



State of Implementation of European Legislation Regarding Water Resources Management, Industrial Pollution and Man-Made Hazards in Ukraine

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Abstract: The Association Agreement between Ukraine, on the one hand, and the European Union, the European Atomic Energy Community and their member states, on the other hand, requires Ukraine to bring its national legislation closer to EU law and policy. Environmental protection can be singled out as a separate direction. The article analyzes Ukraine's progress in fulfilling its obligations under the Association Agreement with the EU in the field of industrial pollution and technogenic threats and water resources management. The process of harmonization of the Ukraine legislation and the EU in the field of emissions control from large combustion plants is described. The specifics of the implementation of the Concept of state policy implementation in the field of industrial pollution provisions have been established. The analysis of the legislative acts of Ukraine regarding the reduction and control of industrial pollution was carried out. The problems of implementing the provisions of directives 2001/80/EU and 2010/75/EU into the Ukraine legislation are described. Significant disputes between the Verkhovna Rada of Ukraine and business representatives in the field of industrial pollution control and prevention are indicated. The article provides information on the environmental policy of Ukraine in the field of water resources use and protection. Cooperation between Ukraine and the EU in this direction is carried out in accordance with Section V of Chapter 6 of the Association Agreement with the European Union. It is noted that the system of water resources integrated management based on the basin principle is being implemented in the country. The process of implementing the provisions of the Water Framework Directive 2000/60/EU into the legislation of Ukraine is described. The article presents the principles of developing river basin management plans, activities of Basin Councils, and procedures for state monitoring.

Keywords: Ukrainian Legislation, EU Directive, Industrial Pollution, Water Quality, Water Resources Management, Implementation of European Legislation

1. Introduction

The gradual approximation of Ukrainian legislation to EU law and policy in the field of environmental protection is provided for in Art. 363 of the Association Agreement between Ukraine, on the one hand, and the European Union, the European Atomic Energy Community and their member states (hereinafter the Agreement), on the other hand, and is carried out according to Appendix XXX of this Agreement [1].

The implementation of certain joint achievements of the

EU is also provided for by other agreements between Ukraine and the EU on the development of cooperation in the field of environmental protection. For example, according to the Protocol on the Accession of Ukraine to the Treaty on the Establishment of the Energy Community [2], the schedule for the implementation of about 15 compatible achievements, including in the field of environmental protection, is defined. This schedule is directly taken into account by the Ukraine-EU Association Agreement.

Thus, the process of approximation of Ukrainian legislation to the sources of EU law in the field of environmental

protection is a stage of further harmonization of Ukrainian legislation with EU law, which began back in 1998.

The process of harmonization takes place in the eight sectors specified in the Agreement.

The article analyzes the state of implementation of the requirements of European legislation in two sectors: industrial pollution and technogenic threats and water quality and water resources management, including the marine environment.

2. Industrial Pollution and Technogenic Threats

With the accession of Ukraine to the Energy Community in 2011, it can be said that the development of national legislation on reducing industrial emissions began.

The implementation of the requirements for limiting emissions of pollutants from large combustion plants with a capacity of 50 MW and more, defined by Directive 2001/80/EC on limiting emissions of substances from large combustion plants that pollute the air and Appendix No. 2 of the Treaty on the Establishment of the Energy Company is one of Ukraine obligations [2, 3].

This meant a significant increase in emissions standards, namely: to meet the requirements of the Directive, it is necessary to ensure a reduction in dust concentration to 20 mg/m³, i.e. 50 times less than the standards for old electrostatic precipitators, which was 1000-1100 mg/m³. Norms regarding sulfur emissions have increased 25 times.

Ukraine was supposed to transpose the requirements of Directive 2001/80/EC into national legislation by January 1, 2018, but the process was almost non-existent, as it required large financial costs from the industry, as well as business support from the state.

However, Article 4 of Directive 2001/80/EC provides for the possibility of postponing the transposition by developing and adopting the National Plan for the gradual reduction of emissions.

Such a Plan was developed by the Institute of Coal Energy Technologies of the National Academy of Sciences, taking into account the experience of EU countries that had already developed regulatory documents.

Obligations undertaken by Ukraine are not limited to transposing the requirements of Directive 2001/80/EC into its legislation. With the adoption in 2010 of the new Directive 2010/75/EC on industrial emissions (integrated approach to pollution prevention and control) with more stringent requirements, which is based on the proposal of the European Commission to review, update and merge the seven previously existing directives: Directive Council 78/176/EEC on titanium dioxide production waste; Council Directive 82/883/EEC on environmental control and monitoring related to the production of titanium dioxide; Council Directive 92/112/EEC on procedures for the harmonization of programs for the reduction and final elimination of pollution caused by waste from the titanium

dioxide industry; Council Directive 1999/13/EC on the limitation of emissions of volatile organic compounds caused by the use of organic solvents in certain activities and at certain industrial facilities; Council Directive 2000/76/EC on waste incineration (WI); Directive 2008/1/EC on the limitation of air polluting substances from large combustion plants, including Council Directive 96/61/EC on integrated pollution prevention and control (the so-called IPPC Directive) [4].

The clause on the new directive was included in the Association Agreement between Ukraine and the EU (AA) with a transposition deadline of September 1, 2019 (2 years from the date of entry into force of the AA).

Thus, the government at different stages needed to implement both regulations, with different deadlines, which required the investment of large sums of money.

According to the decision of the Energy Cooperative, Directive 2001/80/EC should be implemented in the EU by December 31, 2023, and Directive 2010/75/EC by December 31, 2027. The Government of Ukraine proposed to the Energy Cooperative that the state immediately implement Directive 2010/75/EC and asked for more time. As a result of lengthy negotiations, it was agreed that by the end of 2028, Ukraine will strive to meet the requirements of Directive 2010/75/EU regarding emissions of sulfur and solid dust particles, and by the end of 2033 - regarding emissions of nitrogen oxides.

The Energy Community Council of Ministers in 2013 allowed the development of National Emission Reduction Plans instead of the introduction of emission limit values for each installation. The government took advantage of this opportunity due to the fact that almost all large thermal power plants and power plants in Ukraine were not ready for expensive modernization, which, in turn, did not seem possible to fulfill the requirements of the directive in time with the EU countries.

In 2017, the government decree approved the National Plan for the Reduction of Emissions from Large Combustion Plants (NPRE) [5]. But since then, almost nothing has been done to make it work. The main problem in the implementation of the National Plan is the source of funds for the reconstruction and construction of cleaning equipment. The ultimate goals of the Plan are quite a high bar, but a lot of time is allocated to achieve them. Yes, according to the Plan: in the period from 2018 to 2028, SO₂ emissions should decrease by 20 times; dust - 40 times; NO_x emissions should fall 3.5 times by the end of 2033. However, the legislation did not provide sources of financing for their modernization, which stopped the implementation of the Plan. The amount of necessary funds for modernization is estimated at 4.13 billion euros.

In July 2019, the Government approved changes to the NPRE appendices, which postponed the deadlines for implementing environmental measures for TPPs [6]. According to the estimates of industry representatives, without making changes to the NPRE, 22 power units would have to be forced to stop in 2020-2025, which would create

conditions of electricity shortage and threaten energy security. TPPs and CHPs account for a significant share of total generation in Ukraine. It should be noted that unlike nuclear power plants or generation from renewable sources, thermal power plants are important for balancing the energy system and will not be able to replace them quickly.

Implementation of requirements for incinerators is a complex and lengthy process, which should take at least 10-15 years. If the implementation of the NPRE is postponed for another five years, it will mean that coal generation will fully meet environmental requirements no earlier than 2040. Therefore, it is now extremely important for the Government to take decisive steps to find sources of financing for the modernization and re-equipment of relevant installations, in accordance with the NPRE. Among the financial solutions may be the inclusion of part of the costs of re-equipment in the electricity tariff under the condition of cancellation of Provisions on special responsibilities, budget support, loans from international financial institutions and funds of plant owners.

The process of transposition into national legislation of the Directive 2010/75/EU on industrial emissions (integrated approach to pollution prevention and control), which is based on the conclusions of BATM - the best available technologies and management methods and ensures a high level of protection of human health and environment and has shown its high efficiency in practice. Since 2004, European enterprises have reduced emissions of sulfur dioxide by 77%, nitrogen oxide by 49% and dust by 81%.

On May 22, 2019, the Government approved the Concept of State Policy Implementation in the Field of Industrial Pollution, which was developed by the Ministry of Environmental Protection and Natural Resources of Ukraine (MEPNR) [7].

The purpose of the Concept is the implementation of state policy in the field of industrial pollution through the creation of legal and institutional prerequisites for effective prevention, reduction and control of industrial pollution. Also, the Concept is aimed at strengthening the institutional capacity, effectiveness of the system of supervision and control over compliance by enterprises with the requirements of environmental legislation.

Implementation of the Concept will be carried out until 2028 in three stages:

first stage (2019 - 2021)

it is envisaged to develop and adopt a law on integrated prevention, reduction and control of industrial pollution, which will determine the scope of regulation and legal grounds for issuing/reissuing/cancelling integrated, unified permits and registration by submitting a declaration for small business entities. It is also planned to develop and maintain a register (list) of installations, the operation of which requires obtaining an integrated permit. The MEPNR should develop and approve the procedure for obtaining such permits;

the second stage (2022 - 2024)

it is planned to create a structural subdivision of the MEPNR, which will ensure the preparation of materials for

issuing an integrated permit; implement pilot projects for issuing integrated permits for business entities;

the third stage (2025 - 2028)

continuation of the implementation of staff training programs; improvement of the legal framework in the field of industrial pollution.

According to the results of the implementation of the Concept by 2030, it is planned to achieve a reduction of:

- 1) pollutants emissions into the atmosphere from stationary sources by 22.5% of the emissions volume in 2015;
- 2) discharges of polluted wastewater into water bodies up to 5% of the total volume of discharges, compared to 15.7% in 2015.

On December 27, 2019, the Government approved the Plan of measures for the implementation of the Concept for the implementation of state policy in the field of industrial pollution (hereinafter - the Plan), which defines the terms, measures and responsible executors for the implementation of the tasks of the Concept [8]. It should be noted that a feature of the Plan is the presence of indicators for evaluating the success of the implementation of each of the proposed measures.

According to the Plan, the first paragraph specifies the task of a number of ministries and departments to develop and submit in 2020 to the Cabinet of Ministers of Ukraine a draft of the Law of Ukraine «On Prevention, Reduction and Control of Industrial Pollution» (hereinafter - the Draft Law).

All other measures of the Plan, which are aimed at the implementation of the law, are planned after its adoption.

The draft law (registration number 4167) was adopted by the government in February 2020 and submitted to the Verkhovna Rada of Ukraine.

Adoption of the draft law as a basis was failed three times in the parliament, and in accordance with the regulations it was withdrawn from consideration (extreme deviation on 07/15/2021). The Ukrainian Business and Trade Association (UBTA) and the Committee on Ecology and Green Economy Development of the Ukraine Employers Federation are the main opponents of the adoption of this draft law.

The Ukraine Employers Federation has repeatedly appealed to people's deputies regarding the adoption of the draft law with comments on the possible infliction of irreparable damage to business in Ukraine, the threat of closing certain sectors of the economy and the reduction of industry as a whole. They also insist on the need to develop the draft Law on modernization of industrial enterprises taking into account the requirements of national environmental standards. The Ukrainian Business and Trade Association (UBTA) believes that the document in its current version cannot be adopted, noting that although they support initiatives and environmental reforms, in the case of adoption of No. 4167, there will be unjustified administrative pressure on business entities, it will have a devastating effect on the activity industrial sector and may

cause the closure of enterprises, which will have negative consequences for the economy of Ukraine [9].

It is appropriate to remind that in November 2021, at the UN Climate Change Conference (COP26), Ukraine joined the Global Methane Pledge and Power Past Coal Alliance initiatives, which are aimed at eliminating methane leaks into the atmosphere and abandoning coal burning. Previously, Ukraine had already committed to achieving the goal of reducing greenhouse gas emissions by 65% by 2030 from the 1990 level under the updated Nationally Determined Contribution to the Paris Agreement.

In order to implement these initiatives, it is necessary to complete the task of modernization of large industry as soon as possible, that is, to implement Directive 2010/75/EC.

Currently, the Verkhovna Rada of Ukraine has received the main and two alternative draft laws from the deputies. Two of them will be introduced on September 7, 2021: the Draft Law «On Integrated Prevention and Control of Industrial Pollution» (registration No. 6004) by Deputy Ustinova O. Yu. [10]; Draft Law «On prevention, reduction and control of pollution arising as a result of industrial activity» (registration No. 6004-1) [11] from deputy O. R. Marusiak and others. On September 22, 2021, the second alternative draft of the Law of Ukraine «On ensuring the constitutional rights of citizens to an environment safe for life and health» (registration No. 6004-2) [12] was registered by the head of the Committee on Environmental Policy and Nature Management O. V. Bondarenko.

The draft law No. 6004 is identical to draft law No. 4167, which was considered three times by people's deputies and finally failed in July 2021.

This draft law provided for the enterprise to obtain an integrated permit, instead of three different ones (water, air, waste), when issuing it, it was the enterprise's cumulative impact on the environment that was taken into account. An electronic system for issuing integrated permits was envisaged, which would make the procedure as transparent as possible. An integrated permit would establish requirements for the application of the best available technologies, appropriate monitoring and control of the enterprise's activities.

The draft law No. 6004-1 represents the interests of business and allows major polluters not to modernize for another 20 years or more.

Instead, the version of draft law No. 6004-2 is identical to the main draft law and introduces 3 main things:

- 1) projected and unified EU rules for regulating industrial pollution (consolidated in the conclusions of BATM), which are expected to take more than 13 years to achieve;
- 2) deregulation: one integrated environmental permit instead of three;
- 3) an electronic transparent permit system that provides access to environmental information for all interested parties.

It is hoped that the latest iteration, draft law No. 6004-2, will be a compromise document that does not promise

immediate results, but lays the foundations for long-term positive changes for the environment. It meets the requirements of the relevant EU directive and is most elaborated in the context of its integration with current general and sectoral legislation.

Without its approval, all of Ukraine's ambitions regarding uncarbonization and «green» modernization, and, as a result, improving the quality of life of Ukrainians and ensuring the constitutional rights to an environment safe for life and health are impossible. In addition, Ukraine will face significant consequences related to the failure of obligations under the Association Agreement with the EU.

Let's hope that in the near future the Verkhovna Rada will consider the draft law and adopt the one that meets the European standards and which will preserve a clean environment and Ukrainian industry.

3. Water Quality and Management of Water Resources, Including the Marine Environment

In accordance with Section V of Chapter 6 of the Association Agreement with the European Union, cooperation between Ukraine and the EU aims to preserve, protect, improve and restore water quality and manage water resources, including the marine environment [13]. The management of water resources should be carried out on the basis of the Water Framework Directive 2000/60/EU, the purpose of which is to protect and improve the state of water resources, to promote their sustainable and balanced use [14].

At present, the environmental policy of Ukraine in the field of protection and use of water resources is aimed at implementing the principles specified in the EU Water Framework Directive, namely: adoption of national legislation and determination of the authorized body (bodies); fixing at the legislative level the definition of the unit of the country's territory hydrographic zoning; development of regulations on basin management; determination of river basin areas and creation of management mechanisms for international rivers, lakes and coastal waters; analysis of characteristics of river basin areas; introduction of water quality monitoring programs; preparation of river basin management plans, consultation with the public and publication of these plans [13].

Water resources integrated management involves the process of coordination, conservation, management and development of water, land and related resources within its borders and is the most common among the developed countries of the world. This approach to management makes it possible to obtain the most optimal and fair economic and social benefits for the use of water resources, at the same time it allows preserving and restoring the ecosystem of the water body.

Separate principles of water resources integrated management have already been implemented in Ukraine. In accordance with the Law of Ukraine No. 1641-VIII dated

October 4, 2016 «On Amendments to Some Legislative Acts of Ukraine Regarding the Implementation of Integrated Approaches to the Management of Water Resources Based on the Basin Principle», amendments were made to the Water Code, namely the territory of Ukraine is divided into 9 water management areas along the main river basins of Ukraine and it is determined at the legislative level that the system of water resources integrated management according to the basin principle is being implemented in the state [15].

«River Basin Management Plan» is a strategic document that determines the development of a river basin and a working tool for implementing the principles of integrated water resources management in a specific river basin [16]. This document is developed and used to improve the ecological condition of the river basin and allows for the development of measures to improve the condition and level of provision of water resources for the population and branches of the country's economy.

Currently, the «River Basin Management Plan Development Procedure» has been approved in Ukraine, which defines the mechanisms for developing the document [9]. The development of the first River Basin Management Plans for each area of the river basin began during the implementation of the «National Target Program for the Development of Water Management and Ecological Improvement of the Dnipro River Basin for the Period Until 2021» [17]. Work on the development of documents for individual river basins of Ukraine is conducted in accordance with the approved plan-schedule for the development of River Basin Management Plans [18].

The basin principle of water resources management allows for the integration of social, economic and ecological aspects of water use within one river basin. In order to implement its principles, since 2016, updated Basin Councils have been created in Ukraine. In 2017, a standard regulation on Basin Councils [19] was adopted, and already in the second half of 2018, 13 Basin Councils were established in accordance with existing areas of river basins (with the exception of the river basin area of temporarily occupied Crimea). They include representatives of central authorities, local self-government, water users and public activists. The specificity and effectiveness of the work of the Basin Council depends on how exactly the interaction between the members of the Council will be established, because this body is, first of all, an advisory body, where problems arising within the water basin and possible ways of overcoming them should be discussed.

One of the foundations of implementing the principles of integrated water resources management is state water monitoring. Starting from 2018, a new procedure for state water monitoring was approved in Ukraine, which complies with EU directives and provides an opportunity to obtain more information about the state of water in Ukraine.

In accordance with the adopted State Monitoring Procedure, a clear division of responsibilities between monitoring subjects was defined without duplication of powers, new monitoring indicators (priority,

hydromorphological and biological) were introduced, which had not been measured in Ukraine until now. The resolution establishes separate monitoring procedures, namely: the procedure for diagnostic monitoring of surface and underground water bodies; procedure for operational monitoring of surface and underground water bodies; procedure for research monitoring of surface water bodies; procedure for monitoring sea waters, the choice of which depends on the goals and tasks of state monitoring [20]. The first three types of monitoring procedures are carried out according to the basin principle.

Currently, appropriate state water monitoring programs are being developed for state water monitoring in Ukraine. Diagnostic monitoring programs have already been prepared for the Don, Dniester, Danube and Vistula basins, by the State Agency of Water Resources of Ukraine, in accordance with the new requirements. The functions of measuring priority pollutants during monitoring are planned to be assigned to 4 basic laboratories (Western, Eastern, Northern and Southern regions).

The implementation of a new monitoring system allows to obtain the data necessary for the development of River Basin Management Plans.

The draft State Water Policy Strategy in the format of the Green Book provides an opportunity to assess the current state of the industry, including assessing the quantitative and qualitative state of water resources in Ukraine, the effectiveness of implementing new forms of water resources management and ecological governance in river basins. The goal of the Strategy is to achieve a «good» ecological, quantitative and chemical state of water resources of Ukraine through proper preparation and creation of the necessary legal, organizational and financial foundations for the implementation of River Basin Management Plans. The draft Water Policy Strategy is based on such basic principles as: integrated management of water resources according to the basin principle; prevention and prevention of depletion and pollution of water bodies; compliance with the principle «water user and polluter pays»; the need to take into account sustainable development in the management of water resources [21]. On the basis of this Strategy, it is possible to further develop ways of achieving the defined goals regarding the implementation of Ukraine water policy.

4. Conclusions

The insufficiently effective state of the system of state management, environmental control, environmental monitoring, as well as the ineffective integration of the environmental component into the socio-economic development of Ukraine before the start of the full-scale war did not allow achieving the goals of environmental security, sustainable nature management and integration into the European space. As a result of the full-scale war, the ecological problems that existed in Ukraine before its beginning became much more complicated. The lack of

access to territories and objects of environmental management, the loss and destruction of infrastructure, the loss of personnel and the limited ability to work negatively affected the ability to fully implement state management in the field of environmental protection. The National Council for the Recovery of Ukraine from the Consequences of the War developed the Plan for the Recovery of Ukraine. The implementation of tasks and projects of the Recovery Plan in the direction of environmental security will ensure the implementation of environmental policy in accordance with the European integration direction of the development of Ukraine and the European Green Course, as well as the integration of the environmental component into all reforms and projects for the restoration of the country in accordance with the European course and the principles of sustainable development.

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