

**Ewa Mazur-Wierzbicka**  
**Department of Microeconomics**  
**University of Szczecin**

## **PRO-ECOLOGICAL MANAGEMENT IN ENTERPRISES AS A FACTOR FACILITATING COMPETITION IN THE ASPECT OF SUSTAINABLE DEVELOPMENT**

### **Abstract**

Sustainable development and environmental protection determine running and starting business activity to a considerable degree. In the environmental policy of the majority of industrialized countries dominates a trend toward promotion of voluntary actions and environmental commitments taken by business entities instead of imposing by the state instruments of order and control on enterprises. It was noticed that making good use of market mechanisms and instruments, factors of enterprise development as well as competition in order to involve enterprises in environmental protection, produces positive results. In this case, using competition is possible only when other rivals are also aware of ecological problems. Then applying knowledge on environmental protection is essential because pro-ecological activities taken by enterprises more and more often decide on their competitiveness.

**Keywords:** sustainable development, environmental protection, competitiveness, pro-ecological behaviour of enterprises, environmental management in enterprises.

### **Introduction**

Globalization that is still progressing, increasing importance of business, establishing international corporations and the fact that many welfare countries are distinctly reducing their role, all these factors cause that enterprises face new requirements, also expectations toward them are growing. Facing contemporary problems, people started to realise that an enterprise is a complicated system that can't focus only on economic strategies. Owing to progressing contamination of the environment, issues involving environmental protection are becoming particularly important, that's why they should become a part of entities' activity. Incorporating environmental protection into companies' objectives is the implementation of sustainable development at the microeconomic level. It is done by introducing various pro-environmental programmes and systems of environmental management.

The theory of competitiveness indicates pro-ecological behaviour of enterprises as both factors and sources of their competitive advantage. However, it should be emphasized that it concerns a long period of time because in the short-term expenditures on environmental protection may result in weakening a competitive position, leading to increased costs of business activity (Kryk, 2003).

The aim of this article is to describe the impact of pro-ecological activities taken by enterprises, i.e. implementing sustainable development at the macroeconomic level, on improving their competitiveness.

## Environmental protection and competitiveness

Environmental protection, in comparison with globalization that is still progressing, plays a vital role, firstly, in entirely ecological aspects, secondly, in its relations with business activity (sustainable development). Particularly the latter is directly linked to competitiveness.

The environmental quality has a direct impact on some sectors of the economy, this way it influences competitiveness of entire sectors and business entities. All activities taken to improve the environmental quality, e.g. purification and preventing contamination, their results, methods of implementing and required expenditures, all these factors have impact on competitiveness. Mutual relations between ecological issues (particularly the ones concerning improvement of the environmental quality) and competitiveness are the subject to theoretical discussion in the ecological economics as well as in the economic policy.

Theoretical rudiments of the ecological conditions of competitiveness should be derived from the concept of internalization of ecological costs<sup>1</sup> which is well-known in the theory of the ecological economics. In the economic practice, the principle of internalization of ecological costs consists in not only taking into account the cost of using the environment and its resources in business activity (e.g. ecological charges) but also financial means on preferential terms, mainly public, spent on real costs of business activity. The environment and activities in this scope are regarded more and more often as factor of competitiveness. (cf.: *Instrumenty ekonomiczne i organizacyjno-prawne ochrony środowiska*, 1999; *Wysokińska*, 2001).

Correlation between environmental protection and competitiveness is most frequently identified and analyzed in the microeconomic scale where they are the issues concerning ecological management in enterprise and strategic planning. In the theory of competitiveness, they are mentioned as factors and sources of competitive advantage gained by business entities. At the same time, it is emphasized that expenditures on environmental protection in the short-term may weaken competitive advantage of entities and lead to increased costs of their activity, whereas in the long-term they will improve competitiveness (The Competitiveness of European Industry, 1999).

Porter believes that for the economy policy it is of key importance to develop research on competitiveness understood in dynamic way i.e. ability of sectors and enterprises to improve their competitive position and ability of the government to create favourable conditions, particularly the institutional ones, in order to strengthen competitiveness (cf. *Bieńkowski*, 1998). Liberalization of business trade increases dynamic approach to competitiveness, concerns environmental protection as well.

Liberalization of business trade has an impact on the change in producers' competitiveness conditions on the domestic and international market. Poland's accession to the EU is a very good example because we observe that the domestic market gets rid of producers and products that aren't competitive, e.g. those who don't obey the principles of environmental protection. Also the effect of "palming off", in its positive aspect, competitive products and enterprises to the new markets, mainly the EU ones, so expanding the scope of activity to new dynamic and developing markets: domestic and international. Expansion of such process depends on the opportunity to receive by rival and newly established entities, high quality of production factors as well as facilitate infrastructure and market institutions. It will be reflected in reduction of transaction costs what directly influences changes in competitiveness.

A connection between economic practice and environmental protection issues is best

---

<sup>1</sup> Interpretation of categories of ecological costs and internalization of ecological costs can be found in all important articles on the economics of environmental protection.

reflected in sustainable development.

### **The concept of sustainable development — basic issues**

The concept of sustainable development was mentioned for the first time at the United Nations Conference on the Human Environment held in Stockholm in 1972, where a particular attention was paid to global changes in the environment. At that time was adopted the declaration, its first principle proclaims that man has the fundamental right to freedom, equality and adequate conditions of life in the environment of a quality that permits a life of dignity and well-being. Furthermore, other three principles were directly linked to ecological and economic problems faced by developing countries i.e. preservation and improvement of environmental quality and achievement better living conditions by all countries.

In 1987, the World Commission on Environment and Development (WCED) published a report entitled „Our common future”, the document came to be known as the “Brundtland Report”, it emphasized the necessity of implementing stable and sustainable development all over the world. The main part of the report defined the concept of sustainable development that was at that time understood as: „...development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Wortmann, 2002)<sup>2</sup>. It also proclaimed that sustainable development should be regarded as the objective of the policy implemented by all governments in the world. Therefore, the main objective of sustainable development is to pursue the policy and actions in particular sectors of the economy and life so that they will result in preserving natural resources. They should also be used without any damage to them, hence the present and future generations could use them, at the same time functioning of natural processes and biodiversity shouldn't be distorted. (for more information: A. Przyborowska-Klimczak, 2004, p. 25 and the next ones.)

The Brundtland report also incorporated basic elements of sustainable development including:

1. change in quality of economic growth,
2. preservation of natural resources,
3. reorienting technology,
4. reorienting management systems,
5. providing employment, food, energy and water,
6. integral merging economics and ecology in decision making.

At the United Nations Conference in Rio de Janeiro held in 1992, the international community acknowledged this concept as a model of socio-economic development and behaviour toward the environment. Also was adopted a global blueprint of action to be taken in the 20<sup>th</sup> century in a form of Agenda 21. The declaration, issued at that time, emphasized that to achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.

The essence of sustainable development is equal approach to social, economic and ecological problems, it means that environmental protection should be integrated with policies in particular sectors of the economy (cf.: D. Maśniak, 2003, p.21 and the next ones).

Sustainable development should implement three groups of objectives:

1. social: meeting the basic needs of society, improving living standards, maintaining cultural diversity,
2. economic: increase in GDP, providing sufficient goods and services,

---

<sup>2</sup> Since that time the term „sustainable development” became very popular in science and politics. It also occurred in the awareness of society. However, there isn't one common definition. The definition issued in the Brundtland report is one of the most popular and frequently cited.

3. ecological: maintaining capital of natural resources and ecosystem productivity, preserving biodiversity, improving condition of the environment and achieving high environmental quality.

Sustainable development can be defined as socially recommended, economically appropriate and ecologically desirable strategy to economic growth.

At present, many experts consider sustainable development as equivalent with philosophy of global, regional and local development. In the professional literature it is defined as:

- socio-economic development in harmony with the environment,
- continuous and restricted socio-economic development taking into account respect to the nature,
- business activity conducted in harmony with the nature — minimizing irreversible changes in the nature (Borys, 1998, p. 11.).

The last mentioned definition proves that enterprises implement the concept of sustainable development by minimizing adverse impact on the environment.

### **Sustainable development at the level of enterprise**

Sustainable development is mainly considered in the macroeconomic scale, however, above the all, its implementation requires adopting pro-environmental approach to enterprise management. Companies are the ones that have a direct impact on components of the environment and exploit its resources.

Many factors have impact on behaviour of enterprises toward the environment, it also involves implementing sustainable development. They can be divided into two groups: so-called „soft factors” such as: the level of ecological awareness and knowledge, ethics, social responsibility of enterprises. They determine behaviour of individuals and groups. To the second group belong so-called “hard factors” including: technology, market competition, ability to make decisions, economic environment, international environment, etc. Additionally, following factors should be taken into account: state policy, international policy regulating institutions, law, pressure exerted by the media, and initiatives of NGOs, etc. Depending on the strength of mentioned factors, enterprises will behave in adverse, neutral, positive or mixed manner toward the environment (Zacher, 2004, pp. 219-220.).

Implementing sustainable development in enterprises should be based on reducing material consumption rate, energy consumption in production, increasing productivity of environment usage and reduction of pollution level. Simultaneously, economic and social objectives should be met. It involves making effective use of natural resources and protecting the environment. However, it should be noticed that at first, enterprises will have to implement long-term pro-ecological activities including developing a long-term strategy or even “supplementing” the strategy by already existing ecological elements. More and more visible is increasing demand for environment-friendly technologies, products what strengthens companies’ position on the market and allows them to gain competitive advantage.

Even enterprises noticed that their image, success on the market depend on the efficient pro-ecological actions and openness to development. Therefore, they started to voluntarily take various pro-ecological actions and apply principles, e.g. Valdez Principles (more information in: Winter, 1998, pp. 171-174.), which are kind of „inner need” (it is also economically profitable), they also prove that entrepreneurs comply with environmental requirements.

The most frequent form of voluntary actions taken by enterprises in the scope of environmental protection is participation in various programmes that allow them to reduce

their environmental nuisance or implement environmental management, i.e. including environmental elements in the entire management system. In this scope, Polish enterprises have an opportunity to take part in:

- The program “Clean Production” that has been running in Poland for 10 years and exerting such effects as: innovation in technology in order to increase efficiency of production processes and reducing economic and environmental losses. It also brings financial benefits.
- Programme „Responsibility & Care” is the international commitment of the chemical industry for constant improvements within Safety, Health and Environment. The main objective is to inform openly about their activities and the results which are achieved.
- Awarding the certificate confirming compliance environmental management with ISO 14001. It proves efforts made by enterprises on behalf of improvement in environmental management.
- Awarding the certificate confirming compliance with requirements of EMAS (Eco-Management and Audit Scheme)

Enterprises take voluntary actions taken to protect environment in answer to the stable development, it resulted in eco-management (i.e. ecological management).

From the point of view of ecological management in enterprise, the most significant is the principle of sustainable development which concerns combating contamination which can occur at every phase of manufacturing process, where the importance of made decisions is prioritized. It concerns the following:

- avoiding production of pollution in technological processes,
- recycling,
- installing protective facilities that detect and neutralize pollutions.

The inclination to introduce pro-ecological principles in management of enterprises results in growing productivity, what is shown mainly in cost and pollution reduction, the latter one is a result of self-regulation that enables flexibility and increased efficiency in complying with environmental requirements, this in turn, helps to gain competitive advantage; it also results in the opportunity to receive governmental donations for enterprises that show environmental initiative.

Researches<sup>3</sup>, conducted in enterprises of the chemical industry, showed<sup>4</sup> that enterprises when making a decision to introduce the ISO 14001 environmental management standards, counted on strengthening their competitive position, so it was one of the major reasons for introducing the system.

Conducted researches showed that among so-called internal motives for introducing the ISO 14001 environmental management standards was improvement of image of the enterprises. Undoubtedly, it is a very important reason, particularly for enterprises of the chemical industry as they don't want to be associated only with contaminating of the environment but also with minimizing harmful effects. They also want to overcome psychological barriers that involve the chemical industry and create the image of the eco-

<sup>3</sup> Scientific work financed by the State Committee for Scientific Research in the period of 2002 and 2004 as a research project. The research was conducted in the Polish enterprises of the chemical industry. Questionnaires were sent to all of them that received recertification of ISO 14001. Some 83% of enterprises sent completed questionnaires back.

<sup>4</sup> The chemical industry was chosen as the subject to research, mainly because of:

- the industry is still associated with very hazardous activity for the environment;
- the chemical industry as one of the first implements the model organizational solutions enabling introduction of sustainable development, ecological programmes, awarding ecological certificates, and introduction of clean production processes and safe technologies;
- the chemical industry plays an important role in the Polish economy, mainly because of an ubiquity of its products in a daily life, some branches of industry wouldn't exist without chemical products as resources.

friendly industry.

„Integrated environmental protection and efficient use of natural resources are often positive factors of competitiveness...” (M. Jänicke, P. Kunig, M. Stitzel, 1999, p. 153). The results of conducted research prove it, since the majority of enterprises introduced ISO 14001 to strengthen their position on the market. Therefore the reason: improvement of market position (very important - 50%, important - 40%<sup>5</sup>) took the second place among the external reasons. It appears that intensified involvement of enterprises in environmental protection has a significant impact on the market mechanism. Entrepreneurs take pro-ecological actions (e.g. ISO 14001) to catch up with rivals. Such behaviour shows growing awareness of environmental hazards among the enterprises. They also show practical implementation of sustainable development at the microeconomic level.

## Conclusion

The concept of sustainable development played in the second half of 20<sup>th</sup> century an important role in shaping the approach to mutual relation among society, the economy and natural resources. It contributed to the new look at the surrounding world. Society became aware that renewable and non-renewable natural resources should be redefined. In spite of the fact that sustainable development is most frequently concerned in the macroeconomic scale, above the all, its implementation requires pro-environmental approach to management of enterprises because understanding the rudiments of the concept, condition its correct and successful implementation at the macroeconomic level.

In the era when more and more attention is paid to the environmental issues, implementing sustainable development by enterprises, undoubtedly has the impact on strengthening their competitive advantage.

## REFERENCES:

1. Bieńkowski W., The Applicability of Western Measurement Methods to Assess East European Competitiveness, *Comparative Economic Studies*, 1988, vol. 30, no. 3.
2. Borys T., *Jak budować program ekorozwoju, informacje ogólne*, Warszawa - Jelenia Góra 1998.
3. *Instrumenty ekonomiczne i organizacyjno-prawne ochrony środowiska*, P. Jeżowski (ed.), SGH, Warszawa 1999
4. Jänicke M., Kunig P., Stitzel M., *Lern- und Arbeitbuch Umweltpolitik*, Bonn 1999.
5. Kryk B., *Rachunek sozoeconomiczny działalności gospodarczej na przykładzie energetyki zawodowej regionu szczecińskiego*, Uniwersytet Szczeciński, Szczecin 2003.
6. Maśniak D., *Ubezpieczenia ekologiczne*, Kraków 2003.
7. Przyborowska-Klimczak A., *Ochrona przyrody. Studium prawno-międzynarodowe*, Lublin 2004.
8. *The Competitiveness of European Industry*, European Commission, Brussels 1999.
9. Winter G., *Przewodnik środowiskowego zarządzania przedsiębiorstwem. Czysty zysk*, Wyd. Artystyczne i Reklamowe S. Kowalski i S-ka, Warszawa 1998.
10. Wortmann D., *Von der Vision zur Strategie: Grundelemente und Entwicklungsmuster einer Politik der Nachhaltigkeit*, w: *Sustainable Development - Utopie oder realistische Vision?*, M. Sebaldt (Hg.), Verlag Kovac, Hamburg 2002.
11. Wysokińska Z., *Konkurencyjność w międzynarodowym i globalnym handlu*

---

<sup>5</sup> Enterprises determined the importance of motives influencing the decision on implementing ISO 14001 in the scale from 1 to 5 ( 1 - unimportant, 2 – not so important, 3 – medium-important, 4 - important, 5 – very important).

- technologiami, PWN, Warszawa-Łódź 2001.
12. Zacher L.W., Rozwój zrównoważony i trwały jako wyzwanie dla biznesu, „Problemy Ekologii” no 5, 2004.