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Legal issues of digitalization of environmental accounting data

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This paper raises the issue of the need to introduce the term “environmental accounting” into legal circulation, which has existed in economic sciences since the 1970s, and in environmental and legal science – as “state accounting in the field of the natural environment”. As for Ukrainian legislation, it does not contain a name that unites many types of cadastres, registers, registers, reports, and other environmental information. It was established that in the system of Ukrainian legislation, cadastres of natural resources, accounting for objects harmful to the environment, accounting for substances harmful to the environment, as well as factors of harmful impact on the environment (chemical, physical, biological) are subject to legal regulation, within the framework of the outlined topic. Unfortunately, many of these accounting data are closed, incomplete, or not present at all. At the same time, at the international and European level, these processes are rapidly developing, and today there is already a need to expand such data, by including in the relevant accounting resources information on issued permits for the use of natural

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resources, payment of environmental payments, fines, production of environmentally safe products, etc. Based on this, a proposal is put forward on the need to systematize Ukrainian legislation on environmental accounting by developing and adopting a special regulation that would meet international and European requirements in this area. A proposal is also made on the need to transform the provisions of Articles 23 and 24 of the Law of Ukraine "On Environmental Protection" by combining them and expanding their content, including all types of environmental accounting. It was established that Ukraine has already commenced the adaptation of legislation on this issue, specifically by establishing requirements for digitalization of all environmental data, i.e., the creation of a single ecological electronic platform, which currently is only at the beginning of its development

Keywords: environmental accounting, cadastres, registers, digitalization, systematization of legislation

Introduction

The growing level of pollution of the natural environment, the growth of natural and anthropogenic disasters, and the depletion of natural resources necessitate the solution of the environmental protection issues, preservation and rational use of natural resources, ensuring environmental safety by various means. This process is characterized by considering the principles of sustainable development, the modern general concept of the need to establish a balance between meeting the modern economic needs of humanity and protecting the interests of future generations, including their need for a safe and healthy environment. Such development is known to meet the needs of the current generation without compromising the ability of future generations to meet their needs. That is why the state and protection of nature are becoming increasingly relevant for human development. Topical environmental and social issues caused by

both nature itself and human activities are increasingly coming to the fore, and the latter factor is most pronounced.

Under such conditions, the vital need to solve the issues of perfecting nature management, improving and preserving the environment by measures of effective national policy in this area becomes evident. In this regard, there is a growing need for a substantial restructuring of environmental accounting, which is designed to form, analyse, and publish information on the existing availability of natural resources, their qualitative characteristics, information on forecasts of their possible long-term use, as well as information on the volume of influence of physical, chemical, and biological factors of economic activity on the state of the environment. Such data serve as an important basis for preparing and making scientifically based environmental decisions. Therefore, environmental accounting is an

important and effective modern method of environmental management in the context of the transition towards sustainable socio-economic development.

State interest in improving the legal basis of environmental accounting is manifested in the provisions of the Law of Ukraine "On Environmental Protection" [1], in the Laws of Ukraine "On Fundamental Principles (Strategy) of the National Environmental Policy of Ukraine for the Period Until 2020" [2], "On Fundamental Principles (Strategy) of the National Environmental Policy of Ukraine for the Period Until 2030" [3], "On National Infrastructure of Geospatial Data" [4], in the Decree of the Cabinet of Ministers of Ukraine "On Approval of the State Statistics Development Program Until 2023" [5], in other documents.

The specific feature of this study is conditioned upon the lack of comprehensive research on the digitalization of environmental accounting in Ukrainian legal science. Presently, certain legal aspects of such a function of state management in the field of ecology are investigated mainly at the level of educational and methodological literature (V.I. Andreitsev, A.P. Hetman, N.R. Malysheva, V.I. Fedorovych, M.V. Shulha, etc.) or in theses on the analysis of individual components of such accounting (A.H. Borovytska, S.L. Hoshyatar, N.O. Hrabovets, K.A. Prokhorenko, Ye.O. Shchychlov, Z.V. Yaremak).

The purpose of this study was to analyse the specific features of legal regulation of digitalization of environmental accounting data.

Results and Discussion

The term "environmental accounting" is not new for Ukrainian science. Experts in economic sciences are actively engaged in its research. However, for legal science, including environmental law, this term is factually not used, although its components are used fairly regularly – the need to keep inventories of natural resources, accounting for objects, substances, and factors that currently have a harmful effect on the state of the natural environment, Articles 23 and 24 of the Law of Ukraine "On Protection of the Natural Environment" [1] and a number of resource-related and sub-legislative regulations.

On the other hand, at the international level, this term has been used since 1991 in connection with the development of the Guide (recommendations) for accountants on the reflection of the environmental impact of the economic activity of the enterprise in financial reports by the Intergovernmental Working Group of Experts on International Accounting and Reporting Standards [6, p. 5], although the need to collect statistical data on environmental issues was discussed at the Stockholm Conference in 1972 [7, p. 5–7].

However, the Aarhus Convention [8] and the Protocol on the Registers of Emissions and Transfer of Pollutants [9] establish the requirement that information on the state of the environment and sources of emissions must be communicated to society.

As a result of the long-term work of various international and regional institutions, in 2012, the UN Statistical Commission

adopted the “Central Basis of the System of Natural and Economic Accounting” at the international level, which became an international standard in the field of environmental accounting [10]. Its counterpart was introduced on the territory of the European Union in 2011, through the adoption of Regulation (EU) No. 691/2011 of the European Parliament and of the Council of 6 July 2011 on European environmental economic accounts [11].

According to the above-mentioned documents, environmental accounting should include information about natural resources and their state, environmentally harmful activities, emissions of greenhouse gases and pollutants into the atmosphere; environmental taxes; environmental protection costs; the sector of environmental goods and services; waste; chemicals; biodiversity; ecological state of regions, etc.

Notably, most of these types of accounting are currently required by Ukrainian legislation as well, which is confirmed by the requirements for maintaining a vast number of different registers, cadastres, reports, etc. in the environmental sphere, but the Law of Ukraine “On Environmental Protection” [1] does not fully reflect this requirement. The system of openness and accessibility to environmental accounting data, their factual availability and managerial compliance is also underdeveloped today.

To solve this issue, modern legislation requires the need for digitalization of such accounting (“On Approval of the Development Strategy...” [12]; “On Approval of the Development Concept...” [13]; “Digital

Agenda of Ukraine” [14]), specifically, by creating an analytical system integrated into the European Shared Ecology Infrastructure System (SEIS) for analysing environmental pollution, weather conditions and ecosystem evolution, as well as for planning measures to prevent harmful changes.

In turn, several Ukrainian regulations (“On Fundamental Principles (Strategy)...” [2]; “On Approval of the Program for the Development of State Statistics...” [5]) refer to the creation of a network of a nationwide automated information and analytical system to ensure access to environmental information to the main tasks of such a strategic goal of the state’s development as raising the level of public environmental awareness, where such accounting is also one of the main tools for implementing the national environmental policy of Ukraine.

Today, such a nationwide automated information and analytical system for ensuring access to environmental information is proposed to be called “open environment” (“On Approval of the Concept of Creating...” [15]).

The nationwide automated system “Open Environment” has a challenging purpose to achieve, in dialogue with the public and stakeholders, such a level of modernization of national environmental management as to not only provide the public with comprehensive and guaranteed access to environmental information, data on environmental risks for safe life, potential environmental perspective of the state of the environment, but also comprehensively experience and see a real improvement in the state of the environment [16, p. 9; 17].

NAS "Open Environment" acts as:

- 1) a tool of electronic governance;
- 2) a key channel of communication with the international community, citizens, and business;
- 3) electronic service [16, p. 9].

Implementation of the nationwide "Open Environment" system includes:

- a) modernization of the procedure for collecting and analysing primary environmental information;
- b) implementation of comprehensive monitoring of the state of the environment;
- c) effective and prompt decision-making on environmental safety and environmental risk management on the territory of Ukraine and in the cross-border context;
- d) electronic format of the procedure for providing administrative environmental services on the Portal of administrative services and state environmental registers;
- e) open environmental data within the framework of Ukraine's performance of the obligations of the International Open Data Charter;
- f) a platform for transparent dialogue between the authorities and the public;
- g) incentives for participation, initiative, and involvement of citizens, civil society institutions, business entities;
- h) mechanisms of prevention of corruption and ensuring the minimization of corruption risks;
- i) ecological and digital image of Ukraine and the Ministry of Natural Resources in international negotiations on environmental protection [17].

According to the data of the Unified web portal of the executive authorities of

Ukraine, in 2019, the geo-information system "Open environment" with pilot maps "Water resources", "Atmospheric air" and "EcoFinance" was launched in Ukraine [18]. However, the official nationwide use of this system and its structure are not yet available.

These issues could be resolved with the Law of Ukraine "On the National Geospatial Data Infrastructure" [4], but it regulates only the formation of a single database of State Cadastres of Natural Resources, the legal regulation of which is prescribed in Article 23 of the Law of Ukraine "On Environmental Protection" [1], as well as resource-based regulations.

However, it is based on the above-mentioned law that the website of the Ministry of Environmental Protection and Natural Resources of Ukraine has developed a national online platform containing up-to-date information on the state of the environment – "EcoSystem" [19]. The specified platform, in addition to direct data on natural resources, hosts such electronic services as e-Vidkhody; e-OVD; e-Kontrol; e-CEO; e-Pestytsydy; e-Dovkillia, etc. Therewith, the e-Dovkillia electronic service contains only atmospheric air monitoring data and does not include information that should be considered in the nationwide system "Open Environment", namely the characteristics of the impact of each enterprise on natural resources (chemical, physical, biological factors, and their features), obtaining environmental permits and paying environmental payments, etc.

Thus, it turns out that the information contained in the "EcoSystem" database, albeit

broader than the information on the cadastres of natural resources, still does not include the necessary information about the specifics of environmental pollution by various industries, transport, and agriculture.

Conclusions

Based on the above, it can be argued that Ukraine needs to create a single national environmental accounting information database that will prevent duplication of environmental information, promote its reliability, fast round-the-clock access to it, and reduce the costs of creating, storing, and protecting data. Furthermore, it will improve the state regulation and management in all areas of activity. Social benefits are also evident, which will improve the types of environmental monitoring, as well as contribute to more effective prevention and elimination of the consequences of emergencies.

To create a single national ecological and accounting information database, it is necessary to bring the information databases "Open Environment" and "EcoSystem" into compliance, specifically by expanding the provisions of the Law of Ukraine "On National Infrastructure of Geospatial Data" or by properly finalizing the requirements established in the Order of the Cabinet of Ministers of Ukraine No. 825 dated 7 November 2018, considering the obligations defined in the Regulation (EU) No. 691/2011 of the European Parliament and of the Council of 6

July 2011 on European environmental economic accounts and other documents of the international and European levels.

The openness and completeness of the environmental accounting system is also required, which will contribute, firstly, to the possibility of obtaining environmental information for every citizen, secondly, to the effective protection of the rights and legitimate interests of the owners of natural resources and nature users, and thirdly, to the determination of the effectiveness of management activities in the field of rational nature management, environmental protection, and ensuring environmental safety locally and nationally.

The introduction of a unified national ecological accounting information database also requires the accumulation of issues of its functioning in a special regulation through the definition of types, forms, and methods of environmental accounting, powers of state executive authorities and local self-government, rights and obligations of economic entities in this area, a single methodological approach to keeping environmental records by all subjects, legal responsibility in the defined area and other issues.

The provisions of Articles 23 and 24 of the Law of Ukraine "On Environmental Protection" are also subject to transformation by combining them and expanding their content, including all types of environmental accounting.

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Правові проблеми цифровізації даних екологічного обліку

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Анотація

У статті піднято питання про потребу введення в юридичний обіг терміну «екологічний облік», який в економічних науках існує з 70-х років ХХ століття, а в еколого-правовій науці – під назвою «державний облік в галузі навколишнього природного середовища». Що стосується вітчизняного законодавства, то в ньому відсутня об'єднуюча для багатьох видів кадастрів, реєстрів, реєстрів, звітів та ін. відомостей екологічного характеру назва. Встановлено, що в системі вітчизняного законодавства правовому регулюванню, в рамках окресленої тематики, підлягають кадастри природних ресурсів, облік шкідливих для навколишнього природного середовища об'єктів, облік шкідливих для навколишнього природного середовища речовин, а також фактори шкідливого впливу на навколишнє природне середовище (хімічні, фізичні, біологічні). Нажаль, багато з таких облікових даних є закритими, неповними або взагалі відсутні. В той-же час, на міжнародному та європейському рівні ці процеси стрімко розвиваються і сьогодні вже відзначається потреба у розширенні таких даних, шляхом включення у відповідні облікові ресурси інформації і про видані дозволи на використання природних ресурсів, сплату екологічних платежів, штрафів, виготовлення екологічно безпечної продукції і т. ін. На підставі цього висувається пропозиція про потребу систематизації вітчизняного законодавства про екологічний облік, шляхом розробки і прийняття спеціального нормативно-правового акту, який би відповідав міжнародним та європейським вимогам у цій сфері. Виноситься також пропозиція щодо потреби у трансформації положень статей 23 та 24 Закону України «Про охорону навколишнього природного середовища» шляхом їх об'єднання та розширення змісту, включенням усіх видів екологічного обліку. З'ясовано, що Україна вже розпочала процеси адаптації законодавства з цього питання, зокрема, шляхом встановлення вимог цифровізації усіх екологічних даних, тобто створення єдиної екологічної електронної платформи, яка сьогодні знаходиться лише на початку свого формування

Ключові слова: екологічний облік, кадастри, реєстри, реєстри, цифровізація, систематизація законодавства
