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FORMATION OF THE INCENTIVE ROLE OF THE ENVIRONMENTAL TAX IN UKRAINE

Purpose. Developing trends for increasing the effectiveness of environmental tax as an institutional means of environmental protection and optimization of the tax burden.

Methodology. A set of scientific methods and approaches was used in the research, which provided an opportunity to form a conceptually integrated scientific work. For this purpose, the following was used: content analysis method – to study the regulatory framework of the environmental tax; abstract-logical approach – to analyze the differences between the revenues of the environmental tax to the budget and the amount of funds planned and funds spent on environmental protection; integrated system approach – to compare environmental taxation in the European Union and Ukraine; method of logical generalization – to make proposals on how to increase the efficiency of the environmental tax, optimize the tax burden and align with Ukraine's international obligations.

Findings. A comparative analysis of environmental taxation in the European Union and Ukraine is conducted. The existing differences by types of environmental tax, the share of these types in the total amount of environmental tax and the purpose of environmental taxation in European countries and Ukraine are indicated. The dynamics of ecological tax revenues to the State budget and budget expenditures for environmental protection is studied. Trends in the dynamics of taxation, in particular, in creating a gap between revenues and expenditures are established. There is a tendency to form a significant gap in the amounts of environmental tax paid by enterprises. It is stated that only ten enterprises pay more than half of the country's environmental tax.

Originality. The necessity of formation of the role of ecological taxes stimulating preservation of the environment is pointed out and particular directions of formation of such incentives are offered. Proposals for environmental tax policy have been developed. It is stated that the increase in the environmental tax should be consistent with the overall tax burden per capita. Increasing the environmental tax also requires a preliminary detailed analysis of how the impact of its increase will affect each large enterprise and industry and determination of approaches to increasing the environmental tax differentiated according to transparent principles.

Practical value. Recommendations are provided on how to increase the efficiency of the environmental tax as an institutional means of environmental protection, specific steps are proposed to optimize the tax burden and promote the norms approved by the Paris Climate Agreement and the Association Agreement with the EU.

Keywords: *environmental tax reform, tax system, energy/carbon taxation, consolidated budget, tax burden*

Introduction. Environmental tax reforms are long overdue. S. Ockerfeldt, an employee of the Swedish Ministry of Finance, points out that tax policy, as a tool for these reforms, “is not space technology. It merely needs to be implemented confidently according to a strategic plan” [1]. That is what her country has been doing for thirty years increasing the environmental tax for exceeding the norms of emissions into the environment according to the plan. But even Sweden's European neighbors, in particular France, plan to reach its level in just 15 years (Eurostat (2021). Environmental protection expenditure).

This is due to the fact that the increase in tax pressure, including environmental taxes, leads to mass protests, as it strongly affects the condition of the poorest population [1, 2]. Therefore, the European Union declares the Environmental tax reform (ETR) as a comprehensive reform of the taxation scheme, when the growth of the environmental tax should be accompanied by a reduction in other taxes, in particular, labor taxes regardless of income received by the working population [1].

Implementation of the decisions of the Paris Agreement of 2015, the long-term EU strategy on environmental emissions and harmonized regulations of Ukraine will be aimed at promoting the change in outdated technologies, reducing the use of fossil energy sources and so on. All this should lead to a reduction in tax revenues from environmental taxes, and is projected to be accompanied by a decrease in budget revenues from ETR and therefore should be consistent with the current tax system.

So far, as the analysis shows, for more than 20 years the amount of the total environmental tax has been fluctuating

with small deviations around the value of ~2.5 % of GDP (GDP) of the EU.

The environmental tax introduced in Ukraine cannot be compared to the complex ETR system in the EU. For example, in 2018, an environmental tax of UAH 3 billion was collected. According to the data (The State Treasury Service of Ukraine, 2020; The State Statistics Service of Ukraine, 2020), more than 55,000 enterprises have to report only for the introduced new carbon tax. It is the tax administration of such a large number of environmental taxpayers that will be a difficult task and will cost a lot of money [3, 4].

At the same time, the Cabinet of Ministers again insists on raising the environmental tax to replenish the budget. But, obviously, following the example of the EU, Ukraine needs a comprehensive reform of environmental taxation.

Literature review. Ukrainian scientists and scientists from other countries have devoted a significant part of their work to the problem of introducing effective environmental taxes. The need for environmental tax reform and, in particular, the feasibility of a carbon tax has been studied in detail in [5]. The impact of environmental tax on the development of the Chinese economy is considered in [6, 7]. In [8], a four-dimensional dynamic system was used for this purpose. The optimal environmental taxation is considered in [9].

[10] proves the need for a “price signal” of environmental taxation in France, despite protests against the increase in the carbon tax. The same issues are discussed in detail in [11, 12]. An assessment of the impact of the carbon tax on energy costs and economic performance of firms is given in [13]. Environmental taxes as an incentive to protect the environment rather than a fiscal tool are studied in [14]. A comprehensive review of the environmental tax, employment and pumping up the

state budget was conducted in [15]. The way in which the deferral of tax benefits affects taxpayer support for the relevant lag in time has been studied in [16].

Problems of ecological taxation in Ukraine and tools for their solution are considered in [17, 18]. The article [19] considers the non-legal aspects of the environmental tax in Ukraine and draws attention to the need of this tax to perform environmentally-oriented tasks. The ineffectiveness of environmental taxation in Ukraine was studied in [20]. As a sign of the fiscal orientation of the environmental tax, the dependence of its revenues on the season and the reduction of capital expenditures of enterprises on innovations aimed at environmental protection is studied [20].

The possibility of applying the EU experience in environmental taxation to Ukrainian realities is considered in articles [18, 19].

In the scientific work [12, 13] the importance of the ecological tax in the structure of the consolidated budget of the country is estimated and the assessment of fiscal efficiency of the tax system of the state in comparison with the countries of the European Union is given.

Tax regulation as a tool of institutional influence on enterprises that pollute the environment, a detailed analysis of the current state of environmental taxes and the peculiarities of the impact on the activities of the taxpayers are considered in the article [14, 15].

Unsolved aspects of the problem. A wide range of environmental taxation issues that are considered by Ukrainian and foreign scientists left unresolved the issue of applying the experience of the European Union to improve the efficiency of environmental tax in Ukraine. The ways of directing the specified tax to solving, first of all, tasks of the environment protection instead of only replenishment of budgets of all levels – from the state to local – are not studied. The relationship between the incentive function of the environmental tax in Ukraine and the function of the budget replenishment has not been studied as well.

Purpose. The purpose of the article is to study the areas of increasing the effectiveness of environmental tax as an institutional means of environmental protection and optimization of the tax burden.

Methods. A set of scientific methods and approaches was used in the research, which provided an opportunity to form a conceptually integrated scientific work.

For this purpose, the following was used: the method of content analysis – to study the regulatory framework of the environmental tax; abstract-logical approach – to analyze the differences between the revenues of the environmental tax to the budget and the amount of funds planned and funds spent on environmental protection; integrated system approach – to compare environmental taxation in the European Union and Ukraine; method of logical generalization – to make proposals on how to increase the efficiency of the environmental tax, optimize the tax burden and align with Ukraine's international obligations.

Results. Today, the indicator of environmental tax revenues is accounted for by the Ministry of Finance to the SFS as a whole by three main groups of revenues by budget revenue classification codes (hereinafter – BRCC), namely: 19010100 “Revenues from pollutant emissions into the air by stationary sources of pollution”, 19010200 “Revenues from discharges of pollutants directly into water bodies” and 19010300 “Revenues from waste disposal in specially designated places or facilities, except for disposal of certain types of waste as secondary raw materials” (The State Statistics Service of Ukraine, 2020).

The mechanism of encouraging environmental polluters to comply with environmental norms and rules by overstating the fine beyond the cost of preventing damage, in the current version of the Tax Code is already applied to discharges that pollute water bodies that exceed the limits imposed on them.

The environmental tax on such discharges is set with a tenfold increase.

Analyzing the tax burden, in particular, its environmental component, of foreign countries we can distinguish, first of all, its differentiated nature with a significant tax burden increase for those companies that exceed emission standards. It is also characteristic, as our study has shown, that a relatively high tax burden is observed in countries with high incomes.

In this respect, Ukraine differs in the fact that the population has a low average income per capita compared to the European Union, and the tax burden is significant. Its level corresponds to the level of the tax burden of such wealthy countries as Great Britain, Switzerland and Germany.

At the same time, the rates of environmental tax in Ukraine are lower than the corresponding rates of the European Union (Fig. 1) and the proposals of the Ukrainian government to increase it are clear. But the increase in the environmental tax must, firstly, be consistent with the total tax burden per capita; secondly, it is necessary to analyze its impact on the economy and accordingly determine a differentiated approach to increasing the environmental tax for each industry; thirdly, the increase in the environmental tax should be planned, gradual, predictable and differentiated depending on the types and amounts of emissions.

It is also important to understand environmental taxation to analyze the dynamics of environmental tax revenues to the budget, in particular, in terms of regions.

Analysis of the dynamics of environmental taxation, comparison of environmental tax revenues and expenditures on urgent environmental measures (Fig. 2) proves that the existing mechanism for allocating environmental costs does not facilitate the solution of environmental problems in the country as a whole or at the local level.

The analysis of discrepancies between the revenues of the environmental tax to the budget and the amount of funds planned for environmental protection and actually spent on it,

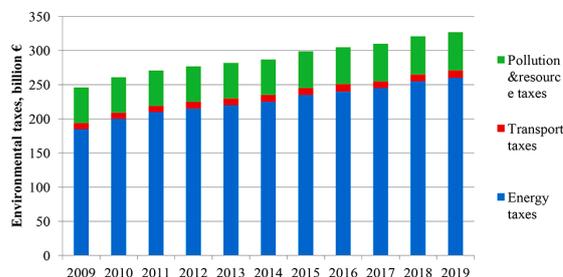


Fig. 1. Environmental tax revenue by type (developed by the authors on the basis of (The State Treasury Service of Ukraine, 2020; The State Statistics Service of Ukraine, 2020)

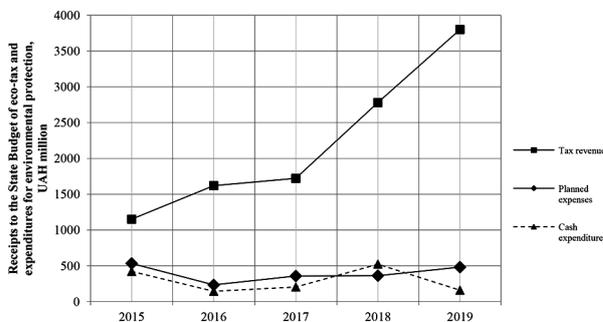


Fig. 2. Comparison of the dynamics of revenues to the State Budget of the environmental tax and expenditures for environmental protection (developed by the authors on the basis of (The State Treasury Service of Ukraine, 2020; The State Statistics Service of Ukraine, 2020)

indicates a significant misuse of these funds. The existence of such differences does not comply with the Law of Ukraine “On Environmental Protection” and is not consistent with the provisions of the Association Agreement with the EU.

The analysis of the dynamics of revenues and expenditures shown in Fig. 2 shows that these differences for the period from 2017 tend to increase.

The Directorate of Taxes and Customs Duties of the EU differentiated environmental taxes into separate groups, namely: energy – motor and power generating fuel, electricity; transport – for the distance traveled by vehicles and an additional annual tax on the owner of the vehicle, and excise tax on the purchase of a vehicle; for air and surface water pollution; for the use of landfills for the accumulation of garbage and its processing; for emissions of substances that lead to global changes in the biosphere; for noise load on the environment; for the use of natural resources. The largest share among these taxes belongs to the energy tax (more than 70 % of the total environmental contribution) and the transport tax (more than 20 % of the total environmental contribution). Data for detailed analysis and comparison results are presented in Fig. 1.

European Union environmental taxes can also be classified for the purpose of collecting them. First, they are to stimulate environmental protection, secondly, to cover the costs of environmental protection (environmental restoration, monitoring, and so on), and thirdly, to replenish state and local budgets [8].

We observe a completely different situation with the goals of the environmental tax in Ukraine.

From year to year the Ukrainian government has put forward initiatives to increase the environmental tax. Thus, in 2017 the environmental tax was increased by 12 %, in 2018 – by 11.2 %, in 2019 the tax on carbon dioxide emissions increased ~25 times.

The same situation was with the introduction of the bill No. 4101 in 2020 on amendments to the Tax Code of Ukraine and other laws of Ukraine, in terms of the environmental tax. Of the projected UAH 11 billion revenues in 2021, UAH 64.6 million is planned for environmental protection measures which is 7 times less than in 2019.

The analysis shows significant differences in the formulation of the environmental tax by its types in the EU and Ukraine (Figs. 1 and 3).

Unfortunately, the explanatory note to Bill No. 4101 does not contain specific substantiation for promoting this initiative to achieve the goal of reducing environmental pollution.

That is, the purpose of the Bill No. 4101 is to solve a purely tactical task of urgent budget replenishment without forming a comprehensive strategic vision of solving environmental problems and identifying ways and stages of work to achieve

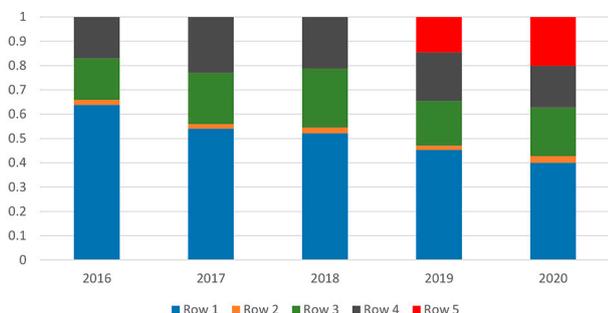


Fig. 3. The share of the annual payment of the total amount of environmental tax:

row 1 – emissions into the atmosphere; row 2 – surface water pollution; row 3 – waste disposal at landfills; row 4 – generation and storage of radioactive waste; row 5 – for air emissions of dioxide carbon (developed by the authors on the basis of (The State Treasury Service of Ukraine, 2020; The State Statistics Service of Ukraine, 2020

environmental ideas. In particular, as can be seen from Fig. 2, in 2019, the revenues of the environmental tax to the State Budget amounted to 3800 million hryvnias, and out of the planned 481 million hryvnias for environmental protection, 157 500 thousand hryvnias was spent.

The disproportion revealed by the research on ecological tax revenues between allocated monetary resources for nature protection projects and funds spent on these projects (Fig. 2) continues throughout the period under consideration.

This indicates that the incentive function of the environmental tax, in accordance with the approaches of the European Union, is neutralized in Ukraine. The fiscal burden on business is growing and this limits the ability of enterprises to direct financial resources to upgrade environmental technologies and purchase the necessary equipment.

Nevertheless, enterprises understand the need for capital expenditures on environmental measures – in 2019 expenditures for these purposes grew by 27 % compared to the previous year, which amounts to 43.7 billion hryvnias. But this is only ~1/10 of the planned 2019 budget funds for the purpose and it is not enough for the systematic renewal of the technological park of enterprises and changes in environmental protection. The study found that this renewal does not reduce the level of environmental tax payment in the country as evidenced by the results of the analysis presented in Fig. 3.

Analysis of the data presented in Fig. 3 indicates that with the growth of the total environmental tax (from 4.7 billion hryvnias in 2016 to 5.5 billion hryvnias in 2019) there is an annual trend to reduce the share of tax on emissions into the atmosphere from the total amount of environmental tax, insignificant fluctuations for surface water pollution and for the generation and storage of radioactive waste. The share of surface water pollution in the environmental tax is unchanged. At the same time, during the period of introduction of the new type of environmental tax, there is an increase in the share of the total amount of environmental tax for air emissions of carbon dioxide. The analysis of the data presented in Fig. 3 confirms the thesis not so much about stimulating functions of environmental taxes, but about the function of budget replenishment.

The analysis also showed that the reduction of carbon dioxide emissions into the atmosphere by Ukrainian enterprises, especially by powerful associations of the energy sector, the pollutants (Table 1) will require not so much the use of additional air purification systems, but rather a radical restructuring of the technologies which are used by these enterprises.

This task will require significant capital expenditures, significant preparatory work and, in some cases, a significant reduction in production capacity for a long time, which can lead to a significant reduction in production. Therefore, a radical reduction of carbon dioxide emissions by major pollutants (rating positions 2, 3, 4, 6, 7 Table 1) is currently impossible. That is, as the study shows, the stimulating role of the tax on carbon dioxide emissions is absent. This proves that the tax on carbon dioxide emissions pursues only the purpose of the budget replenishment.

Ten enterprises – the largest payers of environmental tax in 2020 (for the period January–October) paid 69.2 % of the total environmental tax of the country (Table 1). As can be seen from Table 1 these are mainly energy companies, but the last positions in the ranking of the ten largest payers of the environmental tax are also taken by mining and processing plants – PJSC PivnHZK and Poltava HZK (KKBB 19010300). In terms of certain types of the environmental tax, each of these companies rises in rating and occupies a leading position. For example, NNEGC Energoatom is the country’s main payer of the radioactive contamination tax.

The analysis by regions gives even more impressive estimates. For example, in Lviv region 94.8 % of the region’s environmental tax is paid only by DTEK Zakhidenergo JSC, in Ivano-Frankivsk region – 73.6 % of the region’s environmen-

Table 1

The largest payers of the environmental tax in 2020

No./No.	Name of Company	Total amount of environmental tax paid, UAH million	Share of the total environmental tax of the country, %
1	NNEGC Energoatom	601.0	17.1
2	DTEK Zakhidenergo JSC	379.6	9.8
3	PJSC Centerenergo	338.0	9.7
4	DTEK Dniproenergo JSC	262.1	7.5
5	PJSC Arcelor Mittal Kryvyi Rih	249.9	7.1
6	Skhidenerho LLC	183.3	5.2
7	PJSC Donbasenergo	129.7	3.7
8	PJSC MMK named after Ilyich	123.7	3.5
9	PJSC PivnHZK	107.1	3.1
10	PJSC Poltava HZK	88.7	2.5

tal tax is paid by Ivano-Frankivsk Cement PJSC, in Zaporizhzhia region 90 % is paid by JSC DTEK Dniproenergo, in Mykolaiv 81.3 % is paid by MZG LLC, and so on. Of course, the environmental tax of such enterprises is a significant addition to the budget of the regions where they are located.

For such enterprises, which have “monopolized” environmental pollution of entire regions, it seemed appropriate to reduce the payment of environmental tax while introducing the nature preservation technology. But, obviously, the lack of incentive function of the environmental tax contributes to further environmental pollution by these enterprises.

Conclusions. Realizing the importance of replenishing the budget during the crisis and the need to direct also revenues from the payment of environmental tax for these purposes, we consider it extremely important to form the following environmental tax goals: first, stimulating environmental protection, and secondly, full coverage of environment conservation costs (restoration of the environment, monitoring, and so on) without allowing a significant gap between the planned expenditures for these purposes and actual costs.

We emphasize that the increase in the ecological tax should, firstly, be coordinated with the general tax burden per capita; secondly, it is necessary to analyze the impact of the increase of the ecological tax on each branch of economy and to determine increase of the ecological tax by branch; thirdly, increase in the ecological tax should occur in a planned, gradual manner and differentiated depending on the types of emissions.

Proposals for the formation of the incentive function of the environmental tax are as follows:

1. Only an increase in the tax for the bulk of pollutants by an amount greater than the cost of reducing emissions into the environment by enterprises, especially for exceeding the norms established for them, can provide a stimulating role to environmental taxes.

2. Priority should be given to increasing the environmental tax for emissions with the most toxic components, especially for those components that are the least costly to be removed from emissions.

3. To create a mechanism for fiscal incentives for enterprises to introduce technological renewal of their own production (or region of its location) by compensating all or most of the costs ($\geq 70\%$) for environmental projects, for example, with a corresponding targeted reduction of environmental tax.

4. To reduce the tax on carbon dioxide emissions by bringing the relevant pollution tax rates in line with the EU standards.

5. To direct most of the revenues ($\geq 50\%$) from the environmental tax purely to environmental protection and tightly control the targeted use of these funds.

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Формування стимулюючої ролі екологічного податку в Україні

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Мета. Виявлення напрямів нарощування ефективності екологічного податку як інституційного засобу охорони довкілля та оптимізації податкового навантаження.

Методика. При виконанні наукового дослідження використана сукупність наукових методів і підходів, що надало можливість сформулювати концептуально цілісну наукову роботу, а саме: метод контент-аналізу для дослідження нормативної бази екологічного податку, абстрактно-логічний підхід – для аналізу розбіжностей між надходженнями екологічного податку до бюджету та обсягів коштів, що плануються й витрачаються на охорону довкілля, комплексно-системний підхід – для порівняння екологічного оподаткування в ЄС та Україні, метод логічного узагальнення – для вироблення пропозицій щодо напрямів підвищення ефективності екологічного податку, оптимізації податкового навантаження та узгодження з прийнятими Україною на себе міжнародними зобов'язаннями.

Результати. Проведено порівняльний аналіз екологічного оподаткування в Європейському Союзі та Україні. Вказано на наявні розбіжності за видами екологічного

податку, частками вказаних видів у загальному обсязі екологічного податку й меті екологічного оподаткування в європейських країнах та Україні. Досліджена динаміка надходжень екологічного податку до Державного бюджету й бюджетних видатків на охорону навколишнього середовища. Встановлені тенденції в динаміці оподаткування, зокрема, у створенні розриву надходжень і витрат. Виявлена наявність тенденції до формування значного розриву між обсягами екологічного податку, сплачуваного підприємствами. Вказано, що лише десять підприємств сплачують більше половини обсягів екологічного податку країни.

Наукова новизна. Вказано на необхідності формування стимулюючої до збереження довкілля ролі екологічних податків і запропоновані конкретні напрями формування таких стимулів. Розроблені пропозиції щодо екологічної податкової політики. Вказано, що підвищення екологічного податку повинно бути узгодженим із загальним податковим навантаженням на душу населення. Підвищення екологічного податку також потребує попереднього детального аналізу того, як вплив його збільшення позначиться на кожному великому підприємстві та галузі економіки й визначити для них диференційовані за прозорим принципом підходи нарощування екологічного податку.

Практична значимість. Надані рекомендації щодо напрямів підвищення ефективності екологічного податку як інституційного засобу охорони довкілля, запропоновані конкретні кроки щодо оптимізації податкового навантаження та досягненню норм, затверджених Паризькою кліматичною угодою та Угодою про асоціацію з ЄС.

Ключові слова: реформа екологічного податку, податкова система, оподаткування енергії/діоксиду вуглецю, зведений бюджет, податкове навантаження

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