

ANALYSIS OF COSTS FOR ENVIRONMENTAL PROTECTION IN SR

Dagmar Petrušová²²⁴

Katarína Kráľová²²⁵

Jana Sochuľáková²²⁶

<https://doi.org/10.31410/itema.2018.559>

Abstract: *Today's society is increasingly aware that the damaged and polluted environment has a negative impact on the quality of life of the population. Environmental protection is considered to be a broad spectrum activity. Economic and social activities should be planned and implemented in the framework of environmental and sustainability principles. A significant impact on improving the quality of the environment is the implementation of these principles in the economic activities of both businesses and individual municipalities. The growing importance of environmental protection has an impact on all business activities, not only in the Slovak Republic, but also in all the advanced world economies. Businesses need to adjust to this new trend if they want to achieve competitiveness in the field of sustainable production and environmentally sound production of their products and services on a domestic and, in particular, globalized foreign market. The aim of the paper is to analyze the costs incurred for the protection of the environment in SR conditions.*

Keywords: *environment, environmental protection costs, businesses, municipalities, financing of protection*

1. INTRODUCTION

Humanity has undergone different phases in its development, and in each of them has also influenced the quality and state of the environment. In the first phase - agricultural, first there were simple interventions in the nature (soil cultivation), then later (the grazing of forests and the like), but still the basic condition of man's existence on earth was its coexistence with nature. However, the decisive impact on the quality of the environment was the second phase of the development of the stage of human development, namely industrialization and its consequences, which have been signed under the negative state of the environment. At present, man is not using the environment rationally, too. For reasons of environmental damage in the context of global trends, we primarily consider the causes of development and socio-economic causes. [6]

However causes which are conditional upon development are:

- population growth (linked to the increasing need for food),
- population concentration (migration, problems of large settlements, etc.),
- economic growth (increasing demands of mankind with negative consequences in the primary, secondary and tertiary spheres),

²²⁴ Alexander Dubček University in Trenčín, Faculty of Social and Economic Relations, Študentská 3, 91150 Trenčín, Slovakia

²²⁵ Alexander Dubček University in Trenčín, Faculty of Social and Economic Relations, Študentská 3, 91150 Trenčín, Slovakia

²²⁶ Alexander Dubček University in Trenčín, Faculty of Social and Economic Relations, Študentská 3, 91150 Trenčín, Slovakia

- technical and economic impacts (changes in production technologies, use of motor vehicles, etc.).

Socio - economic causes derive from the environmental functions of the company's economic system and, at the same time, these causes are associated with the external effects that arise from its over - exploitation.

2. PROTECTION OF THE ENVIRONMENT IN THE SLOVAK REPUBLIC

A prerequisite for preserving the environment and its essential components for future generations in the required quality is environmental care and protection. The aim of the contribution is to evaluate the amount of investment for environmental protection and current environmental protection costs, based on data available from the Statistical Office of the SR (ŠÚ SR) for the period 2010-2016. The nature protection is considered by the Slovak Government to be an essential area for the overall development of society. The protection of natural ecosystems and endangered species is ensured through a network of protected areas (7 national parks, 16 protected landscape areas, 584 nature reserves, 260 protected areas and 274 natural sites). The Government of the Slovak Republic, in its Program Declaration for 2016-2020, has committed itself to devoting increased attention to environmental care and creating the conditions for the transition to the economy. A favorable environment is not only the basic right of every citizen of the state, given by the Constitution of the Slovak Republic, but it is also a rare value that has a positive impact on population health and overall sustainable economic growth.

The Program Statement of the Government of the Slovak Republic 2016-2020 also states that the sector of policies for reducing social and regional disparities, the continuous improvement of the quality of life of citizens of the Slovak Republic and the growth of their living standards will be supported. The government will support a transition to a circulating economy ensuring resource efficiency, energy efficiency and reducing environmental impacts. In the field of environmental policy implementation, the government is committed to developing a new environmental strategy based on the principles of sustainable development. The biggest environmental challenges in Slovakia, based on international comparison, are waste management, air quality and forests. For example, municipal waste recycling is one of the worst countries in the EU, and the long-standing problem is the persistent high rate of landfill. Slovakia achieves higher concentrations than the EU average for PM_{2,5}, PM₁₀, ground-level ozone as well as nitric oxide.

Environmental protection costs consist of investment to protect the environment and current costs. Environmental investments (investment costs) are funds spent in the period under review for the construction, purchase or acquisition of capital goods used to protect the environment. Investments can be made by the organizational unit from its own or state resources (special-purpose subsidies and low-level loans) as well as from abroad, through specialized funds (Operational Program Environment, Operational Program Basic Infrastructure), provided loans, grants and subsidies from governmental or non-governmental sources. Current environmental costs are non-investment costs incurred for activities related to environmental protection. Under normal costs, internal organizational costs (in particular wage costs) and costs incurred by the organization for other environmental services are covered by the organization.

3. ANALYSIS OF FUNDING FOR ENVIRONMENTAL PROTECTION IN THE SR, FOR 2006-2016

Environmental expenditures in Slovakia are comparable to those of the V3 countries (Czech Republic, Hungary, Poland) and the EU. More than two-thirds of all expenditures of the Ministry of the Environment of the Slovak Republic and the Environmental Fund come mainly from EU sources, including co-financing (70%), state budget (18%) and State Environmental Fund (10%). Out of the budget of the Ministry of the Environment, the capital expenditures (investments) amount to almost 75%, mainly realized with the support of EU funds. [10] Financial indicators of environmental protection are systematically monitored in the SR by the Statistical Office of the Slovak Republic (SR) for enterprises with a number of employees of 20 or more and for municipalities. The total cost of environmental protection and revenue generated by the sale of products, devices, components and technologies designed to protect the environment are evaluated.

Figure 1: Development of costs of environmental protection in Slovakia in 2006 - 2016 (in thousands of EUR)



Source: Statistical Office of the SR, www.statistics.sk

Environmental costs have a fluctuating trend. In 2016, they reached the amount of CZK 903,800 thousand EUR (of which EUR 287 702 thousand, and current costs EUR 616 098 thousand). Compared to 2006, they decreased by 18.22%, down 23.49% compared to the previous year. The interim environmental review report shows that spending on nature and landscape conservation has reached some 116 million euro's in recent years in Slovakia. Major nature conservation activities have so far been funded by the Structural Funds. [10]

Table 1: Share of costs of enterprises and municipalities in total environmental protection costs (%), 2006-2016

year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
business	86,8	83,0	79,8	76,8	74,5	72,7	71,6	73,0	74,2	81,6	78,3
village	13,2	17,0	20,2	23,2	25,5	27,3	28,4	27,0	25,8	18,4	21,7

Source: Ministry of Environment of the Slovak Republic, www.minzp.sk

The share of corporate costs in total environmental costs decreased from 2006 to 2012, but has been on the rise since 2013. The share of municipal costs increased from 2006 to 2011, reaching a peak of 28.4% in 2012 and a fluctuating trend from that period. The costs of environmental protection in agriculture in 2016 reached 2 298 thousand, and decreased compared to 2010. Costs increased by 45.8% compared to the previous year. The cost of environmental protection in the mining of minerals in 2016 reached 3 689 thousand, and increased compared to 2010. Costs grew by 81.8% compared to the previous year. The costs of environmental protection in industrial production in 2016 reached 189,055 thousand, and decreased compared to 2010. Costs declined by 22.1% compared to the previous year. The costs of environmental protection in the production of electricity, gas and water in 2016 reached 283 816 thousand, and increased compared to 2010. Costs declined by 40.7% compared to the previous year. The costs of environmental protection for specialized producers in 2016 reached 206,332 thousand, and increased compared to 2010. Costs were down by 4.2% compared to the previous year. The cost of environmental protection for other activities in 2016 reached 22 536 thousand, and decreased compared to 2010. Costs declined by 5.1% compared to the previous year.

Table 2: Share of Environmental Protection Costs by Economic Activity in Total Corporate Expenditures (%)

years	2010	2011	2012	2013	2014	2015	2016
agriculture	0,9	0,9	0,5	0,3	0,4	0,2	0,3
mining of minerals	0,3	0,6	0,3	0,3	0,4	0,2	0,5
industrial production	41,0	36,1	34,7	37,5	33,7	25,2	26,7
production of electricity, gas and water	32,4	29,7	31,6	27,4	36,6	49,6	40,1
specialized manufacturers	17,3	21,4	24,3	25,2	24,7	22,3	29,2
other activities	8,2	11,3	8,6	9,2	4,1	2,5	3,2

Source: Statistical Office of the SR, www.statistics.sk

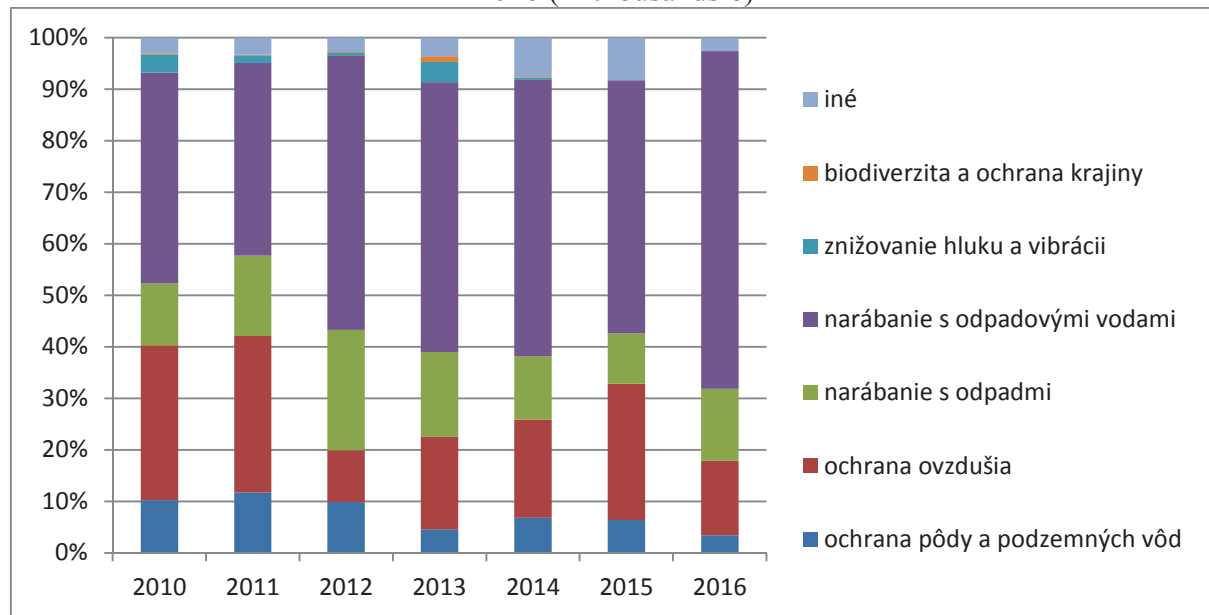
As Table 2 shows in the period under review, the cost of environmental protection decreased by 10% between 2012 and 2013, which was a decrease of CZK 9,774 thousand. €. The largest increase in spending of environmental protection by 14% occurred between 2010 and 2011, representing an increase of € 8,256.

The cost of environmental protection in the area of soil and groundwater protection in 2016 reached 37 797 thousand € and decreased by 22.8% compared to 2009. Costs declined by 37.7%

compared to the previous year. The cost of environmental protection in the area of air protection in 2016 reached 75,336,000, and decreased by 40.5% compared to 2009.

Costs declined by 25.8% compared to the previous year. Environmental costs for noise and vibration reduction and biodiversity and landscape protection were zero. Environmental costs in the area elsewhere in 2016 reached 27,148,000, and increased by 0.8% compared to 2009. Costs declined by 59.3% compared to the previous year.

Figure 2: Development of Environmental Protection Costs in Slovakia by Region in 2010 - 2016 (in thousands €)



Source: Statistical Office of the SR, www.statistics.sk

In 2016, the highest share of total environmental costs was spent on waste management (52%), waste water management (32%) and air protection (8.3%). The highest share of environmental protection costs was spent on waste management (42.4%), wastewater management (39.2%) and air protection (9.2%). The highest share of municipal environmental protection costs went to waste management (87%), waste water management (6.3%) and air protection (5.1%). [11]

4. CONCLUSION

The cost of environmental protection in the Slovak Republic in the period under review has a fluctuating trend. Costs in 2016 increased by 158.3% compared to 2000. There was a year-on-year decrease in environmental protection costs of 23.5%.

The share of the costs of the enterprises in the total costs of environmental protection decreases in the period under review and the share of municipal costs increases. However, the share of the costs of the enterprises is considerably above the cost of the municipalities. In 2016, the share of enterprise costs was 78.3% and the share of municipal costs was 21.7%. The highest share of environmental costs is in the waste management area, with a share of 52% in 2016 (41% in 2009). In the paper, we evaluated the amount of costs that businesses and municipalities spent in a certain period of time (2000 - 2016) to ensure environmental protection, respectively, to eliminate damage or to prevent damage to the environment. Analyzing and evaluating environmental spending can help us to better assess the policies in the area. This expenditure is mainly spent on reducing and eliminating environmental pollution

as well as on prevention itself. Environmental Protection is an area that is integrated into many policies that pursue one common goal of achieving sustainable development.

REFERENCES

- [1] Adamišin, P. (2008) *Metodologické prístupy hodnotenia environmentálnych investícií ekonomického hľadiska*. In: Zborník vedeckých prác Katedry ekonómie a ekonomiky PU Prešov, pp. 8 -14
- [2] Adamišin, P., Huttmanová, E. (2008) *Manažment ohrozených oblastí*, Royal Unicorn, košice, pp. 159
- [3] Králiková, R., Rovňák, M.(2003) *Implementácia Environmentálnych stratégií v životnom cykle strojárskych výrobkov*, STU, Bratislava, pp.54-58
- [4] Majerník, M., Virčíková, E., Bosák, M., CHovancová, J., Húsková, V. (2007) *Posudzovanie vplyvov činností na životné prostredie*, Stredoeurópska vysoká škola v Skalici, pp. 276
- [5] Morovská, I. (2008) *Možnosti podpory a rozvoja jednotlivých regiónov Slovenska prostredníctvom využitia štrukturálnych fondov*. In:Zborník príspevkov z konferencie Projektový management - teórie a praxe. UTB, FMK, Zlín, pp. 29
- [6] Romančíková, E. (2004) *Finančno – ekonomické aspekty ochrany životného prostredia*, ECO INSTRUMENT, Bratislava, pp. 270
- [7] Rovňák, M., (2006) *Aktuálne informácie z oblasti integrovanej prevencie a kontroly znečistenia životného prostredia* In: Novus Scientia 2006: IX. vedecká konferencia doktorandov SF TU Košice, pp. 473-477
- [8] www.sazp.sk
- [9] www.statistics.sk
- [10] www.minzp.sk
- [11] <http://enviroportal.sk>