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## **GLOBALIZATION AND ENVIRONMENTAL COSTS – STRUCTURE, CLASSIFICATION AND EXPENDITURE**

### **Abstract**

Globalization of the modern world – especially in the economic sphere – has an impact on national economies, but its consequences also affect people. As a dynamic process (in the area of capital, trade and technology) it also contributes to blurring the differences between countries. The growing economic dynamism of countries, the requirement of competitiveness, also have an impact on the environment. The European Union countries have created a legal system and a strategy for environmental projects, moving some of the costs of environmental protection onto companies.

This article presents the regulations related to environmental protection, and the costs that it incurs for businesses – particularly the classification and structure of these costs, in comparison with the structure of global investment in environmental protection. The aim is to provide a comparative analysis of fixed investment in environment protection in the years 2005–2011.

The dynamic growth of these expenditures will also determine the scale of costs planned in the financial policies of businesses. At the same time, each year the individual costs of environment protection schemes should make up a smaller percentage of the managed finances.

**Keywords:** globalization, costs of environmental protection, expenditure on fixed assets in environmental protection.

## 1. Globalization

The concept of globalization in the era of 20th and 21st century has gained in importance. The ongoing economic processes have a continuous impact on finance, business, commerce and even politics, and thus also on the people who become “globalized.”<sup>1</sup> It is happening also due to a new trend in economic sciences – including the accounting.

According to Z. Bauman, “globalization is an inherent feature of the spatial segmentation, separation and exclusion, [...] and the creation of the neo-tribal and fundamentalist tendencies are a reflection and expression of the experience of globalization, as a” hybridization “of globalized culture on top.”<sup>2</sup> In the process of globalization there is no place for locality, which, in its assumptions, is focused mainly on giving the precisely specified dimension to space and its location. For this reason, the locality, contrary to the globalization, means social impairment and degradation.

In spite of many attempts to formulate a precise definition of the extent of globalization and because of its many aspects it is very difficult to give it a uniform definition. According to the Group of Lisbon, globalization is a multiplicity of linkages and feedbacks that occur at the level of society and state.<sup>3</sup> It is a process which is the result of events and actions whose consequences affect society and the people at the global level. It is “a process which began in the late twentieth century, with the diffusion of electronic media, the development of multinational corporations and the end of the Cold War, which is to increase the speed of international trade, intensified the impact of capital, people and technologies, improving relations between countries and blurring cultural differences.”<sup>4</sup> As set out in the 1997 European Commission report, globalization is defined as a process in which production and markets in different countries are becoming increasingly interdependent due to the

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<sup>1</sup> Z. Bauman, (E. Klekot), *Globalizacja. I co z tego dla ludzi wynika*, Państwowy Instytut Wydawniczy, Warszawa 2000, p. 5.

<sup>2</sup> *Ibidem*, p. 7.

<sup>3</sup> *Grupa Lizbońska. Granice konkurencji*, Poltext, Warszawa 1996, pp. 48–50.

<sup>4</sup> *Wielki słownik wyrazów obcych*, ed. M. Bańko, Wydawnictwo Naukowe PWN, Warszawa 2010, p. 452.

significant increase in dynamic exchange of goods and services and flows of capital and technology.<sup>5</sup>

Globalization is described slightly differently by J.E. Stiglitz, who believes that it is “the removal of barriers impeding free trade and closer economic integration on an international scale, which can be a force for good in order to potentially improve the situation of all people in the world, especially the poor.”<sup>6</sup> It is also a „closer integration of countries and people in the world, caused a huge reduction in the cost of transport and telecommunications, and removal of artificial barriers to flows of goods, services, capital, knowledge, and (to a lesser extent) people from country to country.”<sup>7</sup>

Globalization is seen as an international economic integration, free from barriers to trade and exchange of goods, forced by the need to reduce its costs or – as J.H. Dunning put it – nothing other than „increased cross-border business linkages.”<sup>8</sup>

The process of economic globalization, the easy accessibility to goods resulting from this process also affects the „globalized” (see above – Z. Bauman) social life and culture. The ongoing relationship between the economy and society was observed by I. Czaja, who defined globalization as „a very general term denoting both space and dissemination, copying and unification of patterns of behavior, acceptance of popular attitudes in the media, the penetration of cultural elements, the mixing of these elements, and the rate of which these processes occur through the conquests of technology (IT revolution).”<sup>9</sup>

So the process of globalization in the economic aspect is to „unify the mechanisms of economic activity, vertical markets, industries, businesses, competition, etc.”<sup>10</sup>, while in the political aspect – „expressed in the formation and development of political forces and institutions and transnational global.”<sup>11</sup>

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<sup>5</sup> *European Commission, Annual Economic Report for 1997*, “European Economy” No. 63, Brussels 1997.

<sup>6</sup> J.E. Stiglitz, *Globalizacja*, Wydawnictwo Naukowe PWN, Warszawa 2004, p. 4.

<sup>7</sup> *Ibidem*, p. 26.

<sup>8</sup> J.H. Dunning, *More – yet more – on globalization*, “Transnational Corporations” 2005, Vol. 14, No. 2.

<sup>9</sup> I. Czaja, *Globalizacja, globalizm, przedsiębiorczość – szanse i zagrożenia*, in: *Globalizacja*, ed. J. Klich, ISS, Kraków 2001, p. 67.

<sup>10</sup> G. Dobrzański, B. Dobrzańska, D. Kielczewski, *Ochrona środowiska przyrodniczego*, Wydawnictwo Naukowe PWN, Warszawa 2010, p. 226.

<sup>11</sup> *Ibidem*, p. 226.

Globalization is a social and international link between the dynamic flow of capital and the social and economic integration.

## 2. Environmental regulations

According to the concept of legal and administrative environment, it is necessary to determine the ultimate limit of interventions into the environment.<sup>12</sup> This process is possible thanks to the rules established by state laws and administrative procedures. When establishing them each government requires these rules be strictly followed.

Protection of the natural environment at the European level originated in the 1970s, but no sooner than in 1986 was the first Single European Act established regulating its rules.<sup>13</sup> Then, the 1992 Maastricht Treaty and the 1997 Treaty of Amsterdam introduced one of the main objectives of the operation of the European Union which is to protect the environment.<sup>14</sup> On this basis two levels of the functioning of EU environmental policy have been set out:

- “general objectives and policies are laid down the Community level,
- at the national level environmental policies are implemented in compliance with the general objectives and principles.”<sup>15</sup>

Each of the environmental objectives of the European Union was established in its environmental programs, which define the priorities for environmental protection during the period of validity of each of the designated programs. Previously established environmental programs of the European Union, along with their priorities are presented in Table 1.

Some sources say that the VI Program of Action still functions today, and its completion date is 21 July 2012.<sup>16</sup>

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<sup>12</sup> *Ibidem*, p. 244.

<sup>13</sup> [www.ekoportal.gov.pl](http://www.ekoportal.gov.pl).

<sup>14</sup> G. Dobrzański, B. Dobrzańska, D. Kielczewski, *op.cit.*, p. 290.

<sup>15</sup> *Ibidem*, p. 290.

<sup>16</sup> [www.ekoportal.gov.pl](http://www.ekoportal.gov.pl) (Access on 12.05.2012).

Table 1. European Union environmental programs

Environmental program (year)	Priorities
I Program of Action for the Environment (1973–1976)	<ul style="list-style-type: none"> <li>– construction of pollution control strategies</li> <li>– clarification of the rules of the environmental policy</li> <li>– developing standards and environmental regulations</li> </ul>
II Program of Action for the Environment (1976–1981)	<ul style="list-style-type: none"> <li>– identification of priorities in various fields of environmental protection (mainly the protection of water and air)</li> <li>– determination of the direction of changes in the structure of the economy and technology</li> </ul>
III Program of Action for the Environment (1982–1986)	<ul style="list-style-type: none"> <li>– precise definition of priorities in water protection, air, noise protection, waste management, hazardous materials, chemicals</li> <li>– clarification of the principles of intergenerational environmental sustainability</li> <li>– development of environmental technologies</li> </ul>
IV Program of Action for the Environment (1987–1992)	<ul style="list-style-type: none"> <li>– integration of environmental policy with social and economic policy</li> <li>– development of environmental protection measures (strengthening regulations, use of economic instruments: fees, grants and subsidies, insurance)</li> <li>– developing procedures for impact assessment of environmental investments</li> <li>– ensuring public access to environmental information</li> <li>– protecting water and air by using the principle of prevention</li> </ul>
V Program of Action for the Environment (1993–2000)	<ul style="list-style-type: none"> <li>– sustainable development</li> <li>– sustainable management of natural resources</li> <li>– integrated control of pollution and preventing the formation of precipitation</li> <li>– improving environmental quality in urban areas</li> <li>– reduction of energy consumption from non-renewable resources</li> <li>– greening of industry, energy, transport, agriculture and tourism</li> <li>– support for the EU candidate countries in environmental protection</li> </ul>
VI Program of Action for the Environment (2001–2010)	<ul style="list-style-type: none"> <li>– sustainable development</li> <li>– sustainable management of natural resources</li> <li>– integrated control of pollution and preventing the formation of precipitation</li> <li>– improving environmental quality in urban areas</li> <li>– reduction of energy consumption from non-renewable resources</li> <li>– greening of industry, energy, transport, agriculture and tourism</li> <li>– support for the EU candidate countries in environmental protection</li> </ul>

Source: G. Dobrzański, B. Dobrzańska, D. Kielczewski, *op.cit.*, p. 291.

Each of the acts should be considered in the context of the principles of environmental protection in the European Union.<sup>17</sup> Communications, reports, or order, despite its non-binding nature, are of vital importance in terms of environmental policy. The reason for this are objectives and sample proposals for solutions, which in the longer term can be found reflected in the normative acts.

The genesis of the Polish nature conservation policy dates back to the second half of the nineteenth century, when the first attempts have been made to protect the Tatra mountains.<sup>18</sup> „Between the two world wars the government introduced regulations concerning wildlife protection as well as the water, fossil fuels, forests and land use management, economy, minerals, forestry and the management of space, while in the socialist era policies remained subordinated to the communist ideology.”<sup>19</sup> At that time, provisions to protect wildlife were very strict, but very rarely observed. The information on environmental protection was uncomfortable to the regime and thus not revealed to the public, which in turn led to a drastic reduction in effectiveness of the Polish environmental policy.

The next step important for the Polish environmental policy is a period of political transition. In 1989, during the Round Table talks, the „ecological sub-table” was created.<sup>20</sup> It was the moment when the priorities for environmental protection in Poland were defined:

- „The adoption of sustainable development,
- amendment of the legal basis for environmental protection,
- creation of mechanisms for financing environmental protection by establishing the National Fund for Environmental Protection and Water Management, ECOFUND (using foreign funds) and the creation of the Bank of Environmental Protection,
- formation of an efficient system of environmental control,
- integration of environment into the rational management of natural resources,
- improving standards of water protection and water management,
- creating a social system of environmental protection.”<sup>21</sup>

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<sup>17</sup> *Ibidem.*

<sup>18</sup> G. Dobrzański, B. Dobrzańska, D. Kielczewski, *op.cit.*, p. 290.

<sup>19</sup> *Ibidem.*

<sup>20</sup> *Ibidem.*

<sup>21</sup> *Ibidem*, pp. 290–291.

The next important stage in the Polish environmental policy is the year 1991, when a document was passed called „The National Environmental Policy.” Without a doubt, this document was the basis for any action to protect the environment in the 1990s. Although this period has brought many positive changes and solutions for environmental protection, new threats to the environment emerged:

- increase in environmental pollution (eg. of air by car exhaust), other wastes,
- lack of consistency between the objectives of nature conservation and the desire to raise standards and quality of life, however mutually exclusive they seem,
- reluctance of society to accept initiatives and measures to protect the environment.<sup>22</sup>

To protect the natural environment in Poland was also important to Polish Constitution adopted on 2<sup>nd</sup> April 1997<sup>23</sup> which specifies one of the main functions of the state, i.e. the pursuit of safe natural environment.<sup>24</sup> Moreover, it implies socio-economic development of the country according to the principles of sustainable development, in which political, economic and social sectors, while maintaining the natural balance, are subject to constant interference. This process aims to ensure that current and future needs of society and its citizens are satisfied.<sup>25</sup>

Undoubtedly a breakthrough in the Polish environmental policy is the year 2000, when „The Second National Environmental Policy” came into force being the basis of the environmental policy now. The document set out the priorities for environmental protection, which are also its strategic objectives:

- incorporation of sustainable development policy into the economic policy,
- sustainable management and protection of natural environmental components,
- implementation of environmentally-friendly production and improving the condition of the environment in its various aspects,
- lead to a reduction in emissions and reduce consumer pressure,
- unify the Polish and EU environmental policy,

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<sup>22</sup> *Ibidem*, pp. 291–292.

<sup>23</sup> [www.ekoportal.gov.pl](http://www.ekoportal.gov.pl) (Access on 12.05.2012).

<sup>24</sup> [www.sejm.gov.pl](http://www.sejm.gov.pl).

<sup>25</sup> Article 3, point 50 of the Act of 27 April 2001 Environmental Protection Law (consolidated text. DzU from 2008 year, nr 25, poz. 150).

- ensuring permanent access to environmental information,
- compliance and implementation of international commitments to protect the environment.<sup>26</sup>

Environmental policy in Poland is subject to the European Union policy. Upon entry into the European Union Poland is obliged to comply with the EU law on environmental protection and implement the principles of the EU action programmes on the environment. Indirectly, the EU environmental law and the Polish legislation imposes obligations on companies with pro-environment policies. Compliance with this law reduces the environmental costs incurred by the company. There is significant social, political and ecological awareness of countries (governments and institutions), and the awareness of social groups (entrepreneurs, employees) about the need to preserve in time and space environmental assets, their renewal and growth. The key to success is education in the field of ecology focused not only on the governing state, but also addressed to the society that runs and operates in the environment. Environmental policies (pro-environment) should realize the need to incur the costs of environmental protection not only by governmental institutions, NGOs, but also by businesses and companies and their management executives, as well as other groups of society.

### 3. Environmental costs

In the era of modernity, the environment is a way to manage and secure space in which humanity lives, extend the life of the so-called areas of nature. This is a problem not only in terms of economic practice, but also in the field of science. In this sense, the environment has an impact on the functioning of companies in this space, helping to reduce the negative effects of explorative – wasteful economy. Enterprises and companies – both in the field of production, as well as the non-productive ones – are responsible for the state of the environment and for this purpose include incurred costs in the plans and the financial accounts. In order to efficiently manage an enterprise it seems necessary to determine what costs are incurred for environmental protection.

According to the definition proposed by T. Kiziukiewicz these are „the costs expressed in money spent in the normal course of business over a period of tangible

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<sup>26</sup> G. Dobrzański, B. Dobrzańska, D. Kielczewski, *op.cit.*, p. 292.



assets (fixed assets, materials), outsourcing, and the inserted human work, provided that the components involved are having an effect in the form of manufactured goods or services.”<sup>27</sup> The costs are included in the „pure cash outlays” – such as insurance (including public and property), fees and taxes that affect their costs.

On the other hand W. Gos refers to the definition of costs, determined by the International Accounting Standards, as a “reduction in economic benefits during the accounting period in the form of withdrawal or loss of assets or liabilities rise, causing a decrease in equity, except for the division of capital to shareholders.”<sup>28</sup>

In light of the relations between human activities and environmental protection, it became necessary to extract the definition of environmental costs. M. Stepień defines it as the consumption of resources, expressed in the fiscal measure, to achieve current and future tangible economic benefits that are associated with environmental protection. In turn, this protection allows the use of environmental resources mentioned above now and in the future – without causing unwanted damage while allowing economic and business activities without restrictions.<sup>29</sup> Incurred costs related to environmental protection can be classified by setting certain criteria, depending on the time and financial dimension of time, or on the target of an action. On this basis, the classification of environmental costs was carried out and presented in Table 2.

The above criteria used primarily by the need of the enterprise in space and time, and thus determine the cost of certain groups. On the basis of decisions made in a short and long-term, the company bears the costs of its activities. The effects should be analyzed by the management company and its accountants and persons on management positions – in accordance with the principle of matching costs and revenues and the principle of going concern.<sup>30</sup>

Thanks to the classification of environmental costs presented in Table 1, it is possible to divide them into costs by nature, the subjective and objective costs – depending on the specific pro-environmental business operation. This division is shown in Table 3.

<sup>27</sup> *Rachunkowość zarządcza*, ed. T. Kiziukiewicz, Ekspert, Wrocław 2012, p. 40.

<sup>28</sup> W. Gos, *Vademecum samodzielnego księgowego*, Polska Akademia Rachunkowości SA, Warszawa 2005, p. 382.

<sup>29</sup> M. Stepień, *op.cit.*, p. 238 and next.

<sup>30</sup> *Zarządzanie kosztami jakości, logistyki, innowacji, ochrony środowiska, a rachunkowość finansowa*, ed. A. Karmańska, Difin 2007, p. 167.

Table 2. Classification of environmental costs

Criterion for the classification of costs	Types of costs
Costs by type of used resources	– amortization – material – personal – external services
Relationship with the protective activity – protection process	– basic – general
The relationship of costs to the size of the protective activity	– variables – permanent
How to relate costs to cost centers or media (products) – an accounting method of cost allocation	– direct – indirect
Costs by the protective action	– reduction – prevention – stability – restitution
Criteria types of activities in relation to the environmental field with segments of the resulting business	– preparation – implementation – management – omissions

Source: M. Stępień, *Rachunek kosztów ochrony środowiska*, in: *Rachunkowość ekologiczna – przesłanki i możliwości jej zastosowania w systemie sprawozdawczości GUS w Polsce*, ed. J. Famielec, NFOŚiGW, AE, Kraków 2003, p. 245.

Table 3. Breakdown of environmental costs on the costs by type, subject and object

Breakdown of costs by type	Costs of the objective system	Costs of subjective system
– Amortization and depreciation	– Sewage treatment plants	– Water
– Consumption of materials and energy	– Air protection devices	– Air
– External services	– Installations for the disposal of waste	– Noise
– Labor costs including salaries, social insurance and other employee benefits;	– Waste storage facilities	– Vibration
– Other costs by type	– Research and development	– Radiation
	– Environmental monitoring	– Earth (soil)
	– Efficient use of natural resources	– Precipitation
	– Environmental management	– Nature
		– Landscape and biodiversity

Source: M. Stępień, *op.cit.*

The business must also determine its operating costs in the community – in a managed time and space. This cost is associated with the cost of environmental

protection.<sup>31</sup> Often the cost of the enterprise is often referred to as ecological losses<sup>32</sup> because they exceed most of the benefit received; the components „are not only intangible but also lost opportunities and benefits.”<sup>33</sup>

Environmental costs include: costs of disposal and reduction of pollution (i.e., incurred in the so-called. „Action end of pipe”) and the costs of pollution prevention (i.e., integrated actions).<sup>34</sup>

The costs of disposal and reduction of pollution include:

- the costs associated with operations and control equipment that are appropriate,
- cost incurred in the collection, disposal and waste disposal,
- costs resulting from the need to measure and monitor levels of pollution.

The costs of pollution prevention include:

- ongoing costs associated with the operation of equipment, introduction of new technologies or processes, or their modification,
- the costs of changes in management practices (environmental management)
- and the costs of the use of new raw materials (which consequently contributes to the reduction of pollution generated in the course of business).

Table 4 includes the cost of the enterprise in the community according to specific criteria relating to law, environmental risk, and market competition arising from the environment or in the past.

It is impossible to clearly determine that the subject costs are more important in business, because it depends on its pro-environmental business management policies. When the environmental policy is stable and sustainable and the environment in which a company is operating is standardised (the restoration of environmental standards), costs certainly play a significant role, as they are forced upon by a com-

<sup>31</sup> R. Żaba-Nieroda, *Ekoinnowacyjność źródłem przewagi konkurencyjnej przedsiębiorstw na przykładzie wybranych elektrowni*, „Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomicznej w Tarnowie” 2011, nr 2 (19), p. 179.

<sup>32</sup> K. Strzała-Osuch, *Ekologiczne bariery rozwoju gospodarczego*, in: *Problemy wzrostu gospodarczego we współczesnych gospodarkach*, ed. D. Kopycińska, Katedra Mikroekonomii Uniwersytetu Szczecińskiego, Szczecin 2005, p. 131.

<sup>33</sup> A. Hołuj, *Teoretyczne podstawy ochrony środowiska naturalnego w Polsce*, „Zeszyty Naukowe Wyższej Szkoły Ekonomicznej w Bochni” 2006, nr 4, p. 30.

<sup>34</sup> J. Famielec, E. Broniewicz, *Odzwierciedlenie aspektów ochrony środowiska w sprawozdawczości małych i średnich przedsiębiorców w świetle Ustawy o rachunkowości*, Ministerstwo Gospodarki, Białystok–Kraków 2006, p. 25.

Table 4. The costs of the enterprise

The criterion of the costs of the subjective system	Costs
The law defining the environmental policy	The costs which result is environmental policy: – Fee – Costs of penalties – The costs of receiving and withdrawal of licenses – The costs of environmental audit – The cost of implementing the law
Ecological risk	Costs resulting from the presence of environmental risk: – Costs of insurance against liability for environmental damage – Cost impact of environmental risk
Market competition	Costs associated with the functioning of the market economy: – The costs of competition – The external costs – The costs of immobilization activity
Environmental pollution in the past	The costs arising from environmental pollution in the past: – The costs of water treatment – The costs of soil remediation – Cost reduction in the availability of environmental resources

Source: M. Stępień, *op.cit.*

petitive market. However, the fight with the competition can lead to environmental risks associated with the possibility of (conscious or involuntary), environmental degradation - which in turn will generate additional costs.

#### 4. Expenditures for fixed assets for the protection of the environment and their sources

As presented in Table 5 and 6, the data concerning outlays on fixed assets spent to protect the environment are consistent with the Polish Statistical Classification of Activities and Facilities of Environmental Protection which was introduced by the Council of Ministers on 2 March 1999.<sup>35</sup> Moreover, based on International Standard Statistical Classification of ECE/UN and Facilities of Environmental Protection and the European System for the Collection of Economic Information on the Protection

<sup>35</sup> *Ochrona środowiska 2010*, GUS, Warszawa 2011.

of the Environment (SERIEE) the Polish Statistical Classification of Activities and Facilities of Environmental Protection was developed.

Polish state environmental policy is well illustrated in the table below presenting capital expenditures incurred for environmental protection.

Table 5. Expenditures on fixed assets in environmental protection by type of investment in 2002–2010 (PLN)

Investment directions	2005	2006	2007	2008	2009	2010
Total	5,986,499.9	6,877,759.2	7,520,684.2	8,528,558.0	10,671,926.9	10,926,206.0
Air protection	1,149,526.3	1,804,644.0	1,724,429.9	1,969,191.3	2,109,547.6	2,219,405.5
Pollution protection:	499,917.9	866,979.9	548,684.8	947,383.6	1,402,067.7	1,294,106.0
In the field of air protection	463,292.0	804,635.0	4,995,578.4	737,315.3	1,146,280.2	1,157,757.1
New techniques and technologies of fuel combustion	406,879.4	593,052.4	402,970.6	550,729.9	930,602.5	727,132.7
The modernization of the boiler and thermal	301194.9	437,167.2	301,267.9	549,062.9	9,299,357.4	727,132.7
Non-conventional energy sources	53,130.8	204,608.2	84,548.3	179,856.6	215,677.7	427,056.4
In terms of climate and ozone layer	36,625.9	62,344.9	49,106.4	210068.3	255,787.5	136,348.9
Reduction of pollution:	639,214.7	932,387.8	1,168,429.5	1,015,393.5	699,330.2	917,890.3
In the field of air protection	631,578.2	885,996.7	1,099,303.2	967,175.4	596,583.6	824,852.6
In terms of climate and ozone layer	7,636.5	46,391.1	69,126.3	48,218.1	102,746.6	93,035.7
Measurement, control, laboratory activities	10,393.7	5,276.3	7,315.6	5,414.0	5,942.9	7,189.2
Other activities	–	–	–	1000.2	2,206.8	218.0

Source: own study on the basis of *Ochrona środowiska 2006–2011*, GUS, Warszawa 2006–2011.

Outlays on fixed assets in environmental protection in the years 2002–2010 – presented in Table 5 – are characterized by increasing dynamism for almost the entire period. Expenses incurred for the protection of air were growing slowly in 2006 and were higher by 14.88% in comparison to 2005. In 2007 the growth rate of expenditures increased by only 9.35% in comparison to 2006. Also a slight increase in the growth rate was recorded in 2008 – in comparison to 2007 it rose by 13.4%. The most dynamic environmental expenditure was recorded in 2009 – compared to the year 2008 it grew by 25.13%.

The value of investments was growing over the period, due to which companies had much better opportunities to protect the environment and to act in compliance with legal standards.

However, the year 2007 was characterized by a decline in the growth rate by 4.44% compared to 2006. The decrease in investment in air protection is not a good solution for the protection of the environment, but fortunately in 2006 the highest growth rate of investment in fixed assets in environmental protection was observed, amounting to 56.99%.

In the case of investment in pollution prevention there are the periods of significant growth: in 2006 – 73.42% and in 2008 – 72.66%. There was a sudden slump in 2007 when the value of inputs in the previous year was reduced by 36.71%. The effects of a decision to reduce spending could be disastrous for the environment, but this trend was only temporary.

The pollution reduction is also dominated by the dynamics of the upward trend in the period considered, the expenditure never fell below 639 000 PLN. The average expenditure in 2005–2010 was 895 441 PLN.

In other types of businesses the outlays on fixed assets in environmental protection did not appear before 2008 and they started falling no sooner than in 2010.

Table 6. Sources of financing expenditure on fixed assets in environmental protection in 2002–2010 (PLN)

Sources of funding	Environmental funds (loans, credits, grants)	Domestic credits and loans in the banking	Other measures including unfunded expenditures	Total
2005	1,265,942.1	455,166.9	213,120.7	1,934,229.7
2006	1,207,825.3	786,103.4	246,637.5	2,240,566.2
2007	1,567,976.8	749,298.3	283,374.8	2,600,649.9
2008	1,413,301.8	820,645.3	296,225.6	2,530,172.7
2009	1,953,433.4	1,002,677.4	458,678.2	3,414,789.0
2010	1,516,561.0	1,509,375.3	267,710.3	3,293,646.6

Source: own calculations based on Environmental Protection, CSO.

Comparing sources of funding expenditures in 2005–2010 – as presented in Table 6 – we find that the growth rate of environmental funds in 2006 compared to 2005 was 4.81%. But already in 2007, the dynamics of ecological funds rose to 29.82% compared to 2006, which is undoubtedly an important influence on the

value of investment financing. The year 2008 is characterized by a decrease in the growth rate by up to 9.86%. Two consecutive years show increasing growth in expenditure funding sources, and in 2009 the highest increase over the previous year was recorded, amounting to 38.22%.

A similar situation exists in case of other sources of financing of capital, such as loans and advances – including the bank. The greatest dynamics was recorded in 2006 compared to 2005. That year the dynamics of growth in the form of loans amounted to 72.71%. The decrease in growth by 4.68% was observed in 2007. For other measures, including non-financial investment, the decline in funding expenditures attributable to 2010 amounted to 58.37% in comparison to 2009.

In each year of the study the total value of funding sources also has a variable dynamics. In 2008 a noticeable 2.71% decline in dynamics was observed but the next year we could see an increased growth in the finance expenditure on fixed assets in environmental protection of 34.96%.

It is obvious, therefore, that the legal and economic policy of the Polish government contributed to the development of enterprises and companies operating in the natural environment sector as well as it took over some of their obligations concerning eco-friendly management. The expenditures incurred by companies led to the reduction of the costs incurred by the society.

## Conclusions

The functioning of enterprises is inextricably linked to the environment in which they can expand their business. Their presence and the effects of these activities directly affect the people (staff and users of final product).

Market competition triggers the need for new developments, i.e. the dynamics. The Organic Law establishes a framework of enterprise development, reduce interference with the environment and the development at the expense of the environment. At the same time it imposes the obligation to bear the costs of environmental protection – that contributes to reducing the degradative activities, as well as to implement more and more improved technologies. The dynamics of these costs is increasing, but the percentage of the entire cost structure will become smaller. Through this type of policy for environmental protection the environmental awareness of company employees, consumers, the younger generation should increase.

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## GLOBALIZACJA A KOSZTY ŚRODOWISKOWE – STRUKTURA, KLASYFIKACJA I NAKŁADY

### Streszczenie

Globalizacja we współczesnym świecie – zwłaszcza w sferze ekonomicznej – ma wpływ na rozwój gospodarczy państw, ale jej konsekwencje dotyczą też ludzi. Jako proces o charakterze dynamicznym (w sferze, kapitału, handlu i technologii) przyczynia się też do zacierania różnic między krajami. Rosnąca dynamika gospodarcza krajów, wymogi konkurencyjności, mają też wpływ na środowisko. Kraje Unii Europejskiej stworzyły system prawny i strategię działań proekologicznych, przenosząc część kosztów z tytułu ochrony środowiska na przedsiębiorstwa.

Przedmiotem artykułu są uregulowania prawne związane z ochroną środowiska, a także wynikające z nich zobowiązania przedsiębiorstw do ponoszenia kosztów proekologicznych przedsiębiorstw – w szczególności klasyfikacja i struktura tych kosztów, w porównaniu ze strukturą globalnych nakładów na ochronę środowiska.

Celem natomiast jest przedstawienie analizy porównawczej nakładów na środki trwałe w Polsce w latach 2005–2011, służące ochronie środowiska.

Dynamiczny wzrost tych nakładów decyduje również o wysokości kosztów planowanych w polityce finansowej przedsiębiorstw. Przy tym z roku na rok proekologiczne koszty indywidualne przedsiębiorstw powinny mieć mniejszy udział procentowy w zarządzanych finansach.

**Słowa kluczowe:** globalizacja, koszty ochrony środowiska, nakłady na środki trwałe w ochronie środowiska.

