

Global warming and the associated increase in the requirements posed to enterprises brings about that, to deal with growing competitiveness and, simultaneously, to stand out on the turbulent market, a lot of them implement the concepts underlying not only the economic context of enterprise activity but also enterprise responsibility for the condition of the natural environment (Romanowska 2004). One of possible ways to stand out is the implementation of the environmental management system whose improvement should be supported by the inclusion of ecological goals of the enterprise at the strategic level. The behavior of enterprises towards the environment is different, from passive behavior, to reactive and proactive behavior. Proactive behavior of enterprises represents the highest level of environmental management advancement. Proactive approach assumes conscious action of an advance and preventive nature, which, in the future, will be able to contribute to control of future changes. The improvement of environmental management is, therefore, a long-term process which requires meeting a wide range of factors affecting the success and development of proactive good environmental practices. The aim of the paper is the assessment of environmental proactivity of Polish enterprises on the basis of the review of the literature study and the indication of the factors which are of the key importance for the stimulation of environmental management practicies.

CORPORATE ENVIORNEMNTAL PROACTIVITY

The literature on environmental management distinguishes two extreme stages of development of environmental management: environmental reactivity, which is typical for companies that only implement the minimal compulsory changes to meet regulations, and environmental proactivity, typical of companies that voluntarily take measures to reduce their impact on the natural environment (González-Benito J. and González-Benito Ó. 2010).

More or less advanced environmental practices of firms represent different types of environmental response pattern to the natural environment which are manifested by different corporate environmental strategies. Many authors propose different approaches to classifications of environmental strategies according to their different degree of environmental proactivity. Murillo-Luna et al. (2008) propose four types of the environmental response pattern: Passive, Attention to Legislation, Attention to

Stakeholders and Total Environmental Quality (the highest level of proactivity), (Murillo-Luna et al. 2008). Another classification is grouped into three categories: Reactive Strategy, Pollution Prevention and Environmental Leadership (the highest level of proactivity). The last proposition of the continuum of the development of environmental strategies is divided into four groups of strategies: Reactive Strategy, Defensive Strategy, Accommodative Strategy and Proactive Strategy (Buysse and Verbeke 2003).

Companies which implement voluntarily instruments to reduce their impacts on the natural environment represent the highest level of environmental strategies – proactive ones. Proactive environmental strategy is defined as a set of voluntary environmental practices that the company follows and that goes beyond environmental laws in order to reduce or minimize environmental impacts (Aragón-Correa 1998). Sharma and Vredenburg (1998) consider that a firm's environmental strategy is proactive if it exhibits "a consistent pattern of environmental practices, across all dimensions relevant to their range of activities, not required to be undertaken in fulfillment of environmental regulations or in response to isomorphic pressures within the industry as standard business practices". Proactive environmental practices are defined as intangible managerial innovations and routines that require organizational commitments towards improving the natural environment and which are not required by law (Hart 2005). These practices can be classified into three groups of environmental management practices: the planning and organizational practices, the operational practices, and the communicational practices. Environmental proactivity can be understood as a triangle whose sides represent the three categories of practices mentioned above. The planning and organizational practices and, in general, the establishment of an Environmental Management System (EMS) set the base and organizational structure necessary to implement operational practices on a coordinated and systematized basis (Fig. 1).

In fact, Melnyk et al. (2003) observe that the existence of a formal EMS is associated with the consideration of more environmental options or practices (Melnyk et al. 2003). It is worth mentioning that popularity of certifications such as ISO 14001 and the possibility of companies obtaining a certification of compliance planning and organizational practices can exert a significant impact on public opinion (González-Benito J. and González-Benito Ó. 2006).

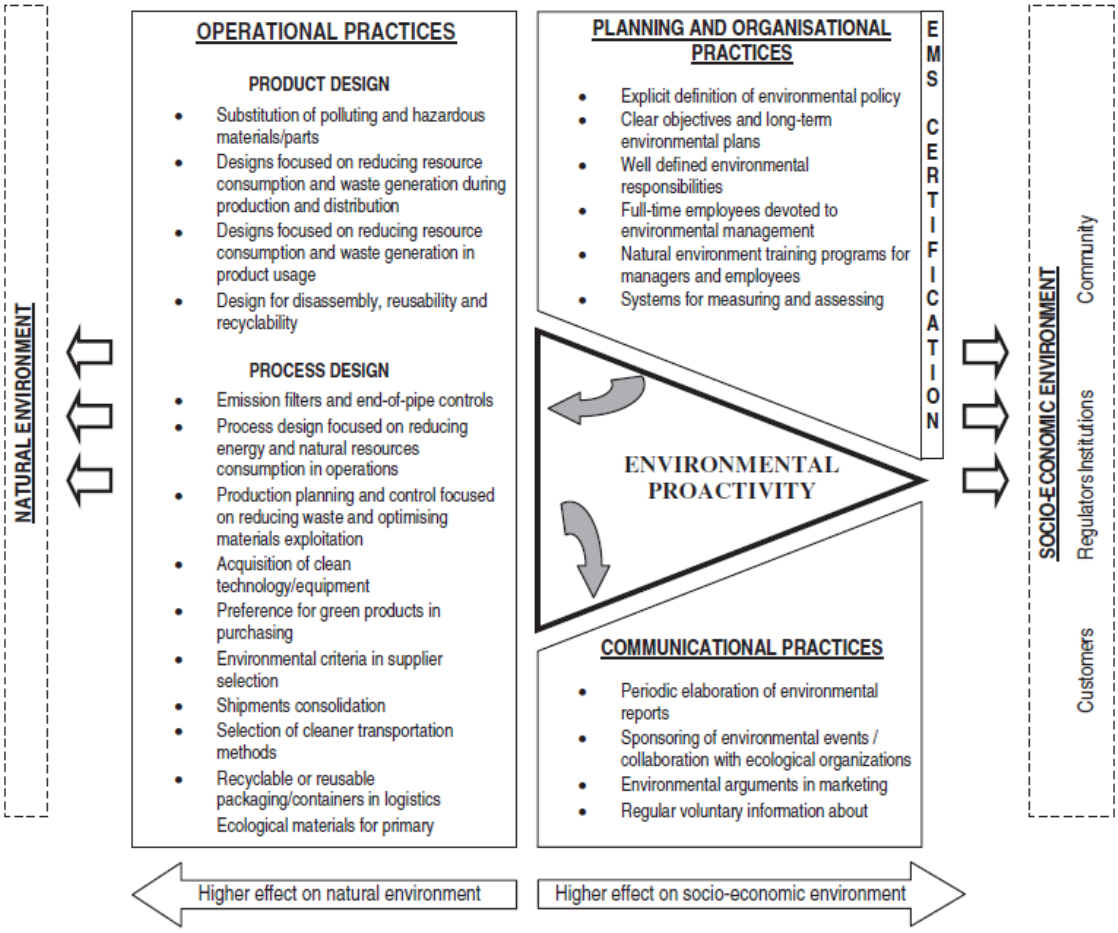


Fig. 1. *The influence of environmental practices on corporate environmental proactivity and socio-economic and natural environment of the company. Source: González-Benito, J & González-Benito Ó 2010, 'A study of determinant factors of stakeholder environmental pressure perceived by industrial companies', Business Strategy and the Environment, vol. 19, no. 3, pp.164-181.*

DRIVING FACTORS OF ENVIRONMENTAL PROACTIVITY

Conditions of successful environmental proactivity of firms are complex. The international literature indicates a variety of classification factors both stimulating and hindering the development of proactive environmental management and strategies. Some of factors derive from both outside and inside the firm. In general, key factors of corporate environmental proactivity can be divided into external and internal ones. González-Benito & González-Benito (2006) present variables which have been considered in most scientific papers on environmental management. Some of the variables are considered as company features which include:

- company size,
- internationalisation,
- position in the value chain,
- managerial attitude and motivations,
- strategic attitude.

Factors that describe the general environment surrounding of the company, have been labelled as external factors and include: industrial sector and geographical location. One key factor stands out as fundamental and central to all the others factors: the pressure exerted by the company's different

stakeholders. Given that there are stakeholders within the company as well as in its social and economic environment.

Since the 1990s, different authors have focused on identifying, classifying and analyzing the main barriers to the environmental adaptation process of firms. Post and Altman (1994) classify the set of barriers to environmental adaptation into two groups: industry barriers and organizational barriers. Industry barriers are related to the type of business activity in which firms are engaged, and these barriers mainly affect firms operating in the most highly polluting sectors. Organizational barriers, however, affect firms regardless of the business activity in which they are engaged, given that they originate from firms' specific organization and common practices (Post & Altman 1994). Hillary (2004) presents the following classification of barriers relevant to the development of proactive environmental management:

external barries:

- cost of certification/verification,
- insufficient drivers and uncertainty about market benefits,
- institutional weaknesses,
- lack of support and guidance.

internal barrires:

- lack of human resources,
- wrong perception of environmental management systems (EMSs),
- difficulties with the implementation of environmental management systems,
- negative attitudes and unfavorable firm culture (Hillary 2004).

Hillary's classification shows import similarities with that proposed by Post & Altman (1994) ten and with those presented more recently by Chan (2008) who proposes external and internal barriers of environmental adaptation which include:

- external barriers: certifiers/verifiers, economics, institutional weaknesses, support and guidance;
- internal barriers: resources, understanding and perception of environmental issues, implementation of EMSs, attitudes and company culture towards, environmental issues (Chan 2008).

Dahlmann et al. (2008) find that the lack of resources and capabilities in the firm is the most relevant barrier to environmental proactivity (Dahlmann et al. 2008). Chan (2008) identifies six types of barriers which are negatively related to environmental behaviour of the firm: 1) lack of know-how and skills, 2) lack of professional advice, 3) uncertainty of outcome, 4) participation of certifiers/verifiers, 5) lack of resources and 6) implementation and maintenance costs (Chan 2008).

Empirical results of Murillo-Luna et al. (2011) show that only endemic limitations of the firm can be classified as "effective barriers", and have a significant negative impact on the proactivity of environmental strategy. Their results also show that, among the different difficulties affecting environmental adaptation recognized by the managers of the sample firms, only budgetary and organizational limitations and aversion to innovation and technological change actually prevent firms from advancing in their environmental strategy (Murillo-Luna et al. 2011).

Quazi et al. (2001) claim that the top management concern for the natural environment strongly discriminates between companies that have adopted the ISO 14001 standard and companies that have not (Quazi et al. 2001). Massoud et al. (2010), explain that the lack of government support and incentives, the lack of clear benefits and the lack of legally request are the main barriers to ISO 14001 certification (Massoud et al. 2010). Del Brio et al. (2001) find that the higher the commitment of managers and their awareness of the advantages, disadvantages and tools of environmental

management, the higher the formal importance they give to this question within the organization. Such importance is manifested through the establishment of environmental departments or the appointment of managers to be in charge of environmental issues (Del Brio et al. 2001).

ENVIRONMENTAL PROACTIVITY FACTORS IN POLISH ENTERPRISES

Environmental proactivity of Polish enterprises is determined by the dynamically changing environment and the interaction of factors affecting it. The Polish literature of the subject discussing this issue empirically is rather poor. Most of the Polish analyses are exclusively focused on the selective analysis of environmental proactivity.

The main conditions affecting environmental management in Polish enterprises include:

1. External coercion – legal regulations which enforce some specific behavior. The most effective legal instruments are administrative decisions, i.e. orders, prohibitions, norms and standards.
2. Managers and employees' attitudes – personal beliefs concerning right and wrong behavior. They are strictly connected with ecological awareness of the society.
3. Economic reasons – creating prosperity and structure of the market, economic instruments and economic calculation parameters.

Enterprises functioning in the turbulent environment feel increasing pressure from many groups of stakeholders. In Polish enterprises, management staff, authorities and public administration have the most significant impact on the side of stakeholders on voluntary environmental activities in the area of environmental management, whereas competitors, ecological organizations and customers slightly stimulate enterprises to improve environmental management (Ryszko 2007).

The influence of clients and their increasing ecological awareness on proactive environmental activities of enterprises in the countries of Western Europe is significantly higher than in Polish enterprises. In Polish organizations there is minimum influence of clients on pro-ecological activities. The confirmation of this fact is the comparative study of Polish and Nordic enterprises which shows that the influence of clients in foreign enterprises is considerably higher and it amounts to 28%. Such discrepancy may result from insufficient ecological awareness of clients or ignoring clients' requests and treating them as the unique ones (Leszczyńska & Lindell 2008). The results of Eurobarometer, which confirm that the level of ecological awareness of consumers and clients is rising, also in Poland, is optimistic (Eurobarmeter 2008). Therefore, it can be expected that the pressure from clients and consumers will play increasingly significant role in taking environmental actions in Polish enterprises.

A serious constraint of environmental involvement in Polish enterprises is lack of sufficient financial resources. Considerable differences between enterprises from Nordic countries also appear in case of leadership abilities, though domestic enterprises relatively highly value managers' skills (Leszczyńska & Lindell 2008).

High interest in the implementation of environmental management systems in Polish enterprises is connected with the adopted strategy of enterprise development. Such enterprises mainly include the entities dealing with sewage treatment and the ones manufacturing motor vehicles. Their negative impact on the environment is very large, therefore, in this way they show their care about the natural environment. Moreover, these enterprises are characterized by good financial situation, and in the ownership structure of the enterprise – predominance of foreign capital.

Essential factors affecting the improvement of environmental management system are internal audits and management review since the performance of enterprises will depend on the applied approach, awareness of the staff and their involvement and the way of conduct.

Environmental proactivity in Polish enterprises is conditioned by the impact of many interdependent factors, like in enterprises of Western Europe, among which the most important in Polish realities are:

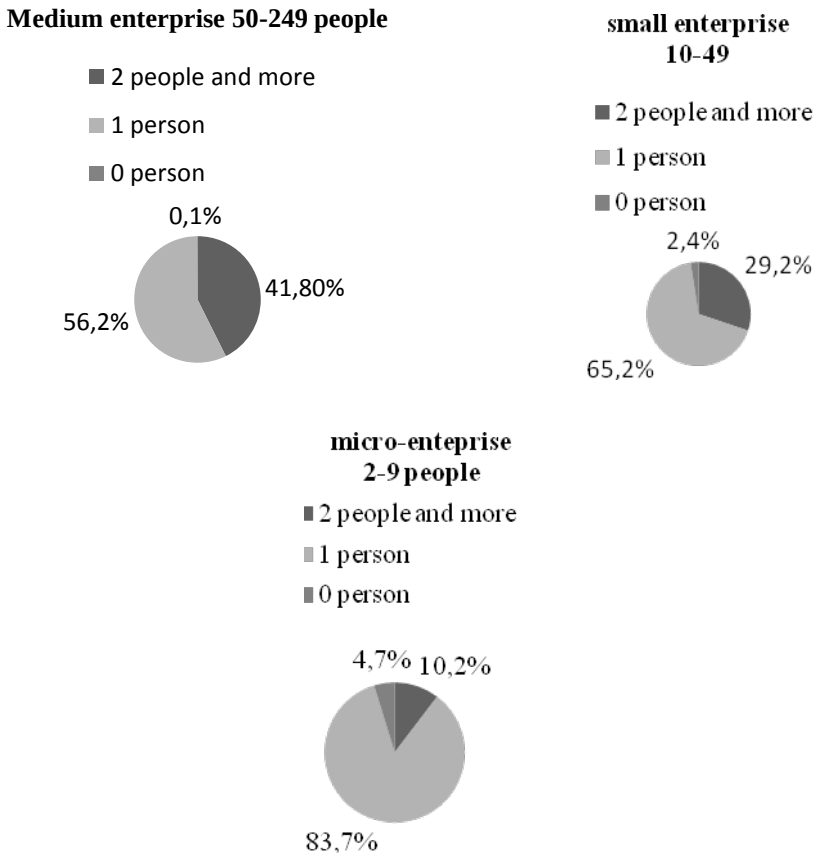
– motivation to take pro-ecological actions by management staff,

- interpretation of ecological issues by management staff in categories of ecological opportunities and threats,
- involvement and appropriate resources in the area of environmental management,
- organizational culture,
- perceiving pressure on taking pro-ecological actions by stakeholders,
- the conditions of macro-environment and competitive environment of enterprises.

Involvement of management staff is the derivative of their attitudes and these, in turn, the derivative of ecological awareness. In the Polish literature, there is little concern for the role which ecological awareness plays at the organizational level, which may directly bring about the stimulation of the involvement of management staff and all employees in proactive environmental actions. On the basis of the research conducted among Polish entrepreneurs from SME sector, it is possible to state that the level of awareness of management staff is low (Seroka-Stolka 2012).

Proactive environmental actions require the involvement of, most of all, the person responsible for environmental management. Enterprises which possess the implemented proactive environmental strategy must delegate the responsibility for environmental issues to one or a few people (team) dealing with environmental issues in the company. The research conducted in SME sector shows that decisions on the implementation of pro-ecological solutions are most frequently taken by one person from management staff. In micro-enterprises environmental actions are handled by a delegated person and outside management staff. On the other hand, a larger number of people from management is involved due to a larger number of tasks to solve, and their nature is more varied (Fig. 2).

Fig. 2. *Number of people involved in the implementation of pro-ecological actions in micro-, small and medium enterprises. Source: The author's own study based on "Zrównoważona produkcja w działalności przedsiębiorstw. Raport z badania", PARP, Warszawa 2011, p. 61.*



In the world literature of the subject there is underlined the significance of the impact of the position in the value chain, geographical location or the level of internationalization of enterprises on environmental proactivity. However, in the Polish literature, there is no reference to this subject.

One of determinants of proactive environmental involvement is the implementation of the certifications of ISO 14001 and the Community system - EMAS by the company. In Polish enterprises, the interest in the implementation of environmental management systems is relatively low (Seroka-Stolka 2013).

The reasons of low interest in the introduction of ISO 14001 in Polish enterprises include:

- lack of encouragement from the State (75%),
- the issues of the environmental protection are treated as the ones of the secondary importance (58%),
- too high costs disproportionate to benefits (50%),
- low level of ecological awareness of management staff (33%),
- conservatism of management staff (21%) Anuszewska et al. 2011).

Among the identified reasons of low interest in the implementation of ISO 14001, when compared to frequently applied ISO 9001, the most important one appears to be lack of encouragement from the State, which is also manifested by lack of a clear signal that environmental management systems are acknowledged as an important instrument of the development of ecological policy of the State and the principle of sustainable development.

With respect to the issued ISO 14001 certifications, in 2008 Poland occupied the 10th position in the EU with the number of 1544. From among new members of the EU, Poland was preceded by Czech Republic (3318), Hungary (1834) and Romania (3844)[1]. As early as in the next year - 2009 Poland was not included in the top ten countries with the largest number of ISO 14001 certifications.

A comparison with statistics on ISO 14001 reveals that the popularity of EMAS is still relatively low: ISO reports a total of 89 237 certifications in Europe in 2009, with Spain, Italy, United Kingdom, Romania, Germany and Czech Republic in the top ten world-wide. The data is presented in table 1.

Country	**Number of organizations with ISO 14001 certification**
Spain	16 443
Italy	12922
Great Britain	9455
Germany	5709
Sweden	4478
Romania	3844
France	3482
Czech Republic	3318
Hungary	1834
Poland	**1544**
Finland	991

[1] As of 31 December 2008.

Austria	837
Slovakia	672
Ireland	515
Slovenia	444
Bulgaria	321

Table 1. *The number of the registered organizations with ISO 14001 certification in Poland and in EU countries in 2008. Source: The author's own study*

ISO 14001 certification is a good tool to present the company as socially and ecologically responsible by the activity in accordance with the natural environment in all its aspects. In some industries (e.g. automobile one), more and more frequently, the implementation of environmental management system, compliant with ISO 14001, is the basis for the initiation of discussion on cooperation. For clients, the possession of quality certification ISO 9001 or ISO/TS 16 949 by the supplier is not enough. The recipients' requirements concern more and more frequently other aspects than merely the qualitative ones.

The Community system - EMAS is owned by a small percentage of Polish enterprises, which is the result of low interest in it. In 2011 the implemented EMAS was possessed by only 25 organizations[2]. The information on the website of the European Commission (Eurostat) shows that in 2005-2011 an increase in the number of organizations having the implemented environmental management system in Poland was minimum, only in 2012 there was a noticeable increase. In Figure 1 there are presented changes in the amount of the introduced EMAS with reference to both Polish organizations and entities in comparison with the Visegrad countries, which show similar pace of economic development and which joined the EU at the same time.

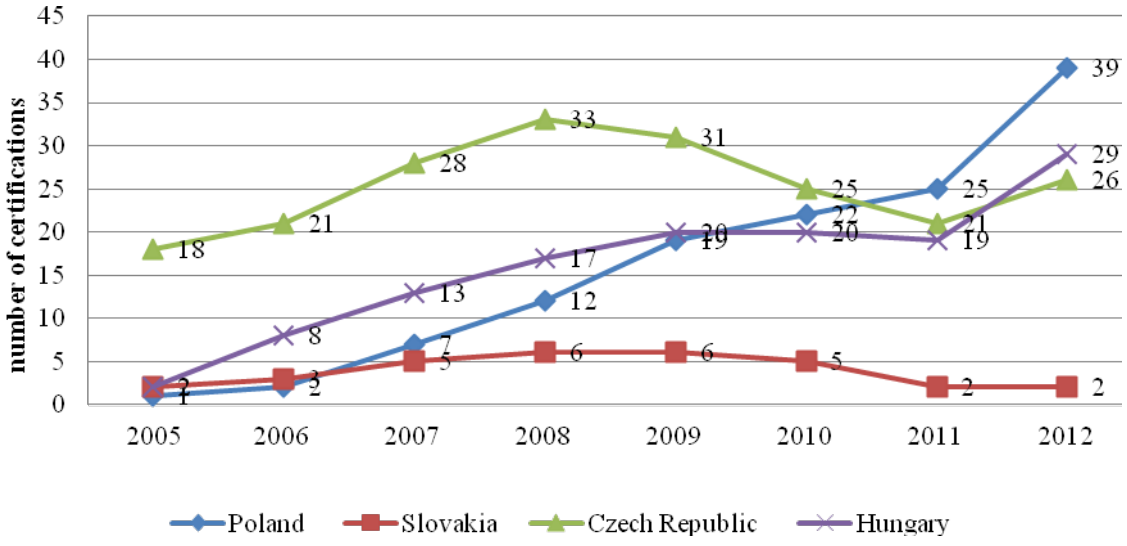


Fig. 3. *Organizations with EMAS registration in the period of 2005 – 2012 in Poland and other Visegrad countries. Source: The author's own study based on the data of Eurostat*

In Table 2 there is presented the summary of organizations and entities possessing the implemented EMAS in Poland and the remaining countries of the EU (27). The leading sectors having organizations

[2] http://epp.eurostat.ec.europa.eu [accessed on 21.04.2014]

with the introduced EMAS in the EU are the sector of management and disposal of waste and the energy sector (Figure 3).

Country	**Total (2003)**	**Total (2003-2012)**
Belgium	25	426
Bulgaria	0	6
Czech Republic	0	218
Denmark	121	987
Germany	1830	14673
Estonia	0	18
Ireland	8	71
Greece	9	444
Spain	314	8736
France	23	198
Croatia	-	-
Italy	169	7465
Cyprus	0	89
Latvia	0	33
Lithuania	0	20
Luxembourg	1	12
Hungary	0	128
Malta	0	9
Netherlands	29	133
Austria	298	2616
Poland	**0**	**127**
Portugal	12	552
Romania	0	17
Slovenia	0	21
Slovakia	0	33
Finland	39	304
Sweden	115	852
United Kingdom	75	640
Iceland	-	-
Norway	42	245
EU (27)	**3068**	**4452**

Table 2. *Total number of organizations and sites with EMAS (Eco-Management and Audit Scheme) registration from 2003 to 2012. Source: The author's own study based on http://epp.eurostat.ec.europa.eu. Switzerland=not available*

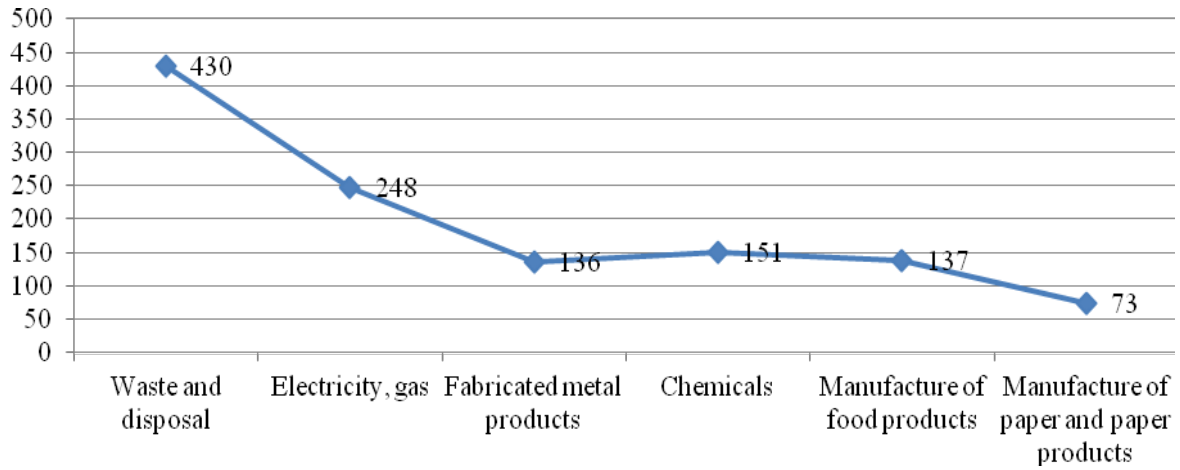


Fig 4. *Leading industrial sectors - number of registered companies with EMAS in EU in 2014. Source: The author's own study based on the data http://ec.europa.eu/environment/emas/register/reports/reports.do*

In Poland, there are 45 organizations with EMAS currently registered in 2014. One of the first organizations, which introduced EMAS in Poland was Oncology Center in Bydgoszcz (hospital activity by NACE classification). Among the dominating companies belonging to this group of enterprises are large enterprises from the sector of environmental protection. Only 5 out of 45 of the total number of the enterprises registered in EMAS system are the enterprises belonging to SME. [3]

PROACTIVE ENVIRONMENTAL ACTIONS IN THE FRAMEWORK OF ENVIRONMENTAL MANAGEMENT – THE REVIEW OF THE RESULTS OF THE RESEARCH CONDUCTED IN POLISH ENTERPRISES

Constraints connected with the evolution of environmental management towards proactive one depend on both present and future business situation of the enterprise, which undergoes constant changes in Polish economic realities. The research conducted by A. Leszczyńska among Polish enterprises in 2008 shows that the opportunities/threats connected with ecological issues were included in the processes of planning and assessment, most of all, at the strategic level of the enterprise, and the dominating attitude is to take initiatives connected with environmental protection in 38% of the enterprises under research, which apply anticipatory strategies. The remaining 21 % of the analyzed enterprises apply passive strategies, 12 % reactive strategies, and 29% - innovative strategies (representing the highest level of proactivity) (Leszczyńska 2008). Polish enterprises understand and also respond to the needs of environmental protection, however, in the selective way. The condition which is necessary for systematic development and improvement of environmental management system is not only developing environmental policy but also p it. Environmental policy in Polish enterprises is, however, neither presented to employees (34% of those questioned) nor made public (69%). On the other hand, the process of social reporting of Polish enterprises undergoes a positive change. Pro-ecological strategic attitude is not reflected in the developed personnel policy. In 56% of the enterprises under research, environmental criteria are not included in the assessment of employees,

[3] The data by the Ministry of Environment on 23.04. 2014 [accessed on 26.04.2014] http://www.gdos.gov.pl/Articles

or in the remuneration system (82% of the enterprises under research). On the other hand, training programs raising the level of knowledge and ecological awareness, which enable employees to understand the significance of responsibility of enterprises for the environment and their role in the success of the development of proactive environmental practices, are conducted fairly commonly, as in as much as 73 % of the enterprises under research (Leszczyńska 2008).

However, Polish enterprises show relatively low level of environmental proactivity. On the basis of the research carried on by A. Ryszko, it is possible to conclude that the largest activity in environmental management is observed in the area of pro-ecological production management, whereas the smallest activity – in the area of organizational structure and the inclusion of elements of ecological marketing and communication and cooperation with the environment. The level of environmental management in Polish enterprises is, above all, determined by the size of the enterprise and the kind of the run activity (the highest level of environmental proactivity is shown by large manufacturing companies), which is convergent with the results in the world literature (Ryszko 2009). It is also worth mentioning that in contrast to the conditions of environmental proactivity in enterprises of Eastern Europe and the USA, green consumerism may also drive the transition towards more proactive environmental management, particularly in industries that have close contacts with final consumers. In these countries environmental proactivity is stimulated by clients and suppliers, whereas in Polish enterprises, it is stimulated by management staff itself (whereas reactive attitudes of enterprises are affected by public administration) (Buysse and Verbeke 2003).

CONCLUSIONS

The approach of Polish enterprises towards proactive environmental management indicates the selective involvement in the individual areas of enterprise management based on the ecological factor. At present, Polish enterprises show the highest level of environmental proactivity in the area of pro-ecological production management. Intangible resources play the key role in stimulating environmental proactivity. The attitude towards and involvement in the ecological issues of management staff is particularly significant. One of the determinants of environmental proactivity is the implementation of ISO 14001 and the European system EMAS. However, the interest of Polish enterprises in the introduction of both standards is rather low. The standard ISO 14001, which frequently constitutes the beginning of the improvement of environmental management system and development of more advance environmental strategies, is found more popular.

REFERENCES

Anuszewska, I, Podlejska, K, Jackiewicz, A, Filipek, M 2011, *The Report on the research in the framework of the project 'Patterns of Sustainable Production (PSP)' in the Activity of Enterprises - the proposition of system solutions supporting the implementation of PSP in SME)* (in Polish), Polska Agencja Rozwoju Przedsiębiorczości, Warszawa, pp. 58 -83.

Aragón-Correa, JA 1998, 'Strategic proactivity and firm approach to the natural environment', *Academy of Management Journal*, vol. 41(5), pp. 556-567.

Buysse, K & Verbeke, A 2003, 'Proactive environmental strategies: a stakeholder management perspective', *Strategic Management Journal*, vol. 24 (5), pp. 453-470.

Chan, ES, 2008, 'Barriers to EMS in the hotel industry', *Hospitality Management*, vol. 27, pp. 187-196.

Dahlmann, F, Brammer, S & Millington, A 2008, 'Barriers to proactive environmental management in the U.K.: implications for business and public policy', *Journal of General Management*, vol. 33 (3), pp. 1-20.

Del Brio JA, Fernández E, Junquera B & Vázquez CJ 2001 'Environmental managers and departments as driving forces of TQEM in Spanish industrial companies', *International Journal of Quality and Reliability Management*, vol. 18(5), pp. 495–511.

Eurobarometr (2008). *Attitudes of European Citizens towards the Environment*, European Commission. Available at http://www.socioilogico.com/Attitudes_Europeans_MD_2007.pdf.

González-Benito, J & González-Benito Ó 2010, 'A study of determinant factors of stakeholder environmental pressure perceived by industrial companies', *Business Strategy and the Environment*, vol. 19, no. 3, pp.164-181.

Hart SL, 1998, 'A natural-resource-based view of the firm', *Academy of Management Review*, vol. 2.

Hillary, R 2004, 'Environmental management systems and the smaller enterprise', *Journal of Cleaner Production*, vol. 12, pp. 561-569.

Leszczyńska, A & Lindell, M 2008, 'The selected aspects of ecological innovations in the light of comparisons of Polish and Nordic enterprises' (in Polish), *Organizacja i Kierowanie*, no 3 (133), pp. 59-69.

Leszczyńska, A 2008, 'The level of environmental involvement of enterprise', (in Polish), *Przegląd Organizacji*, no. 11, pp. 21-24.

Massoud, MA, Fayad, R, El-Fadel, M & Kamleh, R, 2010, 'Drivers, barriers and incentives to implementing environmental management systems in the food industry: a case of Lebanon', *Journal of Cleaner Production*, vol. 18 (3), pp. 200-209.

Melnyk, SA, Sroufe, RP & Calantone, R 2003, 'Assessing the impact of environmental management systems on corporate and environmental performance', *Journal of Operations Management*, *21*(3), 329-351.

Murillo-Luna, J Garcés-Ayerbe, C Rivera-Torres, P 2001, 'Barriers to the adoption of proactive environmental strategies', *Journal of Cleaner Production*, vol. 19.13, pp.1417-1425.

Murillo-Luna, JL, Garcés-Ayerbe, C & Rivera-Torres, P 2008. 'Why do patterns of environmental response differ? A stakeholders pressure approach', *Strategic Management Journal*, vol. 29 (11), pp. 1225-1240.

Post, JE & Altman, BW 1994, 'Managing the environmental change process: barriers and opportunities', *Journal of Organizational Change Management*, vol. 7 (4), pp. 64-81.

Quazi HA, Khoo Y, Tan C & Wong P 2001, 'Motivation for ISO14000 certification: development of a predictive model', *Omega*, vol. 29(6), pp. 525–542.

Romanowska, M 2004, *Strategic planning in the enterpris* (in Polish), Polskie Wydawnictwo Ekonomiczne, Warszawa 2004, p. 29.

Ryszko, A 2007, *Proactive environmental management (in Polish)*, Wyd. Politechniki Śląskiej, Gliwice, p.167.

Ryszko, A. 2009, 'Proactive environmental management in enterprises' (in Polish), *Przegląd Organizacji*, no 5, pp. 33-36.

Seroka-Stolka, O 2012, 'Ecological awareness of entrepreneurs from SME sector' (In Polish), *Zeszyty Naukowe Politechniki Częstochowskiej. Zarządzanie*, no. 5.

Seroka-Stolka, O 2013, 'The assessment of the implementation of voluntary instruments of environmental management in small and medium enterprises of the region of Czestochowa' (in Polish), *Ekonomia i Środowisko*, vol. 2 (45), pp. 224-232.