The current state of environmental taxation in Ukraine and its improvement based on EU experience

Introduction

The deteriorating environmental situation on Earth has become over the last decades an almost general cause for concern. Many people around the world, united in environmental organisations express their concern because the Earth is our common home, and our health and well-being are dependent on it. At the same time methods of economic activities, intensification of production can lead to ecological catastrophe. Therefore, neglecting environmental issues in global and regional dimensions is unacceptable.

Excessive consumption of natural resources, pollution of the atmosphere and water bodies, continuous generation of non-recyclable waste are problems that need not only general recognition, but also the adoption and implementation of effective programmes to prevent the relevant harmful effects. This is especially true of Ukraine in view of the Chornobyl nuclear plant disaster with its ramifications, but this area has not been investigated sufficiently. Unfortunately environmental pollution in Ukraine is one of the major causes of increased mortality.

The world community has already implemented preventative and compensatory mechanisms that contribute to the partial restoration of the natural environment. This encourages economical use of natural resources and reduces the environmental impact of business activity. The most effective of these are the economic mechanisms that make environmentally hazardous industries switch to energy-efficient and non-waste or low-waste technologies. An important instrument of these mechanisms is ecological taxation, which is why each
country creates its own environmental tax system, adapted to the specifics of economic processes. Moreover, ecological taxation is a critical tool for ensuring the country’s environmental security. Thus, the research of the ecological taxation system, its elements, efficiency of functioning has important scientific and practical value.

The purpose of the study is to establish the role of the environmental taxation in ensuring the environmental security, based on the analysis of the current ecological taxation in Ukraine and the EU.

The aims of the article are to consider various aspects of environmental taxation in Ukraine and the EU; to make comparisons of the ecological taxes in Ukraine and in the EU countries; to assess the fiscal efficiency of environmental taxation; to suggest the ways to improve the environmental tax system in Ukraine in order to endure the environmental security taking into account the EU experience.

The following reasoning methods were used in the research: analysis and synthesis, induction and deduction, comparison, generalisation and others.

The concept and development of environmental taxation

Environmental taxation is one of the most important incentives for sustainable nature management. The main idea behind the introduction of environmental taxes is to establish a direct relationship between the amount of the taxation and the degree of negative impact on the environment and natural resources as a result of the activities of economic entities.

The history of development and implementation of environmental taxes has certainly been a long one. For the first time the idea of environmental taxation was expressed in the works of A.C. Pigou, who considered taxes, among others, a tool to influence the behaviour of “pollutants,” on the one hand, and as an incentive for environment conservation through tax-based government subsidies, on the other.

Modern ecology taxes originated in the 1970s when they were implemented in many countries as the instrument of ecology and a legal principle which was to apply in the following case “a person who pollutes the environment is to pay.”

The next step in the development of environmental taxation is the idea of win-win situation. It is economically stimulating environmental protection and

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sustainable use of the environment through the introduction of environmental
taxes, while reducing the tax burden on other objects of taxation. However, as
M. Alvarez rightly notes, “environmental taxes usually face public obstacles to
be implemented since it is commonly stated that environmental taxes such as
energy or carbon taxes impact households unequally, harming relatively more
the poor than the rich, thus raising inequality.”

“Europe 2020: a strategy for smart, sustainable and inclusive growth” is
a document which pays considerable attention to the implementation of the idea
of more rational use of natural resources, improvement of the environmental
situation, and the development of new environmentally friendly technologies.

The “Europe 2020” strategy sets three objectives for climate and energy
policy to be reached by 2020, namely:
— reducing GHG emissions by at least 20% compared with 1990 levels;
— increasing the share of renewable energy in gross final energy consumption
to 20%;
— moving towards a 20% increase in energy efficiency.

As a result of implementation of the European ecological policy emissions
of pollutants to air, water and soil have been reduced significantly over the past
decades, as have GHG emissions in recent years. The EU chemicals legislation
has been amended and the use of many toxic or hazardous substances such
as lead, cadmium, and mercury has been restricted in products found in most
households. The EU Member States’ citizens enjoy a level of water quality that
is among the best in the world, and over 18% of the Union’s territory and 4% of
its seas have been designated as environmentally protected areas.

A similar programme has been approved in Ukraine (The Strategy on Sus-
tainable Development “Ukraine — 2020,” adopted by the President of Ukraine
in January 2015). The analysis of its content proves the absence of clear targets,
though reducing the gross domestic product energy consumption (by 20% by the end of 2020) has been declared.

In general, ecological policy of the country includes environmental taxation, the general goals of which are:

— preventive way of protecting the environment;
— use of financial resources to provide environmental protection and rehabilitation;
— fiscal goals.\(^8\)

The environmental tax system reflects interdependence of the environmental impact (volumes, types, emission category and discharges) and tax rates (system of differentiated rates) that contribute to the progressiveness of environmental taxation.

Ecology taxation is one of the components of the financial management and legal mechanism in the field of natural resources consumption in Ukraine.

Ukrainian environmental legislation

As T.M. Shulha\(^9\) notes, for the first time the category “environmental tax” was legally applied in Ukraine in the Law on the taxation system\(^10\) of June 25, 1991. It stated, in particular, that the environmental tax was paid by all businesses, associations and organisations and citizens who damage the environment and impair the quality of natural resources (Art. 18). The legislator linked its implementation with the results of anthropogenic activity of the subjects of nature management. The presence of environmental damage, for example, as a result of pollution and deterioration of the quality of natural resources under the law, made it obligatory to pay the environmental tax. Therefore, this tax was in fact compensatory. The standards for payment for environmental pollution and deterioration of the quality of natural resources and the procedure for its calculation were determined by the Council of Ministers of the Ukrainian SSR. The funds from the payment of this tax were to be credited to the extra-budgetary funds for environmental protection of the local Soviets of People’s Deputies. With the adoption of the second version of the Law of February 2,

\(^8\) К. Канонішева-Коваленко: Екологічний податок від А до Я. Київ. Фундація «Відкрите суспільство», 2017. р. 4.


1994, the environmental tax was replaced by the category “environmental pollution fee.”

At the same time, all the provisions on the establishment of the main elements of the legal mechanism of this payment were regulated not by a special tax law but by the environmental law — Law on environmental protection. It should be noted that the said law, calling the fee for environmental pollution a “levy,” stipulated that the amount of this levy was established on the basis of actual emissions, limits for the discharge of pollutants into the environment and disposal of waste. In addition, the law in question, as an independent element of the economic mechanism of environmental protection, introduced a fee for the special use of natural resources and a fee for the deterioration of the quality of natural resources.

The Law on the taxation system (from February 18, 1997), in turn, while maintaining the continuity in the main provisions, made some amendments to the payment under consideration, which was called “environmental pollution levy.” As in the previous case, the main provisions were regulated by environmental legislation. For example, Article 44 of the Law on environmental protection stipulated the procedure for establishing collection standards determined by the Council of Ministers of Ukraine. This remained the legal regulation of environmental taxation before the adoption and entry into force of the Tax Code of Ukraine on January 1, 2011, which introduced the environmental tax.

Thus, over time, the name of the payment under consideration has changed, the subjective composition of the payers and the tax base, the order of distribution of funds and their receipt to the budgets have altered. However, its legal nature has remained unchanged and is determined by the following properties:
— it is established by the legislature and its payment can be made only on the basis of law;
— it is purposeful.14

Environmental taxation in Ukraine

Nowadays ecology tax in Ukraine is the state payment made of real pollution amounts in the air, water, waste materials arrangement, real amount of radioac-

14 Т. М. ШУЛЬГА: Становлення і розвиток..., р. 68.
tive waste materials that are temporarily kept by their producers, real amount of new radioactive waste materials and real amount of radioactive waste materials accumulated until April 1, 2009.

According to the Article 240 of the Tax Code of Ukraine taxpayers are economic entities, legal entities, which do not carry out economic (entrepreneurial) activity, budgetary institutions, socially-owned and other companies, institutions and organisations, permanent establishments of non-residents, including those acting as agents (agencies) in respect of such non-residents or their founders, activity of which in the territory of Ukraine and within the boundaries of its continental shelf and exclusive economic zone includes the following:
— pollutant emissions into the atmosphere from fixed pollution sources;
— pollutants discharge directly into the water bodies;
— waste disposal (except for disposal of certain waste as recoverable resources, located in internal territories (on-site facilities) of economic entities);
— formation of radioactive waste (including accumulated);
— temporary storage of radioactive waste by its producers beyond the time period established by special license provisions.\textsuperscript{15}

In addition to taxpayers, the following participants take part in the environmental taxation process:
1. Parliament adopts regulatory legal acts regulating the system of environmental taxation.
2. Ministry of Ecology and Natural Resources as the central executive authority whose activity is governed and coordinated by the Council of Ministers of Ukraine. It operates in the field of environmental protection, ecological safety, treatment of waste, hazardous chemicals, pesticides and agricultural chemicals and perform state ecological expertise. The ministry’s competences encompass the area of atmospheric air, preservation/protection of the ozone layer, restoration and protection of flora and fauna, restoration and protection of lands, restoration and protection of water resources (surface, ground, and seawater), efficient usage of water resources. Moreover, the ministry ensures legal and regulatory governing of the water management and land reclamation, geological study and efficient usage of mineral resources, as well as performs state supervision on the fulfillment of the requirements of the environment legislation. Thus, the Ministry of Ecology and Natural Resources of Ukraine is responsible for environmental policy formation and implementation, in particular, development and approval of draft legal acts, setting standards, licensing conditions, techniques and rules in the areas that refer to the ecological tax.\textsuperscript{16}

3. The State Ecological Inspectorate of Ukraine is the central executive body whose activities are directed and coordinated by the Council of Ministers of Ukraine through the Minister of Ecology and Natural Resources. It implements state policy on state supervision (control) in the field of environmental protection, rational use, recovery, and protection of natural resources, as well as implementation of state supervision (control) of legislation requirements compliance, with regard to protection of lands, subsoil and mineral resources; and protection against radiation.\(^{17}\)

4. Executive bodies that participate in the issuance of permits and licenses.

5. State Tax Service of Ukraine is responsible for the development of reporting forms and control over timeliness and completeness of ecological tax payment.

6. Public-good organisations — monitoring of enterprises, environment, conducting public examinations, submission of proposals to the state bodies, etc.

7. Subjects of economic activity — carrying out the respective activities and payment of ecological tax.

8. Society as a whole — the consequences of the impact of pollutants on the environment.\(^{18}\)

According to the objects of environmental taxation, there are the following types of taxes (Table 1).

<table>
<thead>
<tr>
<th>The objects of environmental tax</th>
<th>The type of environmental taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment pollution</td>
<td>Taxes for emission of polluting substances into the air and water</td>
</tr>
<tr>
<td>Waste materials collection</td>
<td>Taxes on waste collection</td>
</tr>
<tr>
<td>Radioactive waste</td>
<td>Tax on radioactive waste generated as a result of activity of business entities and temporarily stored by their producers over established special terms by the license</td>
</tr>
<tr>
<td>Power supply</td>
<td>Tax on electricity produced by nuclear plants (nuclear power plants)</td>
</tr>
</tbody>
</table>

Environmental tax rates are defined in the Tax Code of Ukraine. Some highest and lowest rates of the tax on emissions of some pollutants into the air by stationary sources of pollution in Ukraine are represented in Table 2.


\(^{18}\) К. Канонішева-Коваленко: Екологічний податок..., p. 5.
Several higher and lower tax rates for pollutant emissions into the atmosphere from fixed pollution sources (calculated by the author on the basis of the Tax Code of Ukraine\textsuperscript{19})

<table>
<thead>
<tr>
<th>Name of the pollutant</th>
<th>Tax rate € per 1 ton in Ukraine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benz(o)pyrene</td>
<td>105446.5</td>
</tr>
<tr>
<td>Mercury and its compounds</td>
<td>3511.2</td>
</tr>
<tr>
<td>Lead and its compounds</td>
<td>3511.2</td>
</tr>
<tr>
<td>Nickel and its compounds</td>
<td>3340.3</td>
</tr>
<tr>
<td>Hydrocarbons</td>
<td>4.7</td>
</tr>
<tr>
<td>Carbon oxide (CO, CO\textsubscript{2})</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Environmental taxation in the EU

According to Regulation (EU) No 691/2011 on European environmental economic accounts, an environmental tax is a tax whose tax base is a physical unit (or a proxy of it) of something that has a proven, specific negative impact on the environment and which is defined in the European system of accounts (ESA 2010) as a tax.\textsuperscript{20}

Given the research conclusions of Thomas Sterner and Gunnar Köhlin, environmental taxes should be separated into two categories. In the first we have taxes related to energy and transportation and motivated at least partly by global concerns such as climate change. The second concern may be if the incidence of the taxes is regressive or hurts politically influential groups. The European experience shows that a number of steps have been taken to reduce the competitive and regressive effects of taxation by modifying the tax schedules or through the use of the tax proceeds.\textsuperscript{21}

Environmental taxes in the EU countries are represented in Table 3.


Table 3

<table>
<thead>
<tr>
<th>The objects of tax</th>
<th>The types of ecological taxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>Tax on the engine and power fuel, electricity</td>
</tr>
<tr>
<td>Transport</td>
<td>Taxes on the vehicle run, a yearly tax on vehicles’ owners, excise taxes on a newly purchased vehicle or the used one</td>
</tr>
<tr>
<td>Acoustics</td>
<td>Tax on the noise pollution</td>
</tr>
<tr>
<td>Natural resources consumption</td>
<td>Payments for consumption of air resources, water resources, soils and others</td>
</tr>
<tr>
<td>(royalty)</td>
<td></td>
</tr>
<tr>
<td>Changes in the environment quality</td>
<td>Taxes on the disposal of the substances that cause global changes (substances that ruin ozone layer, hotbed gas)</td>
</tr>
<tr>
<td>with admixtures</td>
<td></td>
</tr>
<tr>
<td>Environment pollution</td>
<td>Tax for emission of polluting substances into the air (carbon dioxide, CO₂, chlorine-fluorine-carbon, sulfur oxides, nitrogen, lead) and pesticides, other chemical agents used in agriculture</td>
</tr>
<tr>
<td>Waste materials collection</td>
<td>Taxes on collection of the production waste in and under the ground, wastes processing, taxes on some special products (polyethylene packets and other kinds of packets), batteries, automobile tires, that cannot be recycled, oils</td>
</tr>
</tbody>
</table>

Comparison of the Ukrainian environmental legislation with the environmental legislature of the EU Member States allowed to make the following conclusions (S.O. Nischymna, V.O. Anishchenko):

1. The reason of ecological taxation are activities with negative impact on the environment.
2. Each EU Member State forms its own policy of ecological taxation taking into account environmental problems, legal consciousness and culture, management bodies in the ecology sphere, heads of the enterprises — natural resources consumers and peculiarities of their economic activity.
3. The number of ecology-related taxes in different EU Member States amounts to hundreds. They are not unified in terms of their structure and levels.
4. The economic facet of ecological taxation is proved by the need to preserve and strengthen the natural resources potential of the country to preserve the quality of the environment for future generations, to provide a certain level of ecological security.²³

It should be noted that for these purposes the legal basis of, for example, air protection in the EU is well-founded. The EU Member States are governed by

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the Directives. These legal acts are based on the principles of prevention of atmospheric pollution and minimisation of adverse effects on the environment. The Parliament of Ukraine adopted the Law on air protection in 1992, but it does not fully take into account the requirements for air quality standards. The norms of the Law are largely declarative in nature and do not have all the essential enforcement mechanisms. At the same time, Ukrainian environmental legislation must be brought in line with the EU Directives under the EU-Ukraine Association Agreement.

In general, we can arrive at a conclusion that in the EU there are more types of ecological taxes than in Ukraine, but according to the Tax Code of Ukraine we have rent payment — the tax which is also related with state ecology policy. Rental payment is a national tax, which is charged for mineral resources usage, usage of radio frequency resources, for the special usage of water and forest resources; for the transportation of oil, petroleum products, natural gas and ammonia on the territory of Ukraine.

At the same time, Eurostat provides data on taxes in the following areas:
— energy,
— transport,
— pollution,
— resources.

Disaggregated tax data submitted by the reporting countries to Eurostat (the National Tax List) are used to determine the level of revenue from these taxes. Eurostat also collects and publishes data on these tax revenues broken down by economic activity for producer units, households and non-residents (tax payers).


Efficiency of environmental tax

The funds from the environmental tax constitute only 0.5—1.3% of the tax revenues of the consolidated budget of Ukraine. In the state budget of Ukraine the share of ecological tax in tax revenues fluctuates around 0.3—1.2%, in local budgets in aggregate — it constitutes less than 3% over the recent three years. In 2018, total environmental tax revenue in the state budget of Ukraine represents 0.08% of GPD and 0.3% of revenue from taxes (calculated by the author on the basis of the Ukrainian Act on the state budget of Ukraine for 2018,27 indicators of Ukraine GDP28). At the same time, in 2018, total environmental tax revenue in the EU amounted to €324.6 billion, representing 2.4% of EU GDP and 6.0% of total EU governments revenue from taxes and social contributions.29

Thus, the fiscal role of ecological tax for local budgets in general and for the state and consolidated budget of Ukraine is insignificant and, moreover, much lower than this of the EU. There is insufficient amount of funds from environmental taxation to finance all necessary measures and misuse of existing revenues, so ecological tax does not perform compensatory function. Ecological tax does not have enough of a stimulating role. Enterprises do not modernise production due to the low level of environmental tax in the cost of products. That is why we can arrive at a conclusion that ecological taxation system of Ukraine needs to be improved due to the fact that the ecological tax is currently not fulfilling its functions.

Low fiscal efficiency accompanied by Ukraine’s international commitments necessitate the modernisation of the environmental tax system. According to the Articles 360–361 of the EU–Ukraine Association Agreements, the parties develop and strengthen environmental cooperation and thus contribute to the achievement of the long-term goals of sustainable development and the green economy. Cooperation is also being carried out in the field of environmental charges.30 Therefore, domestic institutions responsible for the development and reform of the tax system need to refer to the European experience in regulating mandatory payments related to the environment.

Yatsyshin argues that it is not practicable to fully transfer the experience of the EU Member States in the field of “green” tax reforms to Ukraine, but some aspects should be taken into account. In European countries, the main function of environmental taxation is to regulate the activities of economic agents so that less environmental impact is caused. In Ukraine, however, it is currently more profitable to pay the environmental tax and continue the harmful activities than to ensure the “greening” of manufacturing.\(^{31}\)

**Conclusions and recommendations**

The problem of optimising environmental taxation is complex and requires an integrated approach, one that would take into account the need to enhance environmental security. In accordance with the EU experience within this scope, the following steps may be taken to improve the Ukrainian ecological taxation system:

- Improving the legislative basis in the aspect of increasing the part of the environmental taxes in their general amount as well as their rates with a simultaneous reduction in rates of other taxes. As the European experience shows, several countries in the EU moved beyond individual environmental taxes and undertook environmental tax reforms (ETRs) during the 1990s.\(^{32}\)
  The main idea of ETRs was to broaden the overall tax base and to shift taxation from income to consumption. In particular, taxes on energy consumption and carbon emissions should be increased while taxes and social security contributions levied on labour should be decreased. Also, it is advisable that the Tax Code of Ukraine should provide for the differentiation of the environmental tax rates not only by types of pollutants and classes of danger, but also by sectors (in particular, agriculture, energy, industry, etc.) based on the European experience.
- Ensuring the targeted use of funds from the environmental tax. In accordance with Article 47 of the Law on environmental protection for the financing of measures for the protection of the natural environment, local funds for the protection of the natural environment are formed from part of the funds of the


environmental tax.\textsuperscript{33} Due to the small amounts of such revenues, they remain almost unused, or become a source of funding for inefficient and marginal projects. It is therefore necessary to improve the planning and usage of local environmental protection funds in order to ensure the most rational, full, and transparent use of the funds of the environmental protection fund. As it is well known, the principle of transparency in the activities of the executive authorities of the EU countries is a tool for ensuring the rule of law, equality of citizens, and economic entities before the law, which gives them the opportunity to participate in local governance.

- Expanding the list of taxpayers and objects of environmental taxation, in particular transport. In Ukraine, air pollution from vehicles is not subject to taxation, although they are significant environmental pollutants. Environmental taxation of vehicle emissions, as it is practiced in the EU, would have significant fiscal and regulatory effects.

- Creating an economic mechanism for facilitating eco-credit of enterprises and promote the development of alternative energy and green economy, based on the experience of the EU support. For example, Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC determines that “the opportunities for establishing economic growth through innovation and a sustainable competitive energy policy have been recognised. Production of energy from renewable sources often depends on local or regional small and medium-sized enterprises (SMEs). The opportunities for growth and employment which this kind of investment in regional and local production of energy from renewable sources brings about in the EU Member States and their regions are important. The European Commission and the Member States should therefore support national and regional development measures in those areas, encourage the exchange of best practices in production of energy from renewable sources between local and regional development initiatives and promote the use of structural funding in this area.”\textsuperscript{34}

Result of such measures should be reformation of the tax system in order to increase the significance of eco-taxation as a stimulus to reduce the negative impact on the environment, the development of an effective economic mechanism of nature management and strengthening the environmental security.


Oleksandra Oliynychuk

**Aktualny stan opodatkowania ekologicznego na Ukrainie i jego poprawa na podstawie doświadczeń UE**

### Streszczenie

Artykuł poświęcono różnym aspektom opodatkowania ekologicznego na Ukrainie i w UE. Dokonano podziału podatków ekologicznych na Ukrainie ze względu na podmioty opodatkowania oraz przedstawiono ich zestawienie z podatkami ekologicznymi funkcjonującymi w UE. W pracy podano niektóre najwyższe i najniższe kwoty emisji zanieczyszczeń ze stacjonarnych źródeł zanieczyszczenia. Określono także efektywność fiskalną opodatkowania ekologicznego na Ukrainie i wskazano sposoby udoskonalenia systemu opodatkowania ekologicznego na Ukrainie na podstawie doświadczeń krajów UE.

### Słowa kluczowe:

podatki, podatki środowiskowe, zanieczyszczenia, polityka środowiskowa, ustawodawstwo środowiskowe

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Олександра Олийницук

**Современное состояние системы экологического налогообложения на Украине и ее совершенствование с учетом опыта Европейского Союза**

### Резюме

Статья посвящена различным аспектам экологического налогообложения на Украине и в ЕС. Выполнено разделение экологических налогов на Украине по субъектам налогообложения и проведено их сравнение с экологическими налогами, действующими в ЕС. В работе отражены некоторые самые высокие и самые низкие объемы выбросов от стационарных источников загрязнения. Определена фискальная эффективность системы экологического налогообложения на Украине. Представлены пути совершенствования системы экологического налогообложения на Украине с учетом опыта ЕС.

### Ключевые слова:

Налоги, экологические налоги, загрязнение, экологическая политика, природоохранные законодательство.

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Oleksandra Oliynychuk

**Lo stato attuale della tassazione ambientale in Ucraina e il suo miglioramento in linea con l'esperienza dell'Unione Europea**

### Sommario

L'articolo è dedicato a vari aspetti della tassazione ambientale in Ucraina e nell'UE. Le tasse ambientali in Ucraina sono state suddivise per entità fiscali e confrontate con le tasse ambientali nell'UE. Il documento riflette alcune quantità più alte e più basse di emissioni provenienti da
fonti fisse di inquinamento. L'efficienza fiscale della tassazione ambientale in Ucraina è stata
determinata. Hanno suggerito modi per migliorare il sistema di tassazione ambientale in Ucraina
prendendo in considerazione l'esperienza dell'UE.

Parole chiave: Tasse, tasse ambientali, inquinamento, politica ambientale, legislazione am-
bientale