

# ENVIRONMENTAL TAXES AS A CONDITION OF BUSINESS RESPONSIBILITY IN THE CONDITIONS OF SUSTAINABLE DEVELOPMENT

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## ABSTRACT

*The generalization of the theoretical foundations of the world's leading scientists has made it possible to systematize the essential characteristics of environmental taxes. It was determined the relevance of building an effective system of functioning of environmental taxes, given the importance of environmental problems in the ranking of global problems of mankind. The experience of European countries in the field of environmental taxation was summarized and analyzed, which indicates the presence of a wide range of types of environmental taxes, as well as the popularity of environmental tax reforms in the most developed countries of the world by type.*

**Keywords:** Environmental Taxation, Sustainable Development, Environmental Surplus, Green Tax Reforms, Energy Taxes.

**JEL Classifications:** K21.

## INTRODUCTION

At the present stage of development of society, environmental problems, associated with the preservation and restoration of the natural environment, occupy an important place among the global problems of mankind to ensure compliance with the priorities of sustainable development. The traditional instrument that the state applies in limiting the harmful effects of economic activity on the state of the environment is environmental taxes. At the same time, constant modifications of environmental taxation systems in the direction of finding the most effective approach necessitate the development of ways to maximize the potential of environmental taxes as an instrument to minimize the irrational use of the environment. That is why there is an urgent problem of assessing the impact of environmental taxes on the environment, as well as revising the conditions for applying financial and economic levers of influence in order to increase their efficiency.

The scale of environmental problems, the growth of environmental pollution require the direction of environmental policies and enterprises to eliminate them and encourage them to search for instruments of environmental and economic management based on the principles of sustainable development.

## REVIEW OF PREVIOUS STUDIES

Climate change is recognized as the greatest threat to nature and humanity in the 21st century. In combating climate change and overcoming its negative consequences, international organizations and leading countries of the world joined forces, thus the direction of their joint work was to prevent the consequences of environmental challenges, which is primarily in promoting the development of renewable energy and improving the energy efficiency of economic sectors (Tetiana et al., 2018).

A large number of international treaties, conventions of ecological nature are an evidence of the growing scale and intensity of the impact of human activity on the environment.

The first international agreement on global warming was the United Nations Framework Convention on Climate Change (Convention) in 1992 (the document was ratified by 195 countries of the world and contains common goals and principles for uniting the world community). Experts recognized the fact that to solve the environmental problems of our time, it is necessary to take into account not only technological, but also economic and legal aspects, therefore the Kyoto Protocol (1997) became the legal continuation of the Convention. The main objective of the Protocol and the Convention is to stabilize the level of harmful substances of anthropogenic origin in order to prevent negative environmental impacts (Bailey, 2017; Kaźmierczyk & Akulich, 2018).

The document sets restrictions on the emissions of direct-acting main greenhouse gases that have the most negative impact on the atmosphere-carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride (SF<sub>6</sub>). A specific feature of the Protocol is several flexible regulatory mechanisms or so-called market mechanisms: emissions trading, its main point is that each participating country, in accordance with the number of population, their occupation and access to natural resources, receives the right to implement well-defined emissions (Schroeder, 2018; McDowall et al., 2017). If the country manages to reduce the amount of emissions, then part of the quota can be sold on the market, therefore, greenhouse gas emissions are reduced by those participating countries that can do it at the lowest cost; joint implementation mechanism-countries can unite and jointly implement a project related to reducing greenhouse gas emissions, if a country accepts such a project, it in turn becomes a seller of emission reduction units, and the rest of the participating countries invest in the project against the background of receiving additional permits for emissions; clean development mechanism allows countries to implement emission reduction projects in “*exclusion*” countries specified in the Kyoto Protocol (Dźwigoł et al., 2019; Kamińska, 2018).

That is, subject to compliance with the Protocol, the environment is improved by reducing emissions into the atmospheric air, but it also reduces emissions in those countries and sectors of the economy where this can be done with the lowest total cost.

Ecological taxation is represented in every country of the world, regardless of its form. The founder of the theory of environmental taxation is Pigou, (2005), who proposed to influence the behavior of those responsible for pollution of the ecosystem through collecting mandatory payments, thereby encouraging society to use environmental products and reducing emissions.

Subsequently, the European Union Program approved the need to use environmental taxation; the main principle-“*the polluter pays*”, that is, if an individual or a legal entity pollutes the air, water, soil, then it is financially responsible for the pollution and must provide funds for programs to reduce environmental pollution (Maes & Jacobs, 2017; Davies, 2017; Lakhno et al., 2018).

## METHODS

The theoretical and methodological basis of the work is the objective fundamental provisions of modern environmental taxation. In the process of the study, both general scientific and special methods of cognition were used: analysis and synthesis-when characterizing the mechanism of environmental taxation in the countries of the European Union and detailing its functional and structural components; graphical and tabular methods - for a visual image of the results of the study.

## RESULTS AND DISCUSSIONS

First of all, you should pay attention to the fact that in Europe there is no single unified system of such payments. The concept of environmental tax is used to collect statistics on revenues from such payments and is treated as a tax, the tax base of which is a physical unit that has a specific, proven negative impact on the environment (Karpenko et al., 2018).

Considering the above, environmental payments in the EU include such groups of payments:

1. Energy taxes-taxes on energy products, including coal, petroleum products, gas, electricity, fuel, etc.
2. Transport taxes-payments for the import, operation, utilization of vehicles, from their sales and resale.
3. Taxes on environmental pollution-payments for direct emission of pollutants into the air, discharges into water bodies and noise pollution.
4. Taxes on the use of natural resources-for mining, water intake and the like.

From this list it is clear that the environmental tax in the EU covers a much wider range of mandatory payments than the concept of “*environmental tax*” according to the norms of domestic legislation. It is worth to note that the lion’s share of revenues is generated by energy and transport taxes-about 2/3 of all revenues from payments related to the natural environment. Resource use and pollution taxes in the EU provide much less revenue. However, even under such conditions, these revenues are tens and hundreds of times higher than income from similar payments in Ukraine, if we take it in shares of the total amount of tax revenues.

The introduction of the system of environmental payments in Europe at the end of the twentieth century took place within the framework of the so-called environmental tax reforms structural reorganizations of tax systems with the introduction of environmental payments into them and a simultaneous decrease in the tax burden on wages. As a result, a win-win situation arose: due to the introduction of environmental payments, protection of the environment was stimulated, and income taxation was significantly reduced.

Indeed, we cannot talk about the need to fully transfer the experience of the EU countries in terms of green tax reforms, but it would be advisable to take some aspects into account. Thus, in European countries, the main function of environmental taxation is to regulate the activities of economic agents so that their activities cause less pressure on the environment.

Now foreign countries apply about 500 varieties of environmental taxes. Based on the characteristics of applying environmental taxes, you can define a list of their main objectives: special purpose funding, in which the paid environmental taxes are accumulated into a separate environmental budget, the funds of which are used exclusively for the intended purpose (Swiss experience); encouraging enterprises to introduce innovative technologies to reduce the negative impact on the environment, thereby increasing the subsidies for the payment of the mandatory payment (the experience of Denmark, Spain); institutional restructuring, enhancing the efficiency

of public administration in the environmental field, improving domestic policies aimed at reducing emissions and/or increasing absorption, for example, of greenhouse gases (the experience of Latvia).

At the same time, environmental taxes in European countries can be classified according to the object of taxation, which mainly uses the volumes of substances or wastes that are dangerous to the ecosystem and the health of citizens, which are formed as a result of the action or inaction of business entities.

The environmental tax is the result of an assessment of the accounting of resources for the formation of GDP, in order to ensure an environmental surplus in ideal conditions. However, today most countries in the world are experiencing an environmental shortage, using more resources than an ecosystem, within their borders, can recover. In some parts of the world, the consequences of environmental deficit can be devastating, leading to loss of resources, collapse of ecosystems, debt, poverty, hunger and war. Therefore, it is advisable to analyze the share of environmental tax in GDP as a percentage (Table 1).

In order to analyze international experience, in order to introduce the best international practices in Ukraine, 16 European countries were selected, in which effective instruments operate to reduce the overload on the ecosystem, stimulate resource efficiency and reduce waste generation.

Country	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Belgium	2,27	2,22	2,14	2,18	2,21	2,25	2,15	2,08	2,08	2,11
Bulgaria	2,83	3,19	3,28	2,85	2,75	2,68	2,67	2,8	2,73	2,9
Czech Republic	2,38	2,32	2,26	2,31	2,29	2,34	2,23	2,13	2,09	2,09
Denmark	4,68	4,74	4,17	3,99	4,02	4,02	3,97	4,14	4	3,99
Estonia	2,19	2,19	2,32	2,94	2,93	2,73	2,73	2,57	2,7	2,75
Spain	1,83	1,77	1,63	1,61	1,63	1,58	1,57	1,91	1,87	1,89
Croatia	3,77	3,69	3,44	3,37	3,66	3,31	3,19	3,51	3,87	4,11
Latvia	2,23	1,93	1,85	2,3	2,43	2,46	2,44	2,45	2,67	2,7
Lithuania	1,8	1,75	1,63	2,02	1,83	1,69	1,64	1,64	1,69	1,81
Hungary	2,79	2,77	2,68	2,62	2,75	2,63	2,71	2,59	2,56	2,65
Poland	2,65	2,74	2,64	2,51	2,71	2,63	2,58	2,41	2,57	2,65
Romania	1,92	2,04	1,75	1,86	2,09	1,93	1,97	2,04	2,34	2,43
Slovenia	2,96	2,95	2,95	3,49	3,62	3,46	3,83	3,97	3,89	3,92
Finland	2,91	2,66	2,6	2,53	2,68	3,02	2,98	2,93	2,9	2,92
Sweden	2,61	2,52	2,57	2,68	2,59	2,41	2,4	2,36	2,2	2,22
UK	2,21	2,28	2,28	2,43	2,5	2,47	2,46	2,48	2,46	2,47

**Source:** Compiled by the authors according to the data ([http://ec.europa.eu/eurostat/statistics-explained/index.php/Environmental\\_tax\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Environmental_tax_statistics))

Assessing the environmental condition of the countries of the European Union, it should be noted that, starting from 2006, there has been an increase in the share of environmental taxes in GDP among a number of countries. Thus, in Croatia, as of 2015, the share of environmental tax in GDP is 4.11%, which is 0.34 % more than in 2006, so it is worth noting that fiscal revenues play an important role, and the main objective on reducing pollution in this country is being performed. The next country that demonstrates the growth of the indicator under

consideration is the United Kingdom; for ten years the government of this country managed to increase the share of environmental tax in the gross product of the country by 0.26%, the main tax, which accounts for 90% of the total environmental revenues, is different types of transport tax. The Slovenian government introduced a green budget reform, which influenced the overall share of environmental revenues in 2015 it amounted to 3.92% of GDP, so Slovenia is considered one of the most environmentally friendly countries in Europe.

Other countries studied by us demonstrate sustainable development; the governments of these countries pay great attention to the issue of ecology. For example, Denmark subsidizes the development of equipment, technologies, alternative energy sources, develops energy saving measures. In Estonia, the share of environmental taxes in GDP is on average with respect to EU countries, but the structure of environmental taxes in Estonia differs from that of other EU countries-for example, transport taxes as a road tax or an annual tax on the use of vehicles that are common in other EU countries do not exist in Estonia. It should be noted that in Latvia all the factors causing environmental pollution are subject to taxation, while the rates are specific for each product, and they are based on the amount and volume of the resource. The environmental tax rates in Romania are low, but their share in the country's GDP is 2.43%, and the most important mandatory payment is the energy tax, which accounts for 95% of all environmental revenues. Environmental issues in Sweden are handled by a separate government agency that has adopted 16 general environmental quality objectives. An important element is that 99% of the country's waste is recyclable, and the environmental tax is an effective fiscal lever for reducing the burden on the environment.

It should be noted that in Belgium, the share of environmental revenues in 2015 decreased by 0.16% compared with the same indicator in 2006, which may be due to the "green" tax reform.

The results of our study are confirmed by the following studies. In combating climate change and overcoming its negative consequences, international organizations and leading countries of the world joined forces, thus the direction of their joint work was to prevent the consequences of environmental challenges, which is primarily in promoting the development of renewable energy and improving the energy efficiency of economic sectors (Tetiana et al., 2018).

## RECOMMENDATIONS

It has been recommended to create an Ecological Fund in Ukraine, activities of which will involve the accumulation and use of resources from the receipt of environmental taxes. This will increase the quality of life of the population and improve the environment through the special-purpose financing. For today it is important to evaluate not only the prospects of implementation of this Ecological Fund, but also the consequences of such a decision. Income from environmental taxes will be directed to the formation of a separate fund, the main purpose of which is the special-purpose financing by types, which will make it possible to respond quickly to environmental changes and changes in human development. However, the main question, that remains, is not the place of accumulation of financial resources from the receipt of environmental taxes, but the efficiency of spending the resources received, which indicates the need to pay attention to the issues of transparency and accountability of the activities of such a fund.

## CONCLUSION

It should be noted that environmental taxes significantly contribute to solving not only environmental, but also demographic, social and economic problems of mankind. For example, in Denmark, the greatest attention is paid to the issue of ecology and its protection, which is caused by the effective use of Green Tax Reform. Another no less ecological country is Slovenia, which government introduced Green Budget Reforms that contribute to sustainable human development, and make it possible to stay among the leading countries in the field of nature conservation and sustainable use.

Environmental taxes are considered an effective environmental policy instrument and are used to combat pollution. And from the point of view of the concept of sustainable development, the use of the economic mechanism in environmental activities contributes to the development of innovative technologies, forcing polluters to use more environmentally friendly or create new technologies.

## REFERENCES

- Bailey, I. (2017). *New environmental policy instruments in the European Union: politics, economics, and the implementation of the packaging waste directive*.
- Davies, P.G. (2017). *European Union environmental law: An introduction to key selected issues*. Routledge.
- Dźwigoł, H., Dźwigoł-Barosz, M., Zhyvko, Z., Miśkiewicz, R., & Pushak, H. (2019). Evaluation of the energy security as a component of national security of the country. *Journal of Security and Sustainability Issues*, 8(3), 307-317.
- Kamińska, B. (2018). Iterative signal processing in anticipatory management of industrial enterprise development. *Virtual Economics*, 1(1), 53-65.
- Karpenko, L., Serbov, M., Kwilinski, A., Makedon, V., & Drobyazko, S. (2018). Methodological platform of the control mechanism with the energy saving technologies. *Academy of Strategic Management Journal*, 17(5), 1-7.
- Kaźmierczyk, J., & Akulich, M. (2018). The socio-economic approach to the study of modern economic systems. *Post-Capitalism Management*, 22(2), 299-310.
- Lakhno, V., Malyukov, V., Bochulia, T., Hipters, Z., Kwilinski, A., & Tomashevskaya, O. (2018). Model of managing of the procedure of mutual financial investing in information technologies and smart city systems. *International Journal of Civil Engineering and Technology*, 9(8), 1802-1812.
- Maes, J., & Jacobs, S. (2017). Nature-based solutions for Europe's sustainable development. *Conservation Letters*, 10(1), 121-124.
- McDowall, W., Geng, Y., Huang, B., Barteková, E., Bleischwitz, R., Türkeli, S., & Doménech, T. (2017). Circular economy policies in China and Europe. *Journal of Industrial Ecology*, 21(3), 651-661.
- Pigou, A., (2005). *The economics of Welfare*. Cosimo Classics. New York.
- Schroeder, D. (2018). *Work Incentives and Welfare Provision: The pathological theory of unemployment*. Routledge.
- Tetiana, H., Chorna M., Karpenko L., Milyavskiy M., & Drobyazko S. (2018). Innovative model of enterprises personnel incentives evaluation. *Academy of Strategic Management Journal*, 17(3), 1-20.

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