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ENVIRONMENTAL POLICY

*Lecture Notes on the Discipline **"Environmental Policy"***
for Students of the Second (Master's) Level of Higher Education
Educational Program "Ecology"
*Field of Knowledge E – Natural Sciences, Mathematics and **Statistics***
Specialty E2 – Ecology
Full-time and Part-time Study Programs

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Lecture Notes on the Discipline "Environmental Policy" for Students of the Second (Master's) Level of Higher Education Educational Program **"Ecology"**, Field of Knowledge **E – Natural Sciences, M 75 Mathematics and Statistics**, Specialty **E2 – Ecology** Full-time and Part-time Study Programs / Compiled by **I.Ya. Myskovets**. – Lutsk: **Lutsk National Technical University**, 2025. – 62 **p.**

The lecture notes are compiled in accordance with the current program of the course "Environmental Policy" in order to gain knowledge of applicants and provide methodological assistance in the learning process. The basics of theoretical material from the course are used.

FROM THE CONTENT

Introduction

The discipline "Environmental Policy" belongs to the cycle of social sciences, aimed at shaping the worldview of the specialist – ecologist. It combines the professional knowledge of the student with the knowledge gained during the study of disciplines from the humanities and economics cycles.

This course provides the foundation for the theoretical and practical training of future specialists in the field of environmental protection. Until recently, politics and ecology were somewhat indifferent concepts in relation to each other. In modern politics, a new area of activity has emerged – environmental policy.

Environmental policy is the organizational and regulatory-control activity of society and the state, aimed at protecting and improving the natural environment, effectively combining the functions of natural resource use and nature conservation, and ensuring the normal functioning of life.

The aim of the discipline "Environmental Policy" is to provide the student with the knowledge and skills necessary for the development of strategies and tactics for human interaction with the natural environment. This is achieved through the solution of the following tasks:

- Considering the historical experience of human relations with nature at all levels – from international to local;
- Using the regulatory framework of international and state structures;
- Optimizing participation in the process of official state and public associations;
- Scientifically justifying the strategy (long-term and short-term) for the development of society.

The mastery of theoretical issues is carried out based on lecture material, as well as independently using the recommended literature. The lecture notes for the course "Environmental Policy" are written according to the course syllabus, which allows students to effectively use them in their studies.

Content module 1. Main aspects of environmental policy

Topic 1. Concept and essence of environmental policy

1. Content, goals, criteria and principles of environmental policy formation
2. Structure of the state's environmental policy.
3. Levels of environmental policy.
4. Basic laws.

The current environmental situation in the world and in Ukraine can be characterized as critical, having developed over a long period of time. Environmental protection, rational use of natural resources, and ensuring ecological safety for human life are essential conditions for the sustainable economic and social development of Ukraine and the world as a whole. To this end, activities in the field of environmental policy are being carried out in all countries, including Ukraine, aimed at preserving a safe environment for the existence of both living and non-living nature, protecting the life and health of the population from the negative effects caused by environmental pollution, achieving a harmonious interaction between society and nature, and ensuring the protection, rational use, and reproduction of natural resources.

The economic mechanism is currently recognized as one of the most effective means of environmental protection. Maintaining the proper efficiency of the economic mechanism requires its continuous improvement. The Law of Ukraine "On the Basic Principles (Strategy) of State Environmental Policy of Ukraine for the Period until 2030" states that "the economic instruments and mechanisms for financing environmental protection activities, developed and implemented in the early 1990s, require further development in the context of globalization." In this regard, the study of the experience of countries with similar socio-economic development issues to Ukraine—such as post-socialist economies, the implementation of market reforms, and integration into the European Union—appears especially relevant.

Faced with numerous economic problems, environmental issues have actively entered the political sphere. The need to create a theory for the optimization of natural resource use has led to the politicization of ecology (or the environmentalization of state policy). The term "political ecology" was proposed by French economist B. De Jouvenel, who called on humanity to embark on the salvational path "from political economy to political ecology." As for the concept of environmental policy, there is still no consensus in scholarly works on its definition. For instance, M. Reymers believes that "state environmental policy is a set of socio-economic management decisions and international agreements based on an understanding of the benefits and drawbacks associated with the ecological condition of territories, water areas, and airspace of the country (considering the prospective development of the economy and changes in population size and needs), as well as the availability of natural resources and the nature of the country's living conditions."

V. Sokolov argues that "environmental policy is a set of measures based on the conscious use of objective laws of social and natural development, aimed at maintaining the socio-economic and biological conditions of human life within a political system that

provides the population with the opportunity to influence the selection of goals, tasks, forms, and priorities of this policy."

According to A. Pidzhakov, "environmental policy is a set of measures aimed at environmental protection, conservation and restoration of natural resources, the introduction of waste-free and low-waste, environmentally clean technologies, the development of environmental education and awareness, legal protection of ecosystems, with the goal of ensuring optimal conditions for natural resource use."

O. Saltovskyi defines socio-ecological policy as "a set of scientifically substantiated and formulated principles, tasks, and purposeful actions of the state, public and governmental organizations, and individual citizens, through which the interaction between society and nature is carried out, environmental protection is ensured, and the modern strategy of rational natural resource use is implemented."

M. Kyselov asserts that: "Environmental policy is defined as the organizational and regulatory-control activity of society and the state, aimed at protecting and improving the natural environment, effectively combining the functions of natural resource use and environmental protection, and ensuring the normal functioning and ecological safety of citizens."

The provided definitions, although differing from one another as they reflect a specific understanding of environmental policy as a unique phenomenon in political relations, still share a common view. The authors agree that ecological policy is seen as a crucial means of concentrating society's efforts toward optimizing human impact on nature and harmonizing relations with the natural environment.

Environmental policy is a set of measures aimed at environmental protection, conservation and restoration of natural resources, the introduction of waste-free and low-waste, environmentally clean technologies, the development of environmental education and awareness, and legal protection of ecosystems with the goal of ensuring optimal conditions for natural resource use. Environmental policy is defined as the organizational and regulatory-control activity of society and the state, aimed at protecting and improving the natural environment, effectively combining the functions of natural resource use and environmental protection, and ensuring the normal functioning and ecological safety of citizens.

Environmental policy encompasses two groups of interconnected tasks:

Firstly, tasks aimed at preserving the conditions for human existence, Secondly, the formation of a culture (primarily ecological) of life.

It is important to note that the term "environmental policy" in a narrow sense refers to environmental protection policy. In a broader sense, it encompasses policy in the field of environmental protection, natural resources, and ensuring ecological safety, along with policies related to their specific issues.

The goal of national environmental policy is to stabilize and improve the state of the country's natural environment through the integration of environmental policy into the socio-economic development of the country, in order to guarantee an ecologically safe environment for the life and health of the population, implement an ecologically balanced system of natural resource use, and preserve natural ecosystems.

According to the Law of Ukraine "On the Basic Principles (Strategy) of State Environmental Policy of Ukraine for the Period until 2030," the main principles of national environmental policy are:

- Strengthening the role of environmental management in the state governance system to achieve a balance between economic, ecological, and social development, with a focus on sustainable development priorities. This includes considering environmental impacts in decision-making and policy development.
- Preventing natural and technological emergencies by analyzing and forecasting ecological risks based on strategic environmental assessments, environmental expertise, and state environmental monitoring.
- Ensuring ecological safety and maintaining ecological balance within the country.
- Responsibility of the current generation for environmental preservation for future generations. Public participation and input from businesses in shaping and implementing environmental policies, as well as improving environmental legislation.
- Irrevocable responsibility for violations of environmental protection laws.
- The "polluter pays" principle, where environmental polluters and natural resource users bear the full cost.
- Government responsibility for the availability, timeliness, and accuracy of environmental information.
- State support and encouragement for domestic businesses that modernize production to reduce environmental impact.

The main instruments for implementing national environmental policy are:

- Intersectoral partnerships and stakeholder engagement.
- Environmental impact assessment of strategies, programs, and plans.
- Improving the permitting system for environmental protection.
- Environmental expertise and impact assessment of environmental projects.
- Environmental audits, management systems, and eco-labeling.
- Environmental insurance.
- Technical regulation, standardization, and accounting in environmental protection, natural resource use, and ecological safety.
- Environmental protection legislation.
- Education and scientific support for shaping and implementing national environmental policy.
- Economic and financial mechanisms.
- Environmental monitoring and control for ecological safety.
- International cooperation in environmental protection and ecological safety.

2. *Environmental policy has two dimensions – normative and regulatory.* The first is the creation of a system of rules and standards, while the second involves organizing specific actions to protect the environment. Environmental policy consists of tactics and strategies developed by state organizations and institutions (primarily the legislative branch), while its implementation is carried out by the executive branch.

The goals of environmental policy are focused on the rational use and reproduction of natural resources, based on the overall goals of life and human society development. The primary goal is to improve the quality of life.

However, it should be noted that residents of large industrial cities, aware of the health risks posed by harmful emissions from industrial giants, increasingly perceive this as a necessity for their existence. For example, most of the population in the Donetsk-Dnipropetrovsk region does not agree with closing environmentally harmful industries for fear of losing their livelihoods. People are increasingly prioritizing material factors over ecological ones. As a result, "an extremely dangerous mechanism of getting used to the objective symptoms of a real impending ecological disaster in the country is forming; this is capable of, and already is, leading to the genocide of the nation."

The means used to implement environmental policy can be classified by the sphere of implementation (Fig. 1.1) and based on the nature of state intervention in its execution:

- **Environmental protection measures** (conducting research and development, training environmental specialists, providing informational support for environmental policy, monitoring, reforestation, expanding the nature reserve fund, etc.);
- **Economic regulation and stimulation of environmental activities** (investments, loans, credits, tax benefits on profits from environmental programs, preferential rates for waste treatment and recycling);
- **Coercive measures** (environmental expertise, environmental standards and regulations, prohibitions, inspection activities, fiscal sanctions, including fines and property penalties);
- **Incentive measures** (preferential deductions for pollution, pollution limits, etc.).

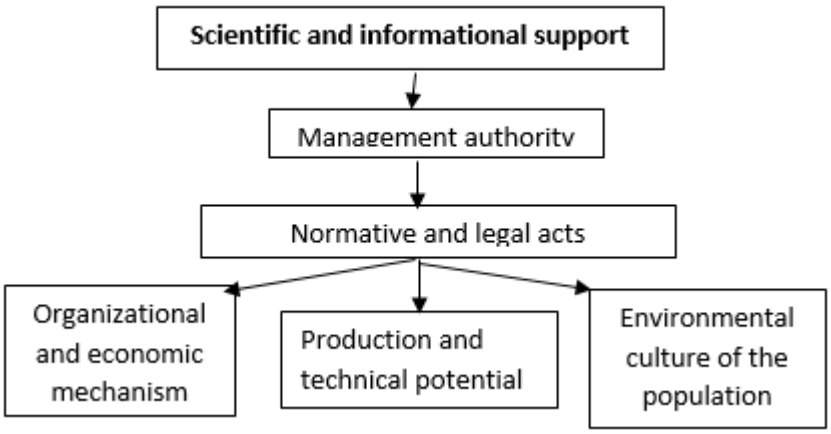

Fig. 1.1 - Structural model of regional environmental policy

The mechanism of environmental policy includes a system of structural elements, the goal and methods of its achievement, which allow to ensure the harmonious interaction of society and the natural environment. Therefore, environmental policy is a system of measures and means of society's influence on

nature, which is carried out in the following main directions:

- application of the norms of national environmental legislation and ratified international conventions;
- international cooperation in the field of ecology and natural resources;
- economic stimulation of environmental protection measures and control by the state;
- a fundamental change in the nature of production activities from the point of view of environmental consequences (the introduction of new low- and zero-waste technologies, the transparency of state expertise, the possibility of conducting public environmental expertise, monitoring);
- awareness of citizens and their accessibility to environmental information;
- the formation of environmental awareness, environmental culture and environmental responsibility through environmental education of all members of society, and especially leaders at all levels.

Summarizing the main directions outlined above, we can define such a vector as the formation of a strategic state program for environmental protection (concept of environmental policy), in which the following measures are clearly indicated:

- environmental protection;
- preservation of man himself as a conscious component of nature, an active and creative subject.

An important place in the process of forming the concept of environmental policy is occupied by issues related to the creation of effective regulation mechanisms in the field of natural resource use. It is precisely through these means that the realization of social, economic, and political principles becomes possible. Environmental policy aims to reconcile the social and ecological goals of society as the basis for solving the problem of the global environmental crisis. The implementation of environmental policy, like any other policy, is impossible without aligning the will of individuals with common interests. Therefore, the main subject of environmental policy should be the state.

At the present stage, environmental policy has been established as a separate area of state activity and public administration. This is due to several factors:

- The urgency of the environmental issue;
- Its global nature and scale;
- Significant financial costs.

Therefore, solving such global problems is beyond the capacity of public organizations; only the state can achieve this. It remains indisputable that only the state can concentrate the necessary material, financial, scientific, and technological means and resources to address the environmental issue.

3. In the structure of environmental policy, contemporary scholars distinguish different, but generally three, main levels. According to M. Reimers, the hierarchy of environmental policy encompasses at least four levels: international-global, regional, national (state), and local. M. Khylko identifies the global, regional, state, and local levels. O. Saltovsky distinguishes the global, national, and local levels.

Given the overall direction of the state strategy for transitioning to the principles of sustainable development and decentralization of governance, the territorial distribution factor in the implementation of environmental policy becomes particularly relevant. It is considered necessary to detail these levels of environmental policy, taking into account the subject-territorial division, namely:

- **Local (objective) level**: covers the environmental policy of enterprises, organizations, etc.;
- **Municipal level**: similar to certain aspects of regional policy but on a much smaller scale, at least within the boundaries of a rural district or city;
- **Regional level**: the level at which environmental policy for a region or oblast is determined;
- **Subnational level**: where environmental policy is concentrated across several regions or oblasts;
- **National level**: implementation of environmental policy within the boundaries of a single country;
- **Intergovernmental level**: where the environmental interests of several states are concentrated;
- **Planetary (global) level**: with the goal of preserving the planet's resources.

The goals and objectives of environmental policy are defined at the global and national levels. At lower levels—subnational, regional, local, and object-specific—they are specified and the ways of their implementation are determined.

The **local level** of environmental policy implementation is related to harmonizing the relationship between society and nature within small territories, specific ecosystems (such as individual enterprises or farms). Tasks at this level should be addressed by local self-government bodies and the direct managers of the specific entities. They adopt certain acts of a regulatory nature to enforce existing legislation within their competence and also oversee their execution.

Environmental policy at the **local level** is a distinct sphere of management focused on the development of a specific part of the community. It should be directed at harmonizing the life and health of the local population, ensuring ecological safety, and the balanced use of natural resources specific to this territory. This policy should consist of a set of measures and decisions taken at the local level by all governing bodies in the interests of the local population. Therefore, each district should develop its own environmental policy, taking into account the natural conditions, resource availability, the specifics of local economic activities, environmental hazards, and the regional policy as a whole.

Ineffective environmental policy at both the local and regional levels leads to ecological disasters and disruptions in ecological balance, which pose a threat to life not only in the affected region but also in neighboring ones. For example, the disasters occurring in Zakarpattia are partly caused by the forestry practices in the Lviv region.

"Regional management" (from Latin *Regionalis*) refers to belonging to a specific territory, particularly an oblast. According to the Concept of State Regional Policy of Ukraine, a region is the basis for economic, social, and ecological organization of space and the mobilization of necessary resources.

The essence of regional management is realized through the following principles:

- **Historicism**: It helps objectively assess the relative completeness of each stage of the region's development.
- **Unity of regional policy and economic construction**: Focuses on a comprehensive approach to accounting for each region's natural and economic features, economic and social development tasks, and combines economic management methods with local initiative.
- **Complexity**: Reflects objective processes of social labor division and regional integration, promoting the balanced development of regional economies.
- **Natural-economic balance and optimization**: Ensures a justified economic match between increasing production potential and environmental protection efforts, aiming for rational regional development.
- **Priority**: Helps rank goals and tasks in accordance with the region's development strategy and capabilities.
- **Variability (alternativity)**: Emphasizes the need to choose the optimal path for achieving regional goals and tasks.
- **Harmonization of interests**: Involves mutual responsibility and obligations between local authorities, businesses, institutions, organizations, and the public for regional development.
- **Proportionality**: Ensures financial resources are provided in proportion to administrative-territorial levels and expands the financial independence of lower-level territorial units.

This suggests that at the regional level, it is possible to compare the structure and scale of production with the structure and size of the integrated natural resource potential, identifying priorities for its use. Socio-economic progress and environmental quality are two complementary priorities in regional development. Based on this, the interests of the economy and ecology can be balanced, with environmental criteria, requirements, and indicators taking precedence. Therefore, each region should have its own development model based on its priorities and specific characteristics.

Strategic decisions are made at the highest level – national or state. State environmental policy is the organizational, coordination, and control activity of society and governing institutions aimed at balancing environmental protection functions and the rational use of natural resources. State environmental policy involves comprehensive environmental justification for every economic project, the organization of continuous environmental monitoring, environmental expertise, environmental control, environmental education, and, importantly, environmental ethics.

The state is the main coordinator of environmental protection activities within its territory, possessing a strong enforcement apparatus and relevant authority. Sectoral ministries, committees, and agencies play a key role in making environmental decisions at the national level. Through their policies, they manage the use, restoration, and

distribution of natural resources, ensuring economic and social progress while preserving human living conditions.

Interstate environmental policy addresses the interests of multiple states and involves the creation of cross-border nature reserves, cooperation in natural resource use, monitoring transboundary pollution, animal migration, wildlife protection, management of transboundary watercourses and international lakes, and conducting environmental impact assessments, among other activities.

The solution to global environmental problems, which concern the preservation of the planet, all nations, and every individual, is the essence of planetary (global) environmental policy. This new approach by governments and their institutions addresses global ecological issues and further develops international cooperation in nuclear safety, reducing ozone-depleting emissions, and more.

Highlighting the individual level is also crucial, as every person plays a role at the local, national, and global levels. Today, "the urgent problem of organically integrating ecological components into general education progress and significantly increasing its didactic load has arisen." Therefore, an effective means of shaping environmental awareness in contemporary society should be an ecological education and environmental upbringing system (Fig.1.2.).

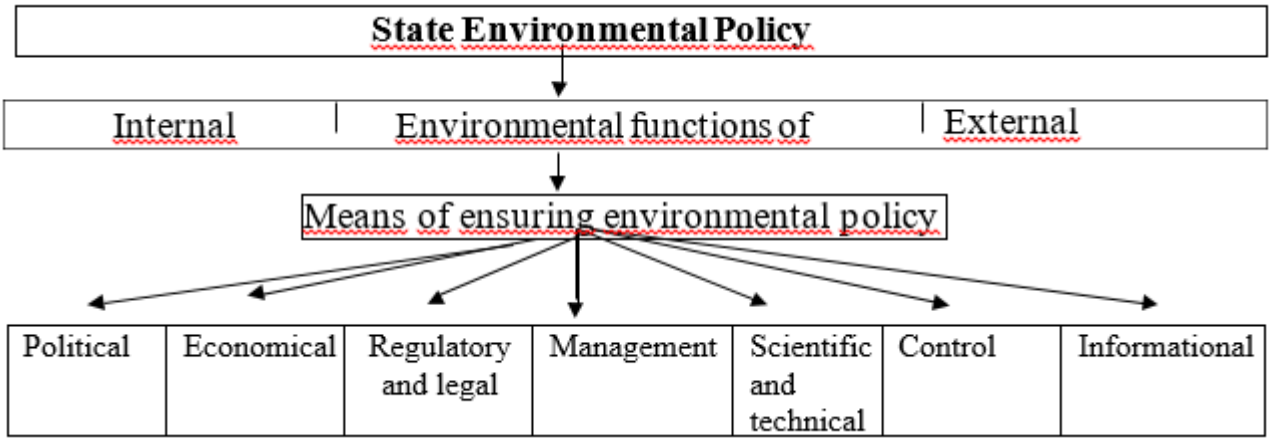

Fig.1.2 - Formation of state environmental policy

Methods of management in the implementation of environmental policy can vary, including:

- Economic (taxes, sanctions, subsidies);
- Administrative-legal (laws, presidential decrees, government resolutions, ministry orders);
- Informational (education, press, television, etc.).

Adhering to the principles mentioned above and using different methods should lead to sustainable development of society and the environment. However, to form environmental policy, it is important to know the main ecological laws. First of all, these are the four laws of ecology by American scientist B. Commoner:

- Everything is connected to everything else;

- Everything must go somewhere;
- Nature knows best;
- There is no such thing as a free lunch (everything has a cost).

Table 1.1 - Distribution of management functions for the implementation of environmental policy

Functions of environmental policy		
National Level	Regional level	Local level
Legislation and Regulation: Developing and enforcing laws and regulations that govern environmental protection, pollution control, resource management, and sustainability practices within the country. **Resource Management**: Ensuring the sustainable use and conservation of natural resources, including water, land, forests, and minerals, through strategic planning and regulation. **Pollution Control and Mitigation**: Establishing measures to reduce emissions, manage waste, and control air, water, and soil pollution to protect public health and the environment. **Biodiversity Protection**: Implementing policies aimed at preserving ecosystems, wildlife, and plant species, including the creation of national parks, reserves, and protected areas. **Climate Change Mitigation and Adaptation**: Developing national strategies to reduce greenhouse gas emissions and adapt to the impacts of climate change through policies like renewable energy adoption, carbon pricing, and resilience-building. **Environmental Monitoring and Reporting**: Establishing systems for monitoring environmental conditions, gathering data on pollution levels, and assessing the effectiveness of environmental policies and programs. **Public Awareness and Education**: Promoting environmental education and raising awareness among citizens, businesses, and local communities about sustainability and eco-friendly practices. **Economic Incentives and Funding**: Providing financial support, subsidies, or tax incentives for green technologies, sustainable industries, and conservation projects, encouraging private sector participation in environmental protection.	• Regulation of the use of local natural resources • Setting pollution standards for the natural environment. • Implementation of economic mechanisms for resource use. • Conducting monitoring and accounting of natural resource use and environmental pollution. • Carrying out state ecological expertise. • Exercising state control over compliance with environmental legislation • Developing programs for implementing. environmental protection measures, defining and implementing investment policies. • Informing the public and interested businesses and organizations on environmental issues.	• Conducting local and objective monitoring. • Implementing state control over compliance with environmental legislation. • Organizing the development of local environmental programs and projects.

International Cooperation and Compliance: Collaborating with other countries to address global environmental challenges, adhering to international agreements, and fulfilling obligations under treaties such as the Paris Agreement on climate change. **Crisis Response and Disaster Management**: Responding to environmental emergencies, such as natural disasters, industrial accidents, or pollution crises, with coordinated government action and resources.		

4. Today, many other laws have been formulated, among the most important of which are:

- **The Law of Limited Natural Resources** or the "Shagreen Skin" Law: All natural resources within the Earth are finite. The planet is a naturally limited body, and infinite (immeasurable) components cannot exist on it.
- **The Law of Environmental Development**: Any natural system develops only by utilizing the material and informational potential of the surrounding environment. Absolutely waste-free production is impossible, just as completely isolated self-development is impossible. Any more organized biological system, in its development, poses a potential threat to less organized systems.
- **The Law of Unity of Organism and Environment (V. Vernadsky)**: Life develops as a result of the constant exchange of substances and information based on the flow of energy in the combined unity of the environment and its organisms.
- **Ecological Correspondence**: The form of existence of an organism always corresponds to the conditions of its life, or – it is the rule of the correspondence between the environmental conditions and the genetic predisposition of the organism: a species can exist as long as the surrounding environment corresponds to the genetic adaptability of this species to environmental changes.
- **Optimality**: No system can narrow or expand indefinitely. Everything has certain critical limits.
- **Genetic Diversity**: All living organisms are genetically different and tend to increase biological diversity.
- **Ecological Individuality (L. Ramensky)**: Each species is specific in its ecological adaptability; no two identical species exist.
- **Constancy**: The amount of living matter in the biosphere remains constant over a certain biological period. Any change in the amount of living matter in one region of the biosphere inevitably leads to a similar change in another region, but with an opposite effect.
- **Ecological Correlation**: In an ecosystem, like any other system, all living species and abiotic ecological components functionally correspond to each other. The loss of one part of the system, for example, the extinction of a species, inevitably leads

to the shutdown of other connected parts of the ecosystem and functional changes in the whole, maintaining internal dynamic equilibrium.

- **Diversity of Living Conditions (Y. Liebig)**: All natural environmental conditions necessary for life play equal roles.
- **Cumulative Effect of Natural Factors, or the Law of Synergism (E. Mӧtcherlich, B. Baulė)**: For example, crop yield depends not on a single limiting factor but on the entire set of ecological factors acting together, meaning the total effect of factors is stronger than their simple arithmetic sum.
- **Tolerance or Endurance Limit for a Specific Factor (V. Shelfond)**: Any excess of matter or energy in the ecosystem becomes a harmful pollutant.
- **Minimum (Y. Liebig)**: The stability of an organism is determined by the weakest link in the chain of its ecological needs. If the quantity and quality of ecological factors are close to the organism's minimum requirements, it survives. If they fall below this minimum, the organism dies, and the ecosystem collapses.
- **Maximum of Biogenic Energy (V. Vernadsky, E. Baer)**: Any biological system, in its development, strengthens its impact on the environment. Only those species that increase biogenic and geochemical energy survive.
- **Physico-Chemical Unity of Living Matter**: All living matter on Earth has a single physico-chemical nature, meaning that what is harmful to one part of living matter also harms other parts, although to varying degrees.

The ecological (mostly natural) laws listed above would be extremely instructive and useful for both policymakers and every citizen. However, limiting ourselves to these laws would be insufficient. In everyday practical activities, it is necessary to consider the laws of the human–nature system, as well as the laws of social ecology. Among them, the following should be highlighted:

- **The Law of the Boomerang or Feedback of Human-Biosphere Interaction (P. Dansero, B. Commoner)**: Any intervention in natural systems causes a series of side effects, often unexpected and undesirable. Nothing goes without a trace, and sooner or later, one will have to answer for their actions. According to B. Commoner, "… the global ecosystem is a whole, within which nothing can be gained or lost, and it cannot be subject to general improvement: everything extracted from it (the ecosystem) by human labor must be returned. The payment for this debt cannot be avoided; it can only be delayed."
- **The Law of Irreversibility of Human-Biosphere Interaction**: Renewable natural resources become non-renewable if the environment is drastically changed or over-exploited, leading to their complete destruction or extreme depletion, thus exceeding the potential for their restoration.
- **The Rule of Conversion (Exploitation) of Natural Ecosystems**: One cannot take more from nature than it can give. On the contrary, one should take less. Human activity should not push natural systems into a mode of unstable equilibrium, and any conservation efforts must be compensated. The development of productive forces should correlate with the natural-resource potential.

- **The Principle of Naturalness or the Rule of the Old Car**: Over time, the efficiency of technical equipment that ensures strict management of natural systems and processes declines, while economic (material, labor, financial) costs for maintaining them grow. Aging technical equipment becomes unprofitable and needs to be replaced. Unlike technical systems, natural systems regenerate themselves and represent an "eternal" engine that requires no capital investment, provided the pressure on them does not exceed their capacity to regenerate.
- **The Rule of Killing Returns or Diminishing Energy Return in Resource Use (A. Turgot – T. Malthus)**: The increase in energy required for producing a unit of output is associated with replacing manual labor with mechanical labor and replacing natural soil fertility with artificial fertility.
- **The Rule of Demographic Saturation (P. Ehrlich)**: The population size always corresponds to the maximum possible capacity for sustaining its livelihood.
- **The Rule of Social-Ecological (Dynamic) Equilibrium (M. Reimers)**: Society develops to the extent and in the manner that it maintains balance between its pressure on the environment and the recovery of this environment—both natural and artificial. In cases of minor interventions, the natural environment and ecosystems are capable of self-regulation and restoration. However, exceeding certain intervention thresholds, which must be well known to humans, leads to significant disruptions in energy and biobalance over large areas and the entire biosphere. Since the living environment and functioning of human economies are significantly disrupted, the reproduction of natural resources and the maintenance of social-ecological equilibrium require significant material, labor, and financial resources.
- **The Law of Historical (Social-Ecological) Irreversibility**: The process of biosphere and human development as a whole cannot proceed from later phases back to earlier ones. The overall development process is unidirectional. Only elements of social relations and economic activities can repeat.

It is clear that this is far from a complete overview of the basic environmental and socio-ecological laws that must be followed in pursuit of sustainable development of society.

Questions for self-control:

1. Define environmental policy?
2. What is the goal of national environmental policy?
3. What are the basic principles of national environmental policy?
4. What is the structure of environmental policy?
5. What are the most important laws of environmental policy do you know?

TOPIC 2. ENVIRONMENTAL POLICY INSTRUMENTS

1. Classification of environmental policy instruments.
2. Classification of payments depending on the implementation and role of levers.

3. System of priority instruments for the implementation of environmental policy principles.

4. Concept of transformation of economic instruments into environmental policy instruments

5. Use of economic instruments of environmental policy in developed countries.

The classification of environmental policy instruments is carried out on the basis of their differentiation according to the main purpose of their introduction, methods of influencing the behavior of economic entities, internalization of external costs, potential for providing revenues, the ability to contribute to the formation of markets, influence on the degree of freedom of enterprises, etc. In practice, it is often difficult to attribute levers to a specific group, since they have characteristic features of different classification groups.

There are three main groups of environmental policy levers: administrative, economic and voluntary (Fig. 2.1). The basis of this classification is the method of influencing the behavior of the source of the environmental problem. The order of the groups also reflects the degree of freedom of enterprises in the case of the use of certain levers.

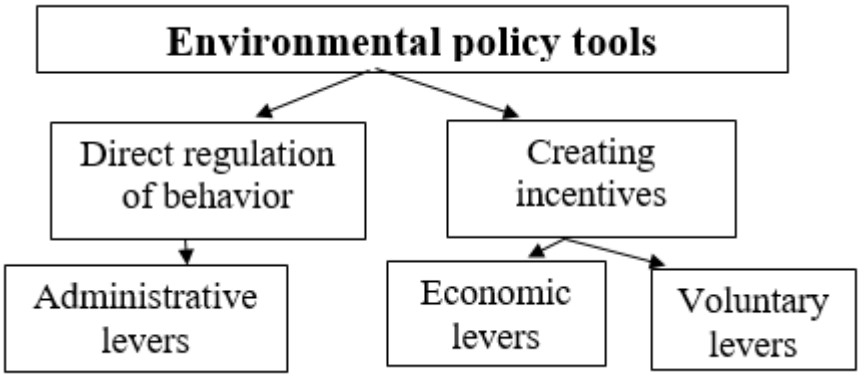

Fig. 2.1 - Main groups of environmental policy levers

The use of administrative levers, or direct regulation of environmental problems, is a regulatory and legal regulation that directly limits the activities of legal entities and individuals in the form of rules, requirements, standards or indicates a permitted course of behavior. This is carried out forcibly. Evasion of regulation is punishable. Administrative levers include:

- environmental standards that characterize the safe state of the environment: maximum permissible concentrations of substances in atmospheric air or water;

- levers to limit the final negative environmental impact (pollution, other types of harmful effects on the environment). These include pollution limits (in tons per year), the permitted volume of emissions (discharges) that pollute the environment (in grams per second), temporarily agreed emission (discharge), standards for the formation of pollutants during the operation of equipment, mobile sources and the

harmful effects of their physical factors;

- technological standards aimed at preventing negative environmental impact: mandatory use of the so-called "best available technology", standards for the use of natural raw materials;

- levers that allow/prohibit environmentally hazardous activities or products: permits, licenses, prohibition of activities or products;

- levers that determine property rights: quotas for the extraction of natural resources, pollution quotas, legislative consolidation of property rights.

Using the "carrot and stick" method, the subject of environmental policy can apply an alternative approach – the "carrot," meaning encouraging voluntary compliance with environmental protection requirements. Voluntary incentives are tools that create stimuli for enterprises to voluntarily adhere to environmental protection requirements, as this improves their image, boosts product sales, helps capture the market, or avoids certain costs. In exchange for voluntary "environmentally exemplary" behavior, enterprises are guaranteed certain benefits. Voluntary incentives include:

- Confirmation of high environmental qualities of a product in the form of eco-labeling and ecological certification, which promotes increased sales volumes;
- Application of international standardized approaches to environmental protection activities at the enterprise and eco-audits, which improve the company's image;
- Participation in environmental programs (industry, government, regional) to improve the image and gain certain advantages, such as lobbying for the interests of the enterprise (industry), securing government contracts, etc.;
- Self-regulation – a tool that can be considered conditionally voluntary, as it involves joint efforts to implement a shared environmental program created by the enterprises located in the same region.

Economic levers in terms of the level of coercion occupy an intermediate position between administrative and voluntary. Economic levers include levers that affect the costs and revenues of alternative behavior options of economic entities and thereby create an incentive to change their behavior in an environmentally friendly direction. These levers make environmentally dangerous activities more expensive and environmentally friendly ones cheaper. Economic levers force an economic entity, which independently makes decisions based on an analysis of income and expenses, to choose a cheaper alternative, which is also more environmentally friendly.

Economic levers are divided into two groups:

- financial transfers (payments, taxes, subsidies, deposit and refund systems, environmental insurance, etc.);

- levers that contribute to the creation of new markets (market permits, price guarantees).

The following main groups of levers are distinguished:

- payments;

- fiscal levers, i.e. those related to the sphere of taxation: taxes, differentiation of their rates, exemptions. Accelerated depreciation belongs to this group, because it reduces the amount of taxable profit, and therefore is a tax benefit;

- financial instruments - levers and preferential terms for financing environmentally friendly behavior: eco-funds, various types of financial assistance - both repayable and non-repayable. If taxes and payments are aimed at internalizing negative externalities, then financial levers to a certain extent internalize positive externalities;

- means of economic responsibility, which internalize external costs after causing environmental damage, - irregular payments levied upon the fact of causing environmental damage or other violation of environmental legislation;

- levers that internalize environmental risk (environmental external costs) before causing environmental damage: environmental bonds (bonds) and a system of deposits and compensations. Environmental insurance as a mechanism for shifting economic responsibility for environmental damage can be attributed equally to this and the previous group. In addition, environmental insurance contributes to the creation of a market for environmental risk, therefore, it also belongs to market levers;

- market instruments - those that contribute to the creation of a market for environmental property rights. These levers, in essence, are economic and legal, since they provide for the legal consolidation of property rights. But the establishment of property rights is transformed from a regulatory to an economic lever only when these rights are allowed to be freely exchanged on the market. It should be noted that the term "market instruments" has two meanings. In a broader interpretation, market instruments are understood to mean all economic levers, since their action is associated with markets. In a broader sense, market levers are those that contribute to the formation of new markets.

The most common are environmental payments and taxes. Theoretically, the difference between these levers is that, unlike taxes, payments are associated with the reverse flow of goods and services. At the same time, this definition is not exhaustive, because there are taxes that open access to income without being associated with specific goods (services), and there are payments that do not reimburse the costs of providing services or do not leave the consumer the opportunity to evade receiving them, even if he does not want to consume a certain service. In such cases, the distinction between levers should be made taking into account the main purpose of their introduction. The purpose of introducing a lever and the role it actually performs may differ for one reason or another.

It is also advisable to propose the division of taxes and payments, depending on their main purpose, into taxes and payments specifically intended for environmental policy purposes and general economic taxes and payments that affect the state of the environment. The latter should include instruments characterized by the following features:

- the main purpose of their introduction is not to achieve environmental goals or to form a source of funds for financing environmental protection activities;

- the object of the payment is not the volume of use of natural resources, the level of pollution or environmental damage.

Payments	Fixed instruments	Financial instruments
Pollution fee User fee (tariffs) Administrative fees Special use fee for natural resources	Pollution tax Product tax Differentiation of tax rates Export-import tariffs Payment subsidies Tax benefits	Ecological tariffs Grants Soft loans Subsidies Subsidies on payment Subsidies on interest payments on a loan
Means of economic liability	**Market instruments**	**Advance refunds**
Compensation Reimbursement Penalties Penalty Environmental insurance	Market permits for pollution Market permits for extraction of natural resources Market quotas for territorial development	Ecological vouchers Deposit and refund system

Fig. 2.1. Classification of state environmental policy instruments

In the case of the use of economic instruments, the object of the payment can be both the direct level of harmful impact on the environment (for pollution charges - the actual level, for environmental bonds - the expected level), and the product (resource), the production (consumption) of which this harmful impact is associated with (product tax, deposit and refund system).

Revenues from environmental payments may be transferred to the budget without a predetermined intended use or may be "marked" for environmental purposes, that is, spent within the budget on targeted financing of environmental measures or to form special extra-budgetary environmental funds that finance environmental projects on a competitive basis.

Environmental policy has a special responsibility to prevent environmental disasters that arise as a result of the operation of environmentally hazardous industries. Therefore, the problem of developing perfect environmental policy instruments, with the help of which it would be possible to ensure reliable planetary environmental security, remains one of the most urgent in environmental policy.

Self-check questions:

1. What are the main three groups of environmental policy levers?
2. What groups are economic levers divided into?
3. What groups of levers do you know?
4. How are payments classified depending on the implementation and role of the levers?

TOPIC 3. MECHANISM FOR IMPLEMENTING ENVIRONMENTAL POLICY

1. National Environmental Action Plans (NEAPs).
2. Work Plan.

3. Environmental Impact Assessment (EIA).
4. Convention of the United Nations Economic Commission for Europe.
5. Environmental Risk Assessment.

Environmental policy can be implemented both through the implementation of specially developed environmental action plans or programs, and by integrating environmental requirements and priorities into sectoral strategies, development programs or action plans, specific projects.

Environmental action plans are developed and implemented at different levels: global, regional, national, territorial, local and for individual objects. Environmental action plans can also be developed and implemented in individual sectors of the economy and by individual companies, etc. Depending on the level for which the plan is developed, its structure, degree of detail, implementation mechanisms, interpretation of guiding principles, etc. change. For example, although the Agenda for the 21st Century is sometimes called an action program, this document is actually more of a coordinated set of political goals and strategies and means to achieve them.

The practical implementation of strategies and the selection of necessary tools are the responsibility of governments. On the other hand, an environmental program for, say, a specific region or city should contain clearly defined goals, deadlines and indicators of implementation, measures, tools and mechanisms for implementation, monitoring and control of implementation, responsible persons, technical and economic justification, etc. should be specified.

At the current stage of development of environmental protection activities, environmental action plans developed and implemented at the national level have acquired extremely important importance.

National Environmental Action Plans (NEAPs) play the role of a catalyst for nature protection and nature management authorities. In many countries, the development and implementation of NEAPs prompted the development of regional and local environmental action plans, which, in particular, significantly increased the level of environmental management. In countries that already had general environmental strategies approved at the national level, NEAPs became a tool for implementing such strategies.

The experience of developing and implementing NEPDs in different countries shows that the most typical features of successful NEPDs are as follows:

-taking into account global and regional environmental factors and priorities;

-focusing on one or more priority national environmental problems in order to implement the NEPD by the deadline;

-the NEPD is not only based on environmental policy instruments, but itself is a tool that allows solving the most important problems, provided that the best use of available resources, improvement of environmental management and inter-sectoral coordination is made;

-the NEPD is not just a document, but a purposeful process of making and implementing environmental and economic decisions;

-taking into account the realities of the country in which the NEPD is being

developed and implemented, which is possible provided that a broad consultation process with all stakeholders, especially the public, is introduced.

The NEPD usually contains the following components:

- justification for the choice of key sectors and problems;
- justification for prioritization and problem solutions;
- analysis of problems based on available environmental and other information;
- environmental objectives;
- calculations of necessary financial and other resources and investment plan:
- implementation schedule;
- mechanism for consultation with stakeholders, monitoring of implementation etc.

The development and implementation of the NDP requires the involvement of a wide range of stakeholders, whose interests and goals may not necessarily align in general. Therefore, it is important to immediately initiate an extensive consultation process under the auspices of the central government authority responsible for implementing the national environmental policy. Simultaneously with the development of the NDP, it is necessary to build up the managerial and executive capacities of environmental protection and other interested bodies and institutions so that by the time the action plan is practically implemented, there is already a management capacity capable of executing and further developing the NDP. Clearly, managing such a process is more complex and difficult compared to simple linear schemes familiar to bureaucratic structures. Therefore, it is often important to create special management and coordination bodies for the NDP, such as a secretariat and a coordination committee. The first body is primarily responsible for managing the information flows within the NDP, analysis, and organizing monitoring and control of implementation, while the second is tasked with ensuring interagency coordination and the development of the consultation process.

An important prerequisite for the development and implementation of the NDP is the presence of corresponding motivations in society and the political will of the governing structures. Therefore, if these are insufficient, the ministries of ecology must carry out preparatory work, the main components of which include raising public concern about this issue and convincing the country's leadership that this is the most effective means of achieving national environmental goals from both a social and economic perspective. At the initial stage, the ministries of ecology sometimes prepared a comprehensive report on the state of the natural environment in the country, highlighting key ecological problems. The next step was the development and approval of a national environmental strategy at a sufficiently high level, which is essentially a political document. Finally, a decision was made regarding the development of the NDP.

The next important step is the development of a working plan, which should reflect the strategy of the NDP. Depending on national conditions, some countries pay more attention to standardization in the field of environmental protection, others focus on strengthening the tools for environmental planning, such as environmental impact assessments, etc. Meanwhile, those with financial capabilities determine the directions and timelines for investment in environmental protection.

The working plan also defines the objectives and methods of work, opportunities and the need for managerial capacity building, means of information dissemination, and ensuring the participation of stakeholders in the consultation process. It is also necessary to accurately define the available financial and other resources.

A key moment in transitioning from a general environmental strategy to the NDP is setting the priorities of the plan. Typically, two types of priorities are established: the first is priority environmental problems and sectors (for example, the deterioration of public health due to air pollution in cities), and the second is priority actions and measures (for instance, transitioning to the use of unleaded gasoline). Priority problems are often identified based on their impact on human health or irreversible negative consequences for the environment. At the same time, the degree of priority of these problems for specific regions and localities is taken into account, as well as the availability of local resources to address these issues.

A detailed analysis of the components of the problem often helps to find an economically effective solution. The NDP relies on a systems approach to the problem, where a comprehensive analysis of its components helps to find the optimal combination of political instruments and measures for its resolution. It is important to also consider the costs associated with alternative solutions. For example, the problem of eliminating the consequences of the Chernobyl disaster is undoubtedly a priority for Ukraine. However, the financial resources required for its full-scale resolution are so large that, for now, the country may only be able to focus on addressing other environmental issues, such as water pollution. The economic burden in this case will certainly be alleviated, but important environmental goals will be achieved within a set time frame.

The NDP includes a system of incentives for environmental activities. Firstly, these are economic incentives – benefits and encouragements for those who switch to environmentally friendly technologies, as well as economic sanctions for companies that pollute the environment and excessively consume natural and energy resources. Secondly, there are regulatory tools, such as an environmental standards system, supported by appropriate sanctions for non-compliance. Thirdly, there are tools to influence public consciousness and the awareness of decision-makers, such as informational and educational campaigns, voluntary agreements between government bodies and companies, and more.

In addition to the above, the plan defines measures necessary to build institutional capacity, develop the national regulatory framework, and enhance international cooperation.

Monitoring and evaluation of implementation are crucial at all stages of the process, as they ensure the feedback necessary for making adjustments and improving the plan. Adequate monitoring and evaluation are essential prerequisites for the successful implementation of the plan. They allow for determining when the goals set in the plan have been achieved, making timely decisions on the development of a new plan, and the further development of national environmental policy itself. The object of monitoring includes the degree of achievement of the environmental goals defined in the plan, environmental legislation, the effectiveness of the selected environmental

policy instruments, environmental investments, financial performance indicators, new problems and issues identified during the development and implementation process, and so on.

The development and implementation of the National Environmental Action Plan (NEAP) and regional and local environmental action plans are undoubtedly one of the most effective ways to implement environmental policy. However, environmental action plans are, unfortunately, only a small part of the multifaceted economic activity of the country. And the implementation of only these plans is insufficient for the systematic resolution of environmental problems and the achievement of environmental goals if environmental requirements and priorities are not integrated into sectoral strategies, development programs, action plans, and projects related to environmental impact.

So far, the environmental awareness of most managers in the economic sector has not reached the level at which they would voluntarily formulate environmental priorities and integrate them into their programs and projects, especially if this could reduce business profitability. Moreover, those who are interested in doing so voluntarily often lack the qualifications and experience for proper environmental planning of activities. Therefore, for a long time, environmental management bodies will need to ensure that environmental requirements are considered primarily through compulsory means. To achieve this, appropriate environmental policy tools are being developed and used.

In almost all developed countries, the mandatory and often decisive means of integrating environmental requirements into the planning process is the Environmental Impact Assessment (EIA). It can be seen both as a tool to prevent excessive harmful impacts of planned activities on the environment and as an instrument for implementing environmental priorities within the broader context of the ongoing environmental policy.

As an instrument of environmental policy, the Environmental Impact Assessment (EIA) is, first of all, a preventive tool, as its purpose is to reduce the potential negative impact on the environment during the planning phase of activities. Secondly, it is an integrating tool because the EIA requires the assessment of all potential environmental consequences and impacts on all components of the natural environment. Thirdly, conducting an effective EIA requires the involvement of scientists, experts, and consulting firms specializing in EIA development, thus contributing to the enhancement of the scientific and technical level of project designs. Fourthly, the EIA process involves consultations with the public and other stakeholders, creating opportunities for public awareness and real participation in the decision-making process on environmental issues.
Historically, the EIA procedure was first introduced on January 1, 1970, in the United States.

EIA, as a mandatory standalone procedure required to obtain an environmental permit, imposes certain restrictions on the project. Clearly, EIA is applied only to projects and activities that could have a significant impact on the environment. The list of such activities is determined by special regulations. Activities that are not included

in this list may, in certain cases, still be subject to EIA, for instance, if they are unique or planned within protected areas, etc.

Typical features of the EIA procedure, as reflected in most national regulations, include the following:

- It is recommended to begin the procedure as early as possible in the project development phase.
- The responsibility for the EIA materials submitted for state environmental expertise lies with the investor.
- Other authorities and the public may also participate in the process.
- Alternative technical solutions may be considered.
- The conclusions of the environmental expertise are of crucial importance for the decision regarding the issuance of the environmental permit.

EIA plays an important role in the transboundary context. The specifics of interstate relations in the process of such EIA are regulated by the United Nations Economic Commission for Europe (UNECE) Convention on Environmental Impact Assessment in a Transboundary Context. In addition to the national regulations governing EIA, this Convention obliges the parties to:

- Inform neighboring countries (referred to as "affected parties" under the Convention) about the transboundary environmental impacts of planned activities in the country (known as the "originating party") without waiting for an official request from them;
- Consider, in the established procedure, the comments from the affected party (or parties) to the originating party;
- Organize consultations between the originating party and the affected party (at the request of the latter);
- Organize post-project monitoring and consultations at the intergovernmental level (if necessary).

The mandatory implementation of Environmental Impact Assessment (EIA) is not only a requirement of governments but also of international financial institutions that support development projects.

In connection with EIA, it is also important to mention environmental risk assessment. Recently, this planning tool for environmental policy has been used on an increasingly broader scale, particularly in European Union countries. At the global level, its use was recommended at the 1992 United Nations Conference on Environment and Development in Rio de Janeiro.

Risk assessment is necessary when the dominant principle in environmental policy is prevention. Methodologically, for environmental risk assessment, more thorough research is required, as it involves evaluating not only the known ecological impacts on the environment but also the potential ones. For example, a risk assessment is appropriate when new chemicals or genetically modified organisms are involved. Often, these studies—which can last from several months to several years—require significant financial resources.

Environmental risk assessment is one of the most effective tools for justifying management decisions in complex situations and choosing the most environmentally

safe option for carrying out activities. Typically, the option with the minimal or "acceptable" risk for society, effective in terms of costs, is selected. The most disputes arise concerning what level of risk is considered "acceptable." In the absence of universally recognized standards for the level of "acceptable" risk, the range of "acceptability" may vary widely depending on the socio-economic conditions in the country and other factors, often unrelated to ecology.

Questions for self-control:

1. At what levels are environmental action plans developed and implemented?
2. EIA as a tool of environmental policy.
3. What does the UN Economic Commission for Europe Convention on Environmental Impact Assessment in a Transboundary Context oblige?
4. Where is environmental risk assessment applied?

TOPIC 4. BASIC PRINCIPLES OF ENVIRONMENTAL POLICY PLANNING

1. Socio-economic, geographical and intergenerational social groups.
2. Models of the relationship between society and the natural environment.
3. Ecological and economic balance of a project or program.

When planning environmental policy, it is necessary to determine the social groups that may be affected by the consequences of the planned activity, identify their interests and, if possible, take them into account, otherwise, it is possible that later they will have to overcome their resistance or pay compensation. It is customary to distinguish at least three types of group interests:

- *Socio-economic*. Resistance to environmental activities may arise if they affect the socio-economic interests of a certain population group. Especially if a situation arises when one population group receives environmental benefits, while another suffers economic losses. For example, the closure of any environmentally harmful production causes the dismissal of personnel, who can actively oppose this through trade unions or local authorities. At the same time, other population groups will benefit from living in a more environmentally friendly environment.

- *Geographic.* When benefits are received by people living in one area, and losses are borne by those living in another. For example, the population living downstream of a river receives pollution, which is a consequence of economic activity upstream. In the case of transboundary pollution, these are no longer group interests of the population, but national interests of countries, and the conflict may develop at the international level.

- *Intergenerational.* When the problems of the present generation are tried to be solved at the expense of resources that should belong to future generations, or their solution is postponed for the future. For example, instead of disposing of toxic waste or radioactive waste, they are simply stored in storage facilities, hoping that future generations will find the opportunity to solve this problem.

- *The technical complexity of carrying* out a detailed cost-benefit analysis forces us to look for simplified guiding principles for planning environmental policy, on the basis of which it would be possible to make the right management decisions. The use

of simplified approaches significantly speeds up the decision-making process, but we must not forget about the limitations in their application. First of all, it is important to clearly answer the question of what we expect from the implemented environmental policy? What model of relations between society and the environment are we heading towards? What will we be guided by when implementing this policy? Below are the most commonly used models of relations between society and the environment, briefly characterizing the limitations that must be taken into account when applying them.

-*Stabilization of pressure on the environment.* This approach is interpreted differently. For example, the goal of development policy may be zero economic growth in environmentally disadvantaged areas. It is believed that, provided that investments in the environmental protection sector do not increase, this should ensure that emissions do not change. Another interpretation is that emissions should not increase during economic growth. With this interpretation, it is necessary to increase investments in purification technologies and facilities. Obviously, in both cases, or to make an economically sound decision, detailed calculations of environmental and economic benefits and losses are necessary.

Not exceeding the ecological capacity of the territory. Sometimes this is understood as meaning that the goal of environmental policy should be to create such an economic structure that pollution emissions do not exceed the limits of the recovery capacity of territories and ecosystems. First, this is probably possible only in a very limited number of cases. Second, is it possible to accurately determine this capacity? Sometimes this capacity is considered to mean the extent to which an area can provide basic ecological or social functions (nature reserve, human habitation, development of local communities, etc.). In this case, this capacity should be determined only after a precise definition of the purpose.

Prevention of environmental damage (disaster). This model of nature management is possible if fairly strict requirements for activity are met. In its extreme form, it means that when the environmental consequences of the planned activity are difficult to assess, but they are clearly negative, it is better to abandon such activity altogether. This approach can be used only in relation to individual sectors of the economy or the environment, when an activity is proposed, the consequences of which may be irreparable, irreversible, or unpredictable. For example, this may be nuclear energy or the impact on particularly vulnerable natural objects. In this case, calculations of the size of possible damage and risks are not performed, and possible profits are not taken into account.

Sustainable (balanced) development. This means that only activities that do not contradict the requirements of achieving sustainable development are allowed. The application of this approach largely depends on how it is interpreted by management structures, in particular, and society as a whole. The most common interpretation is that given by the World Commission on Environment and Development, according to which "sustainable development is one that meets the needs of the present generation without compromising the needs of future generations."

This interpretation allows for the so-called "weak sustainability." It is believed that lost natural capital can be replaced to some extent by man-made capital. Sometimes another definition of sustainable development is used: "activities should be such that

natural capital is not reduced or degraded." The latter definition does not allow for the replacement of natural capital by man-made capital. This is the so-called "strong sustainability."

Knowledge of the features and limitations inherent in this approach creates a certain conceptual basis for determining the goals of environmental policy, but one should be quite careful in attempts to simplify and speed up the assessment process as much as possible, because not only important information may be lost, but also the optimal solution may not be found. To prevent this, they try to take into account all factors as much as possible and assess the consequences of the planned activity, make the so-called ecological and economic balance of a particular project or program. In the simplest case, such a balance includes information about the ecological, economic and social benefits and costs that can be obtained as a result of the project, and they relate to the relevant social groups and objects of the environment.

The advantages of the method are that it is logical, allows for full consideration of all factors. Benefits and costs can be clearly divided by groups and objects, which allows you to see and compare the consequences for all groups and objects simultaneously. The balance sheet can be developed at several levels with the necessary detail. In general, benefits and losses do not necessarily have to be presented with the same dimensions, since sometimes for making a political decision it is enough to highlight the benefits/losses in one sector against the background of others. However, unification can be carried out if necessary. The balance sheet is easy to update and improve as new information becomes available.

It is important to note that a balance cannot serve as an unquestionable basis for making final decisions. For example, if we create balances for several possible projects with different environmental goals, we will likely get different quantitative assessments. The final decision may be made by the management based on additional information and considerations. However, the application of this technique significantly improves the quality of the assessment, which contributes to making the right decision.

After defining the goal of environmental policy, deciding on the necessity of achieving it, identifying and assessing existing obstacles, risks, available and necessary resources, it is important to properly choose the policy instruments that will ensure the achievement of the set goal.

There are a number of guiding principles that require a broader approach in the selection and application of environmental policy instruments, the use of more complex management technologies, for example, *the principle of taking into account the interdependence of environmental objects, the ecosystem approach, and the assessment of the full life cycle of a product.*

The first principle means that it is necessary to take into account the interrelationships and interdependence of various components of the environment and the fact that pollutants from one component can pass to another. For example, pollutants that have entered the atmospheric air, falling with rain, pollute the land, from there they enter groundwater, etc. Air pollution with sulfur compounds can cause acid rain, the victims of which will be terrestrial natural objects, etc. It is especially relevant to take

into account this principle when the system of nature protection and nature use management is being established or reformed. The question immediately arises, how should different departments take care of different components of the environment? To what extent should their actions be coordinated, what institutions and regulations should be created? How should rights and responsibilities be distributed between them?C

The ecosystem approach is similar. This guiding principle requires consideration of the relationships and interdependencies between components of natural ecosystems, the delayed or indirect impacts on future generations, and the direct impact of anthropogenic and technogenic activities on these relationships.

Assessment of the full life cycle of a product. This means the need to take into account all the damage caused to the environment during the manufacture and use of a particular product, i.e. the spent non-renewable natural resources, waste that appears as a result of the manufacture of a new product and which can have a harmful effect on the environment at different stages and in different ways throughout its

“life cycle” - from the beginning, when the raw materials for the manufacture of the product were extracted, the product was processed, manufactured, when it was transported to the consumer, used and, finally, when it became waste (garbage).

For example, a car itself may be very "environmentally friendly" because it can consume less fuel and emit minimal pollutants, but it is possible that its production consumes a large amount of natural resources and pollutes the environment, and vice versa, the production of a less "environmentally friendly" car will be associated with significantly less damage to the environment. The principle of full life cycle assessment requires accurate knowledge of the environmental damage associated with the production of steel, plastic, glass, leather, paint, electronic devices, etc. for a car. It is necessary to know how the car will be disposed of and how much it will cost society, etc. This is a relatively new guiding principle that began to be applied in practice in the late eighties. It is believed that with the correct use of this principle, the environmental efficiency of production can be significantly increased, that is, the specific consumption of energy and natural resources, the emission of pollutants into the environment will be minimized.

In addition, it is expected that the implementation of this principle is one of the prerequisites for achieving sustainable development. However, for the successful application of such an approach, complex management technologies are required. Management must be systematic, taking into account all key environmental, social, economic and technological factors. It is necessary to work with large amounts of information and powerful information flows coming from suppliers, consumers, non-governmental organizations, government bodies, scientific and research institutions. Sometimes radical changes in development strategies are necessary. So far, only some powerful industrial corporations have sufficient resources and desire to develop and implement environmental policies based on the principle of assessing the full life cycle of a product.

Therefore, environmental policy planning requires, first of all, a clear identification and definition of objectives. If we want to achieve environmental goals with the least cost, then the instruments should be chosen to regulate the impact on the

environment in its entirety, and not fragmentarily or selectively on its individual objects. It is necessary to study not only environmental, but also social and economic factors. It is useful to analyze environmental, economic and social costs and benefits, taking into account the possible consequences of these actions, developing scenarios for different environmental goals. The approach using the cost-benefit balance is recommended as a systematic, visual and simple way of organizing and presenting information for decision-making.

Environmental policy objectives can be achieved using both individual instruments and their combinations. However, the effectiveness of the application of these instruments largely depends on the economic and social conditions in society and the availability of an adequate institutional framework.

Let us consider what principles and approaches are used in some industrialized countries.

In Germany and Switzerland, the principle of prevention is mainly based on. Therefore, with the development of technology in these countries, environmental standards for emissions and discharges of pollutants are gradually becoming more stringent. In the Netherlands, almost all principles were previously applied, but especially the principle of stabilizing pressure on the environment. This required increased attention to pollution control at the source of pollution, which over time led to the large-scale implementation of environmentally friendly technologies and environmental management. Due to this, there are grounds to talk about the possibility of transition to a new model of relations between society and the environment - the latest approved national environmental program defines the long-term goal of environmental policy as achieving sustainable development.

The United Kingdom primarily relies on the implementation of the best available technologies at an affordable price, while the European Community, in general, directs its emission standards towards the best available technologies. The United States establishes standards for stationary sources of hazardous emissions based on the best available technologies; however, for sources of low-hazard pollutants and mobile sources, regular standards apply.

Different approaches may be applied within the same country to different objects. For example, when choosing the location of nuclear power plants, the main factor in the decision-making process is the assessment of potential risk. However, in the case of thermal power plants, the decision is guided by the conclusions of standard environmental expertise.

Questions for self-control:

1. Describe the basic principles of environmental policy planning.
2. What risks does a geographic social group take into account?
3. What are the models of the relationship between society and the environment?
4. What does the ecological and economic balance of a project or program take into account?
5. Give examples of the application of the principles and approaches to environmental policy formation in developed countries.

TOPIC 5. STATE ADMINISTRATION BODIES OF GENERAL COMPETENCE. NON-GOVERNMENTAL ENVIRONMENTAL ORGANIZATIONS.

1. State administration bodies of general competence.
2. Non-governmental environmental organizations.
3. Legislative regulation of public access to environmental information and participation in the processes of preparing and making environmental decisions.

Management in the field of ecology and natural resources means the impact of society on the environment, in particular on its protection, rational use and reproduction. This is the relationship between the productive forces of society and the natural potential of its existence. If we consider management in the field of ecology and natural resources as a process, then this means the legitimacy of the relevant institutions: state, self-governing and public - to carry out certain functions, and the same: legislative, organizational and administrative, coordination, representative, controlling, etc. (Fig. 1.1).

Ecological solutions are not always positively received by direct natural resource users, as they can significantly limit their economic activities and require additional investments in environmental protection and restoration measures. In countries where the economy is still largely controlled by the state through ministries, committees, and agencies—Ukraine being one of them—the economic interests and priorities of these structures do not always align with the ecological interests of society. Therefore, Ukraine's current environmental policy is developed and implemented under tense political conditions, often leading to conflict situations.

There are cases where even relatively weak environmental organizations face pressure and lobbying from certain governmental and private entities, especially regarding the use of natural resources or the management of newly created areas (e.g., national parks, nature reserves). Therefore, the success of environmental policy implementation depends on how willing various economic institutions in the country are to cooperate and innovate with the central government authority responsible for environmental protection, sustainable resource use, and minimizing the negative impacts of economic activities, such as the Ministry of Ecology and Natural Resources of Ukraine and its local institutions.

When defining rational parameters for economic natural resource management, the following principles of territorial management should be considered:

- Balance of natural resources;
- Consideration of the interrelationship between environmental components;
- Optimal ratio of intensive and extensive land and resource use;
- Creation of a system of protected areas to maintain ecological balance.

Regarding the organizational structure of the executive branch in the field of environmental policy, it has two main dimensions: administrative-territorial and sectoral. Concerning the first, the system is built according to the administrative-territorial division of the state, and as management objects, it includes: environmental protection at the national, regional, district, and local levels (cities, towns, villages). As for sectoral management, specialized state management institutions operate here. Overall, the management system in the field of ecology and natural resources (Table 1) encompasses the following institutions:

- General state administration;
- Local self-government;
- Public administration.

Table 5.1. Organizational management system in the field of ecology and natural resources

Environmental and natural resources management bodies		
State administration bodies	Local self-government bodies	Public administration bodies
general government bodies	ocal government bodies	All-Ukrainian level of management
special general state administration bodies	regional level	- regional public administration bodies - local public administration bodies

When analyzing the management system, three key points should be kept in mind. First, one of the tasks of environmental bodies is to integrate ecological priorities into sectoral and territorial development programs. Often, such programs are developed unilaterally by ministries or territorial administrations, with the final version submitted to the authorized environmental body for approval. Environmental sections in these programs may be underdeveloped or even absent, especially when sectoral environmental units are weak or lack sufficient authority, or when they defend departmental interests.

Second, environmental ministries should focus more on international issues and relations compared to other national institutions. Pollution does not recognize state borders. Some environmental problems are bilateral, such as transboundary air or water pollution, while others are global, like ozone layer depletion or climate change. The responsibility for addressing these issues mainly falls on environmental ministries, making their coordinating role in tackling transboundary environmental problems crucial.

Third, unlike most other state institutions, environmental protection bodies are constantly, sometimes prejudicially, scrutinized by numerous non-governmental organizations and concerned members of the public. These groups may expect or demand that environmental ministries address tasks outside their competence, such as public health issues, as non-experts often struggle to distinguish between environmental and, for example, sanitary-epidemiological aspects of a problem.

The Constitution of Ukraine assigns the relevant functions for ensuring environmental safety and rational natural resource use to the Verkhovna Rada, the President, the Cabinet of Ministers of Ukraine, and other executive bodies.

For the Verkhovna Rada of Ukraine, its primary role is legislative. The development, planning, and review of legislative acts in the field of ecology involve the Committee on Environmental Policy, Natural Resource Management, and the Consequences of the Chernobyl Disaster, as well as other committees of the Verkhovna Rada within their competence, the scientific-expert and legal departments of the Verkhovna Rada Secretariat, and other authorized bodies. An important aspect is that the Verkhovna Rada influences the formation of the state budget, including funds allocated for environmental protection.

The President of Ukraine is the guarantor of the Constitution, including its provisions on ensuring environmental safety and citizens' rights to a safe and healthy environment. The President has the authority to issue decrees declaring certain areas of Ukraine as zones of extraordinary environmental situations and to impose a state of emergency in the event of accidents, disasters, or natural calamities that threaten people's lives and health. The President relies on specialized bodies, notably the National Security and Defense Council of Ukraine.

An advisory body to the National Security and Defense Council is the Commission on Nuclear Policy and Environmental Safety. This commission develops proposals on state policy regarding nuclear energy and industry, ensures nuclear and environmental safety, analyzes ecological issues, and determines measures to improve Ukraine's environmental situation. It also evaluates the compliance of environmental concepts, programs, and nuclear energy development projects with international standards and serves as the national expert on environmental and radioactive waste issues.

The Cabinet of Ministers of Ukraine is responsible for implementing the state environmental policy, developing national and international environmental programs, ensuring their execution, and coordinating the activities of ministries and other executive bodies on environmental protection issues. It makes decisions, in accordance with the law, regarding the restriction, suspension, or termination of the activities of enterprises, institutions, or organizations in cases of violations of environmental legislation. The Cabinet of Ministers also oversees the implementation of measures outlined in the Chernobyl disaster recovery program, makes decisions on the liquidation of other accidents, disasters, or natural calamities, and exercises state management in the use and protection of land, subsoil, water resources, plant and animal life, and other natural resources. Legislative activity is also crucial, as the Cabinet organizes the preparation of draft laws and submits them to the Verkhovna Rada for review through legislative initiative.

Local self-government bodies and local state administrations are responsible for enforcing land and environmental laws, managing land and natural resources, and promoting forest regeneration. Executive bodies approve permits for the special use of natural resources, determine compensation for environmental pollution, and approve land management projects, overseeing their implementation. They also handle measures to

address the consequences of environmental disasters and emergencies within their competence.

Ukrainian legislation assigns environmental protection functions to several authorized state bodies, defined in relevant laws and regulations. The specific structure of environmental administration varies by country. For example, Poland has a Ministry of Environmental Protection, Natural Resources, and Forests, Bulgaria has a Ministry of Environment and Water, Romania has a Ministry of Water, Forests, and Environmental Protection, and Russia has a Ministry of Natural Resources and the State Committee for Environmental Protection.

2. *Non-governmental environmental organizations* (NGOs) have a long history and are an integral part of democratic society. It is difficult to pinpoint the exact date, location, and participants of the first environmental movement. The first officially registered non-governmental environmental organizations appeared in the last century.

For example, the National Trust for Places of Historic and Natural Interest (England) was established in the late 19th century as a private foundation. By 1907, it had become so influential that Parliament passed an act granting it a special privilege: the Trust gained the right to declare any of its properties as non-transferable. However, the Trust guarantees free access to these sites for all citizens. Today, the Trust owns millions of acres of land in the most scenic areas of England.

Some organizations established in the last 40-50 years have become widely known. The World Wide Fund for Nature (WWF), founded in 1962, is the largest private environmental foundation, with around 3 million members in 27 national organizations. Over its history, the WWF has carried out more than 5,000 projects aimed at nature conservation in over 130 countries.

Another well-known organization is Greenpeace, founded in Canada in 1971. It now has NGO branches in over 20 countries, including Ukraine, and hundreds of full-time staff. Greenpeace is famous for its bold protests, achieving significant results such as:

- Banning nuclear tests in the Pacific Ocean by France;
- Banning the import of seal fur and products to the EU;
- Imposing a moratorium on commercial whaling in 1982;
- Prohibiting the burial of nuclear waste in the ocean under the London Convention;
- Banning the dumping of toxic waste in the ocean near Europe.

The most well-known and widespread organization operating in the former USSR is the Social-Ecological Union, founded in December 1988. It coordinates over 250 independently functioning organizations from the CIS countries.

The first ecological political party was registered in 1975 in the United Kingdom. The German Green Party was registered in 1980, and just three years later, it received 6% of the vote in parliamentary elections, earning a seat in the Bundestag. In 1998, the coalition of Greens and Social Democrats won a majority in the elections, and today the German Green Party has ministers in the government. The Green Party of Ukraine has also had a faction in the country's highest legislative body since 1998.

One of the most well-known and numerous non-governmental environmental organizations in Ukraine is the ecological association "Green World," established in

December 1987. The association included dozens of existing environmental NGOs from all regions of Ukraine as independent, self-governing members. Over time, in addition to specific environmental issues, the focus of these organizations expanded to include more social and political matters. This was inevitable, as the "greens" were among the most active participants in the country's socio-political life at the time.

Global information networks have enabled a vast number of people to stay informed about events on the planet, sympathize, react, and witness the outcomes of those reactions. This has strengthened the understanding that Earth is a shared and unified home for all, one that is not so large and requires careful stewardship. This factor has undoubtedly played a significant role in the rise of mass ecological NGO movements.

Ensuring sufficient awareness among citizens is a key condition for the existence and constructive activities of environmental NGOs. The experience of government-NGO cooperation shows that effective collaboration is only possible with proper information exchange, both among the NGOs themselves and between NGOs and other sectors of society.

The right to access information is one of the fundamental rights of modern democratic societies. However, for this right to be more than just a declaration, society must ensure a mechanism for its implementation. Legislation distinguishes at least two ways to ensure access to information: passive access, where you have the right to receive information, and active access, where you have the right to be informed.

The public must be ensured access to administrative and judicial procedures. Governments are recommended to develop and adopt appropriate national strategies, create a regulatory framework, and take organizational measures to promote environmental education, media, and NGOs.

In Ukraine, the right to access environmental information is guaranteed by Article 50 of the Constitution of Ukraine. The procedure for public access to environmental information and its participation in the preparation and adoption of environmental decisions is regulated by the Laws of Ukraine "On Environmental Protection" (Article 25), "On Environmental Expertise" (Articles 6, 10, 11, 16, 41, and 42), and other state and departmental regulations.

The organizational structure and tools of environmental NGOs differ from other civil society organizations. Unlike NGOs formed by specific professional groups (e.g., doctors, artists), environmental NGOs unite citizens of various professions, preferences, and political views. Many join for a specific action and do not maintain fixed membership. The effectiveness of an environmental NGO largely depends on its organizational structure.

This structure must align with its goals, tasks, functions, and available resources, and help establish its image among other similar organizations. The importance of this is evident as many NGOs are constantly re-organizing to find the optimal structure, often driven by increased competition for financial and other resources.

The tools used by environmental NGOs to achieve their goals are diverse and often differ significantly from those used in government and business sectors. Key tools include:

- Independent development of draft regulatory documents on environmental activities (e.g., environmental assessments), followed by publication and

submission to authorities. These documents are also shared with other NGOs and the public to engage a wider audience.

- Creation of advisory bodies within government structures.
- Participation in the development of national environmental regulations.
- Creation of environmental lobbying groups in legislative bodies.
- Establishment of networks of independent experts.
- Organization of roundtable discussions and debate clubs.
- Engaging media and creating environmental-focused media outlets.
- Facilitating meetings (dialogues) between various social groups, such as consumers and producers.
- Building databases on environmental information and activities.
- Disseminating clarifications and comments on government documents and actions via the media.
- Conducting educational work with different population groups, often complementing formal educational organizations.
- Organizing campaigns against environmentally harmful projects and supporting eco-friendly initiatives.

One of the key societal functions of NGOs has always been, and remains, environmental education. They have advantages over formal educational institutions due to their greater mobility and flexibility, ability to reach different age groups, and strong ties with the media. Meanwhile, government environmental structures can achieve mutual benefits by establishing proper cooperation with NGOs. This occurs in countries (mainly in Western Europe) where environmental ministries view environmental NGOs as equal partners in conservation efforts. The foundation for cooperation can include agreements on collaboration, the creation of public advisory bodies within ministries, and cooperation with international organizations that often work with both government and non-government sectors.

NGOs can be highly useful in developing new environmental strategies, programs, doctrines, and technologies, especially when it comes to communicating these to the public, lobbying for legislation, and involving other sectors in collaboration. Environmental NGOs are traditionally active in developing and lobbying for new international environmental laws. Additionally, some NGOs are often more proactive and efficient in monitoring compliance with environmental laws than government agencies. Over the past forty years, the participation of NGO representatives as observers in international meetings and experts in consultations has become standard practice. Sometimes, the influence of NGOs on decisions regarding global environmental issues can be more significant than that of official structures, which must be considered in international environmental cooperation.

Questions for self-control:

1. Describe the system of authorities that ensure the implementation of environmental policy in Ukraine.
2. What is understood by environmental legislation?
3. List the fundamental principles that must be reflected in international

environmental agreements.

4. Name the main actions of the NGO "Greenpeace" that contributed to the achievement of specific results.

5. What document defines the guidelines for ensuring public information about the environmental state of the environment and its participation in the process of environmental decision-making?

6. Describe the tools used by environmental NGOs to solve their tasks.

Content module 2. Features of the implementation of environmental policy in Ukraine and abroad

Topic 6. Main directions of environmental policy of Ukraine.

1. Formation of regulatory and legal support.
2. Licensing of natural resources.
3. Features of environmental policy at the regional level.

The main directions of Ukraine's state policy in the field of environmental protection, natural resource use, and environmental safety are developed in accordance with Article 16 of the Constitution of Ukraine, which defines that ensuring environmental safety and maintaining ecological balance on the territory of Ukraine, overcoming the consequences of the Chernobyl disaster — a planetary-scale catastrophe, and preserving the gene pool of the Ukrainian people are the state's obligations. The environmental situation in Ukraine can be characterized as critical, formed over a long period due to the neglect of the objective laws of development and reproduction of Ukraine's natural-resource complex. Structural distortions in the national economy occurred, during which preference was given to the development of resource-extracting industries, which are the most environmentally hazardous.

. *Formation of regulatory and legal support*

Modern environmental law in Ukraine is based on legislative and regulatory acts of a dual nature. On one hand, norms and standards adopted during the former USSR still apply, while on the other hand, national environmental legislation is actively being developed. The use of Soviet-era norms was necessary to fill the legal "vacuum" that emerged in Ukraine after it left the USSR, until its own laws were enacted. Therefore, the main focus is on the creation of Ukrainian environmental law to provide a proper legal foundation for environmental protection.

The legal framework for developing regional development strategies in Ukraine includes the Constitution of Ukraine, the Laws of Ukraine "On the Basic Principles (Strategy) of the State Environmental Policy of Ukraine until 2030", and "On the Foundations of National Security of Ukraine". The foundation of environmental law is the Constitution of Ukraine, the Law of Ukraine "On Environmental Protection", and resource codes: the Land Code of Ukraine, the Forest Code of Ukraine, the Water Code of Ukraine, the Subsoil Code of Ukraine, as well as resource laws: the Law of Ukraine "On Air Protection", "On Animal World", "On Plant World", "On the Nature Reserve Fund of Ukraine"; integrated laws such as "On the Zone of Emergency Ecological Situation", and

subordinate regulatory legal acts of national importance in the field of environmental protection and rational use of natural resources. These laws also delineate the powers between central and regional state authorities aimed at ensuring environmental security.

A comprehensive strategic document that contributes to the implementation of the state's environmental policy within the framework of sustainable development is the Law of Ukraine "On the Basic Principles (Strategy) of the State Environmental Policy until 2030." Like any other country, Ukraine has its own environmental protection traditions.

The origins of national environmental legislation date back to the times of Kievan Rus. The "Russkaya Pravda" legal code of the princely state contained several regulations related to the timing and terms of hunting fur-bearing animals, prohibiting the capture of certain fish species during spawning, and warnings regarding the preservation and use of environmentally appropriate methods in agriculture, beekeeping, brewing, and other crafts. At that time, certain punishments, mostly fines, were also foreseen for violating the "Russkaya Pravda" regulations. For instance, the punishment for killing a crane and a human was often the same. During the princely era, the foundations for the creation of protected areas—so-called hunting grounds—were also laid, where hunting and fishing were occasionally permitted.

A significant flaw in the current environmental policy legislation is its predominant focus on addressing, rather than preventing, negative environmental impacts. This approach objectively makes it impossible to achieve an environmental state that would meet the requirements of civilized development. There are frequent inconsistencies between the functions and powers defined in the Law of Ukraine "On Environmental Protection," other environmental laws, and laws and regulations on local self-government.

Among the strategic tasks for improving regional environmental policy are the development of a regulatory and legal framework for ecological-economic macroregions and legislative support for the transition from socio-economic planning to eco-social-economic planning of regional and urban development by 2030. However, initial steps have already been taken to meet the requirements of international environmental protection documents. Specifically, the Concept and Strategy of the National Environmental Policy have been approved, and the National Action Plan for Environmental Protection for the period up to 2030 is being implemented at both the national and regional levels.

It should be noted that the environmental regulations declared in these documents do not fully account for the basic principles established by the global community:

- The integrated approach to environmental management, addressing issues across different environments (atmosphere, water, soil, etc.); basin management principle;
- The regulated distribution of environmental responsibility among the state, society, and business (corporations), as outlined in relevant environmental policies;
- Standardization of environmental management functions and policy planning;
- Systematic and comprehensive strategic environmental assessments;
- Continuous updating and adaptation of management styles to situational changes through "learning by doing";
- Strengthening trust among environmental management stakeholders (government, public, corporate, local);

- Transparency and universality of criteria for selecting and assessing environmental policy instruments at all hierarchical levels;
- Harmonizing interests through voluntary environmental agreements to overcome traditional management approaches and promote environmental innovation;
- Balancing administrative control and market-based environmental regulation and incentives;
- Delegating environmental protection authority to regional and local levels.

A special group of environmental law in Ukraine consists of laws and regulations related to the liquidation of the consequences of the Chernobyl disaster. Currently, environmental legislation in Ukraine is a structure that unites environmental legal norms of various levels and orientations. These can include constitutional norms, ordinary norms, and norms aimed at social relations of different content, regarding the protection of various natural objects.

This legislation forms a system with a relatively stable character. Its implementation generates relatively stable legal relations. The main current legal acts regulating the organization of environmental protection are the Laws of Ukraine "On Environmental Protection," "On Atmospheric Air Protection," "On the Nature Reserve Fund of Ukraine," "On Animal World," "On Plant Quarantine," and others.

In addition, some relations in the field of use and protection of the environment are regulated by codes (land, water, forestry, subsoil), as well as the Laws of Ukraine "On Land Payment," "On Veterinary Medicine."

An important role in resolving this issue is played by the procedure approved by the Verkhovna Rada Resolution, "Procedure for Restricting, Temporarily Banning (Suspending), or Terminating the Activities of Enterprises, Institutions, Organizations, and Facilities in Case of Violations of Environmental Protection Legislation."

Licensing of natural resources

According to the Law of Ukraine "On Environmental Protection," natural resource use in Ukraine is carried out under the general and special use of natural resources. In the field of special use, natural resources are granted for ownership, use, or lease based on special permits, registered in the prescribed manner, for a fee to carry out production and other activities.

Management and control over the special use of natural resources are carried out by specialized permit and approval authorities within their competencies. Depending on the type of activity, natural resource, the degree of harmful impact on the environment, and other factors, various permits, approvals, certificates, and licenses of different legal force are issued. The right to conduct certain types of economic activities that are subject to restriction is realized through licensing. Licensing is considered a traditional administrative management mechanism.

The main principles of Ukraine's state policy in the field of licensing are the protection of the rights, legitimate interests, life, and health of citizens, environmental protection, and ensuring state security.

The legislative basis in this area is the Law of Ukraine "On Licensing Certain Types of Economic Activities," which defines licensing as the issuance, reissuance, and revocation of licenses, issuance of duplicate licenses, maintenance of licensing cases and

licensing registers, monitoring compliance with licensing conditions, issuing orders to rectify violations of licensing conditions, and issuing orders to rectify violations of legislation in the field of licensing. Therefore, a license is the only permit document that grants the right to carry out a certain type of economic activity that, according to the law, is subject to environmental restrictions. Licensing of these types of activities (there are 64) concerns environmental aspects and requires consideration of environmental requirements.

The effectiveness of licensing lies in its comprehensiveness, which, in addition to administrative management tools, combines the following instruments:

- *Informational* — environmental auditing and environmental expertise,
- *Economic* — determination of payment conditions,
- *Market* — entering into contracts with licensees.

The authority to issue licenses is vested in licensing bodies such as the Ministry of Ecology and Natural Resources of Ukraine, the State Nuclear Regulatory Committee of Ukraine, the National Space Agency of Ukraine, the Ministry of Fuel and Energy of Ukraine, the Ministry of Agrarian Policy of Ukraine, and the State Committee of Ukraine on Land Resources. These bodies are responsible for specific types of economic activities subject to licensing. A fee is charged for issuing a license, and the amount and procedure for its allocation to the state budget are determined by the Cabinet of Ministers of Ukraine. Licensing of environmentally hazardous activities is solely a function of state-level management.

The development of environmental licensing has two strategic directions: separate and integrated licensing.

Separate licensing applies to activities in environmental protection and public health, as well as specific types of natural resource use, with special permits for emissions, discharges of pollutants, and waste disposal. This includes hazardous waste, as regulated by the Law of Ukraine "On the Approval of the List of Especially Dangerous Chemicals, the Production and Sale of Which Are Subject to Licensing."

Integrated licensing grants the right to simultaneously carry out emissions, discharges of pollutants, and waste disposal. This type of licensing has not yet been implemented in Ukraine and requires the development of relevant legislative frameworks.

Environmental licensing is a process that consists of several stages:

1. **Establishing environmental impact standards:** These include maximum allowable emissions, discharges, waste disposal norms, and the limits for resource extraction or corresponding temporary limits on environmental impact and extraction.
2. **Calculating the payment rates:** This involves accounting for various coefficients to determine the relevant payment rates for natural resource use or environmental impact, and setting the specific payment amount.
3. **Incorporating standards, limits, and payment rates** into the license and the corresponding natural resource use agreement.

After obtaining the license, the licensee becomes subject to environmental control. It should be noted that the specific nature and interdepartmental character of environmental licensing require the adoption and implementation of the Law of Ukraine

"On Environmental Licensing."

Environmental policy and its features at the regional level

The regional environmental policy of the state is an organic component of the national environmental policy. To a certain extent, the socio-economic stability in Ukraine depends on the solution of regional environmental problems. Certain mechanisms are used to implement regional environmental policy,

With the general direction of the state strategy of transition to the principles of sustainable development, the management of environmental protection, rational use of natural resources and human safety becomes particularly relevant. Its significance is growing in conditions of decentralization of management and increasing the role of socio-economic development of regions.

In this regard, in the context of the transformation of the economic system, there is a need to develop a new state environmental policy at different levels of government. The content of regional environmental policy is considered in two aspects.

The first is the state's environmental policy towards regions (state regional environmental policy [or state environmental policy at the regional level]), the second is the environmental policy implemented by regions.

The first is implemented by central government bodies, the second by local authorities and self-government. In this regard, the separation of powers between different branches of government in the field of nature management and environmental protection plays a significant role.

The state environmental policy at the regional level is based on the following principles:

- **Constitutionality and Legality**: The policy is implemented in accordance with the Constitution and laws of Ukraine, acts of the President and the Cabinet of Ministers of Ukraine, with clear distribution of tasks, powers, and responsibilities between executive authorities and local self-government bodies.
- **Ensuring Unity and Integrity**: This includes maintaining a unified economic space, monetary-credit, tax, customs, and budgetary systems throughout the country.
- **Combining Centralization and Decentralization**: Balancing national, regional, and local interests.
- **Maximizing Accessibility**: Providing government services as close as possible to the end-users.
- **Differentiated State Support**: Allocating support to regions based on conditions, criteria, and timeframes defined by law.
- **Encouraging Cooperation**: Fostering close cooperation between executive authorities and local governments in developing and implementing regional development measures.

The functions of the state environmental policy at the regional level include addressing issues related to local and object monitoring, ensuring compliance with environmental legislation, and organizing the development of local environmental programs and projects.

Priority solutions to these tasks involve improving state regulation in the field of socio-economic development of regions, enhancing relevant legal, organizational,

economic, and other mechanisms, as well as increasing the role and responsibility of local executive authorities and local governments in fulfilling their assigned powers and tasks. As noted by scholars, the issue of improving state management mechanisms, particularly those related to the implementation of environmental policies, is becoming even more urgent at the regional level.

One of the features of the state environmental policy at the regional level is the division of powers between state and local authorities in the field of environmental protection based on certain criteria, the main ones being:

- sources of financing for environmental protection measures;
- the status of natural resources (of national or local importance);
- the scale of environmental impact (the level at which the territory is affected: local, regional, interregional, transnational).

Ukraine experiences significant regional differences in environmental load and current ecological security, due to the diversity of natural resource use and economic activities. Environmental issues heavily constrain the country's socio-economic development, which is directly linked to the quality of the surrounding natural environment. Developing a balanced system of rational natural resource use, combined with an adequate structural transformation of industrial potential that minimizes anthropogenic load and ensures social protection, should be the foundation for ensuring stable societal development. Therefore, there is an urgent need to identify regions with the poorest environmental conditions in order to direct financial resources toward environmental protection measures.

Based on the analysis of the environmental situation in the regions of Ukraine using the index method to determine the level of regional differentiation of social and environmental comfort for living conditions, the regions are categorized into 5 levels of ecological security:

- **High level**: Chernivtsi, Zakarpattia, Ternopil regions.
- **Increased level**: Zhytomyr, Cherkasy, Vinnytsia, Kirovohrad regions, and Kyiv city.
- **Average level**: Kherson, Sumy, Rivne, Volyn, Lviv, Ivano-Frankivsk regions.
- **Moderate level**: Kharkiv, Zaporizhia, Khmelnytskyi, Chernihiv, Kyiv, Poltava, Mykolaiv regions.
- **Low level**: Odesa, Dnipropetrovsk regions.

Another feature of the state ecological policy at the regional level is that it is implemented both through the execution of specially developed environmental action plans or programs, and by integrating the ecological component into general development programs or regional action plans.

Environmental programs are a type of state-targeted programs, the legal basis for the development, approval, and implementation of which is established by the Law of Ukraine "On State Targeted Programs".

According to Article 3 of this law, the goal of environmental programs is to carry out national environmental protection measures, prevent environmental disasters, and eliminate their consequences.

The subject of developing environmental programs can, for example, be state incentives for regional development, carried out in accordance with the principles of state regional policy, state programs for economic and social development of Ukraine, the laws on the state budget of Ukraine, national programs, and other Ukrainian legislative acts, as well as economic and social development programs for regions, Kyiv city, and local budgets.

Currently, regional development agreements as a tool for implementing the strategy have been concluded with only 5 regions out of 27: Lviv, Volyn, Vinnytsia, Ivano-Frankivsk, and Kherson regions. The content of these agreements mainly concerns the implementation of short- and medium-term tasks, focused on introducing anti-crisis measures. At the same time, long-term strategic priorities remain neglected.

The methodological basis for developing programs at the local level is the Law of Ukraine "On State Forecasting and Development of Economic and Social Programs of Ukraine".

The development of regional programs is a targeted process of mobilizing all the capabilities of regions at various levels. An important aspect is conducting a SWOT analysis, which involves assessing: the region's strong internal factors—its existing characteristics; weak internal factors (problems) that hinder solving issues; external favorable opportunities; and external potential threats—unfavorable situations that may arise in the future.

Currently, there are many environmental programs in the regions, both general environmental protection programs and specific ones (waste, eco-networks, water resources, etc.).

The main tool for implementing national environmental policy at the regional level is the development and execution of mid-term regional action plans for environmental protection. Environmental policy planning, regardless of regional, territorial, or local levels, should be based on a comprehensive approach, involving a thorough study of natural, social, economic, ecological, historical-cultural, and other factors. Such planning must balance indicators of socio-economic development (industry, housing, and public utilities, environmental quality improvement) with societal needs (living conditions, demand for goods and services, demographics) and urban development (new construction volumes, engineering and transport infrastructure, environmental status).

Considering regional potential is crucial for the effectiveness and implementation of state environmental policy at the regional level. The success of a program depends on how accurately future development directions are defined.

Questions for self-control:

1. What documents are the regulatory and legal basis for developing regional development strategies?
2. What unites the structure of the "Environmental Legislation of Ukraine"?
3. What are the main principles of the state policy of Ukraine in the field of licensing?
4. Name the principles of state environmental policy at the regional level.
5. What documents are approved for the effective implementation of the principles and mechanisms of strategic management of regional development.

6. What is the main instrument for implementing national environmental policy at the regional level?

Topic 7. Environmental legislation of Ukraine. International environmental legislation

1. Legislative foundations of national environmental policy.
2. International environmental legislation.

Environmental legislation is understood as a set of environmental and legal norms of legislative and subordinate regulatory legal acts that regulate relations in the field of natural resource use, environmental protection and ensuring environmental safety, which provide for the protection of the environmental rights of citizens and the implementation of the state's environmental policy.

The Law "On Nature Protection of the Ukrainian SSR" was first adopted in 1960. According to the Law, natural resources were considered as national property, the use of which was permitted only in accordance with the procedure established by law. Nature protection was interpreted as an activity aimed at the preservation, rational use, expanded reproduction and development of natural resources. The state was to regulate economic activity related to the use of land, subsoil, water resources, forests, green spaces, recreational areas, rare and significant natural objects, reserves, wildlife, emissions of pollutants and the atmosphere, etc. Economic activity that could cause harm to the above-mentioned resources was prohibited.

Although the Law was largely declarative, as it was not provided with proper implementation mechanisms and was based, in essence, on a resource-based approach to nature conservation and nature use management, it formalized relations between the state and nature users for the first time in the history of Ukraine, and created a legal foundation for the development and implementation of state environmental policy.

The active and systematic formation of the legislative foundations for national environmental policy began during the period of Ukraine's independence restoration and the establishment of the young state in the early 1990s. At that time, the importance of environmental security for the survival and development of the nation became increasingly evident. Therefore, in one of the key documents adopted by the Supreme Soviet of the Ukrainian SSR in February 1990, the resolution "On the Environmental Situation in the Republic and Measures for Its Radical Improvement" highlighted the urgent need to develop and adopt national environmental legislation that would meet the demands of the time. Primarily, this referred to a new foundational environmental law and regulatory acts to regulate nuclear and environmental safety, as well as the protection and use of natural resources.

The Law of Ukraine on Environmental Protection was adopted on June 25, 1991. Immediately after its adoption, the development and adoption of numerous legislative and subordinate acts began, aimed at regulating various legal relations arising in the process of natural resource use, environmental protection, and ensuring ecological safety. Among them are:

- The Law of Ukraine on the National Nature Reserve Fund of Ukraine;

- The Law of Ukraine on Air Protection;
- The Law of Ukraine on Animal Protection;
- The Law of Ukraine on Environmental Impact Assessment;
- The Law of Ukraine on Waste Management.

Specific issues of regulating environmental legal relations are reflected in the codes of Ukraine, such as:

- The Land Code of Ukraine;
- The Forest Code of Ukraine;
- The Code of Ukraine on Subsoil Use;
- The Water Code of Ukraine.

The most important principles and forms of natural resource use, citizens' environmental rights, requirements for environmental protection, and ensuring ecological safety are also reflected in the main national legislative act – the Constitution of Ukraine of 1996 (Articles 13, 16, 50, 66, 85, paragraphs 6 and 31, 92, paragraphs 5 and 6, 106, paragraph 21, 116, paragraph 3, 119, paragraph 3, 132, 137, and 138).

The Constitution of Ukraine is based on humanistic and legal principles, recognizing human life, health, honor, dignity, inviolability, and security as the highest social values. Therefore, the rights and obligations of individuals and their guarantees shape the direction of state activity, with the state taking responsibility for law enforcement functions. Every citizen in Ukraine is guaranteed the right to a safe environment for life and health (ecological safety) and compensation for harm caused by violations of this right. The Constitution also guarantees citizens' right to free access to environmental information, including information about the quality of food products and goods, and the ability to further disseminate it.

The Constitution of Ukraine defines ownership rights over natural resources, stating that land, subsoil, air, water, and other natural resources within Ukraine's territory, as well as natural resources of its continental shelf and exclusive (marine) economic zone, are the property of the Ukrainian people. The powers of ownership are vested in state authorities and local self-government bodies in accordance with the provisions of the Constitution.

The fundamental law in the system of environmental legislation is the Law of Ukraine on Environmental Protection. This law defines the objectives of legislation in this field, the main principles of environmental protection, the objects of protection, state environmental programs, the legal foundations of education and training, scientific research in the field of ecology, and forms of property rights over natural resources.

In recent years, the system of environmental legislation has been significantly developed and improved, with most of the introduced legal norms aligning with the ideas and principles of international environmental law.

The current period of systematization of national environmental legislation is characterized by a combination of economic and environmental interests. Legislative acts are aimed at gradually improving the environmental situation in Ukraine, defining mechanisms for implementing environmental legislation, further clarifying and detailing the scope of environmental relations to be regulated by law, justifying, developing, and adopting new legislative acts, as well as amending existing ones based on the practical experience of environmental protection activities.

Increasing attention is being paid to accelerating the integration of international legal norms into the system of Ukraine's national environmental legislation and aligning certain parts of it with international principles and provisions. This process is significantly stimulated by Ukraine's accession to multilateral international environmental agreements (conventions) and the conclusion of bilateral interstate agreements in this area.

International environmental legislation

International environmental law is based on bilateral and multilateral agreements (conventions, over 250 today), along with protocols and amendments, which are an integral part of these agreements. The Ukrainian Law on International Treaties states that in cases where international and national laws are interpreted differently, the provisions of the international treaty take precedence. The majority of international agreements become effective for the signing state only after they are joined according to national law, in Ukraine, after ratification by the parliament.

International environmental law began to develop in the early 20th century. However, it has gained significant momentum in the last 30 years, with numerous international environmental protection documents being adopted. The adoption of such acts is accompanied by the establishment of procedures to ensure implementation, monitoring, and control.

The first international regulatory acts were primarily aimed at regulating interstate relations concerning transboundary pollution of shared natural resources, such as water and air (e.g., the 1909 Treaty between the USA and Canada on boundary waters). In 1968, the Council of Europe adopted the European Water Charter, which formulated a key principle of international environmental law for the first time: pollution knows no borders. This principle applies not only to freshwater resources but also to the global environment as a whole. Ocean pollution, acid rain, ozone layer depletion, and other issues can only be addressed through collective global efforts. An important consideration is the interconnection and interdependence of environmental components. Pollutants released into the air, through precipitation, can reach soils, which may then contaminate groundwater, rivers, and ultimately the seas. One of the first documents to highlight the need to account for the interdependence of environmental components was the 1982 UN Convention on the Law of the Sea.

A significant aspect of international environmental law is the practical experience of implementing environmental policies at the global level. This experience is often summarized and formalized in decisions and declarations from international conferences on global environmental issues, which are considered key sources of law development.

Decisions made at meetings of convention parties or higher governing bodies of international organizations are binding, similar to the norms of the foundational documents. When a country plans to join a convention or international organization, it must commit to adhering not only to the basic document but also to the decisions of its governing bodies.

These decisions can be classified into three categories:

1. **Normative recommendations** that act as rules of conduct and standards for implementing conventions or membership requirements.

2. **Declarations of principles** that provide systematic sets of basic norms to be included in national legislation, such as the fundamental value of the environment for humanity and the protection of ecological rights for future generations.
3. **Action programs** that describe the systematic collection of measures aimed at achieving environmental goals, such as the "Agenda 21" program, which serves as a foundation for developing both international and national environmental laws and joint actions.

Ukraine is a party to over 700 multilateral international treaties, protocols, and annexes. Some of these are dedicated to environmental protection and the use of internationally significant natural resources, while others address these issues to varying degrees.

With the development of international environmental law, a number of fundamental principles have been formulated, which are almost always reflected in international environmental treaties.

One such principle is the sovereign right of states to pursue their own environmental policies. Since environmental issues do not recognize national borders, this principle can lead to conflicts in cases of transboundary pollution. Therefore, in modern environmental law, it is applied in conjunction with the requirement that a state must ensure that its activities do not cause environmental harm to other states (principle 21 of the Stockholm Declaration, 1972, and principle 2 of the Rio de Janeiro Declaration, 1992).

Environmental conservation and protection. The term "conservation" is primarily used for living nature and is understood as the balanced or sustainable use of natural resources. "Protection," on the other hand, refers to measures and policies aimed at preventing environmental harm, limiting ecologically harmful activities, and considering the ecological interests of future generations.

Prevention, meaning the obligation not to undertake activities that may cause significant environmental damage (Preamble to the Convention on Environmental Impact Assessment in a Transboundary Context, 1991). Although this principle is fundamental, it is not applied in all treaties, as it may not be fully achievable in all sectors of activity.

Prevention means that activities which may cause ecological damage, the extent of which cannot be accurately assessed, should not be undertaken or should be limited. The lack of precise scientific knowledge about the consequences of such activities cannot be a reason to ignore the environmental threat (Article 3.3 of the UN Framework Convention on Climate Change).

"The polluter pays" means that the polluter must compensate for the economic, social, and environmental costs of pollution (Principle 16 of the Rio de Janeiro Declaration).

Notification and mutual assistance in the event of incidents with transboundary environmental impacts (Principle 18 of the Rio de Janeiro Declaration, Convention on Transboundary Effects of Industrial Accidents, 1994).

The right of the public to access environmental information and participate in the preparation of environmental decisions (Principle 10 of the Rio de Janeiro Declaration).

In addition to the principles mentioned, the formation of modern international environmental legislation occurs within the framework of several conceptual provisions specific to the field, including:

- The need to create conditions for achieving sustainable development, which is the most general environmental goal defined by the global community.
- Global concern for the state of the global environment, meaning that global environmental problems can only be solved through the collective efforts of the entire international community.
- Ensuring the environmental rights of future generations, which requires preserving non-renewable natural resources, ecosystems, and vital natural processes to the greatest extent possible, and avoiding activities that could harm universal natural and cultural values.

The preservation of humanity's heritage. This provision was formulated in the late 1960s regarding objects such as the ocean and seabed, Antarctica, outer space, biological and landscape diversity, as well as historical and cultural monuments. The use of such objects is permitted only for peaceful purposes, with the condition that their natural qualities are preserved for future generations.

Ensuring environmental security. In the global context, this means preventing environmental conflicts that could lead to armed confrontations or wars. Ensuring global environmental security involves the equal right of all nations to environmental safety, the prohibition of any ecological aggression, including the export of environmentally hazardous substances; monitoring compliance with international environmental law; regular exchange of environmental information; preventing transboundary environmental damage; and establishing peaceful mechanisms for resolving environmental conflicts.

Common but differentiated responsibility is one of the cornerstones of the modern international environmental process. This means that all countries acknowledge their responsibility for the state of the global environment, but developed nations, as the main consumers of the planet's natural resources, are expected to provide significantly more financial and other resources to address global environmental issues compared to developing countries.

Mandatory requirements in environmental treaties often include target indicators for quantitative limits and reductions in emissions and discharges within specified timeframes and/or requirements for policies and measures necessary to achieve these targets.

Introduction of permits/licenses: Some international treaties require parties to establish permitting systems in specific areas of environmental regulation, often detailed in the agreements.

For example:

- The London Convention mandates the establishment of a permitting system for regulating the disposal of waste at sea. The main elements of this permitting system are outlined in the convention, including a list of waste to be prohibited for disposal ("black list") and a list of waste requiring prior special permits for disposal ("grey list"). These lists are included in annexes, which may be amended by a two-thirds majority decision of the parties (Article 15).

- The 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) requires parties to establish a permitting system for regulating trade in species listed in the annexes to the convention.
- The 1997 Montreal Amendment to the Montreal Protocol requires parties to create national licensing systems for the import and export of ozone-depleting substances.

In general, contextual criteria involve recognizing differences between countries in terms of the resources and potential required to implement a treaty. For example, the 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage states that each country aims to act on its own efforts, making the most of available resources, in order to identify, protect, conserve, promote, and transmit the world heritage to future generations (Article 4). States must "as far as possible... under conditions characteristic of each country," implement specific policies and measures (Article 5) and "as far as possible" submit a list of values that belong to world heritage and are located on their territory (Article 11).

It should be noted that many conventions have been concluded to address environmental issues at the regional level. Examples include the UNER conventions on regional seas, the Oslo Convention on the Prevention of Pollution of the Sea by Ships, the Paris Convention for the Prevention of Pollution of the Sea from Land-based Sources, the Bucharest Convention for the Protection of the Black Sea against Pollution, the Convention on the Balanced Use and Protection of the Danube River, and others.

Regional agreements are most often used to address environmental issues of regional scale, such as problems related to acid rain and the protection of migratory species. Furthermore, if similar problems exist in different regions, regional approaches may be desirable to account for different local conditions. This is particularly reflected in the UNER's Regional Seas Programme.

Questions for self-control:

1. What is meant by environmental legislation?
2. List the legislative acts aimed at protecting the environment and ensuring environmental safety.
3. Which document reflects the most important principles and forms of using natural resources, the environmental rights of citizens, requirements for environmental protection and ensuring environmental safety.
4. Which Law of Ukraine is the basic one in the system of environmental legislation?
5. What is International Environmental Legislation based on?

TOPIC 8. The impact of national economic policy on the environment in the context of the transformation of the production complex

1. Modern environmental and economic policy of Ukraine.
2. Factors influencing the environmental situation.
3. Scenarios of possible options for the environmental and economic development of Ukraine.

Despite the fact that in recent decades significant changes have taken place in the field of regulating the processes of natural resource use and environmental protection in the country (an economic management mechanism has been created, specialized environmental protection bodies have been formed that coordinate work throughout the country), significant problems related to the insufficiently effective functioning of the public administration system still remain. Moreover, a whole range of issues has arisen due to the processes of transformation of the domestic economy.

Some problems in principle did not arise for our economic system during the period of development and creation of the foundations of the modern system of nature management and, accordingly, were not taken into account. The formation of a complex of new problems associated with the transformation processes, and some negative aspects inherited from the previous system, require continued work on improving the economic mechanism of state management. Thus, today, as before, a comprehensive analysis of the mechanisms of interaction of the economy and ecology is necessary and the development of mechanisms of state management of the economy based on this analysis, which create the prerequisites for the transition to sustainable environmental development.

Modern ecological and economic policy in Ukraine should provide conditions for economic growth while preserving the country's natural resource potential by creating priority conditions for the development of the most environmentally friendly sectors of the economy and changing the social orientation of society in favor of environmental conservation and the rejection of some stereotypical consumption. The analysis showed a high level of dependence of the possibility of effective solution of environmental problems on the macroeconomic situation in the country and, accordingly, the possibility of influencing the solution of many problems through macroeconomic policy. Today, most environmental problems are a consequence of economic development and the possibility of their solution, accordingly, also depends on the economic situation. This relationship is especially evident during periods of economic transformation.

Environmental problems inherent in modern society are directly dependent on four groups of factors: natural, social, macroeconomic - and factors related to the economic mechanism in the field of nature management (Table 8.1). Accordingly, the development of recommendations in the field of nature management regulation should be based on an analysis of the existing environmental situation and trends in its development, as well as taking into account all factors that determine the environmental situation in Ukraine.

Table 8.1 Factors influencing the environmental situation

Factors	Environmental situation
Natural	- size of the territory; -climate; -state of natural resource potential, etc.

Macroeconomic	-rates and nature of economic growth; -sectoral structure of the economy, its dynamics; -budgetary and tax policy; -credit and monetary policy; -changes in the exchange rate, etc.
in the field of environmental management processes	-sizes and principles of calculating payments for the use of natural resources; -sizes and principles of calculating payments for environmental pollution; -mechanism of offsetting environmental payments; -principles of distributing environmental investments, etc.
Social and institutional	-consumer income level and consumption standards; -level of education and everyday culture; -role of mass media in spreading environmental knowledge; -attitude of citizens towards environmentally friendly products and environmental standards, etc.

Meanwhile, the economic development of Ukraine was taking place according to the most unfavorable scenario from the point of view of the process of nature use. The most rapid pace in the 90s was the reduction in production volumes in high-tech industries and in industries related to the production of consumer goods. At the same time, the positions of extractive industries and industries related to the primary processing of natural resources, which cause maximum damage to nature with their activities, remained relatively stable:

-the financial condition of enterprises had a decisive influence on changes in the environmental friendliness of industrial production (changes in specific emissions) within individual industries.

There is a tendency for the environmental friendliness of production to be inversely related to the profitability of products. The higher the profitability of production within individual industries, the lower the emissions and discharges per unit of finished product. Specific emissions and discharges increased most rapidly in the most difficult years for domestic industry, 1992-1996. It is also interesting that the following dependence was quite clearly traced - a slight decrease in production volumes led to some improvement in the environmental friendliness of production (specific emissions decreased). With a sharp reduction in production, on the contrary, specific emissions increased sharply. It can be stated that the changes that occurred in the 90s at the macro level, at the level of individual enterprises, were also very significant for the process of environmental management.

Among the macroeconomic factors that determined the changes, significant from the point of view of ecology, we can, first of all, name: changes in price proportions, foreign economic policy, budget and tax policy and interest rate policy.

The current environmental situation in our country may gravitate towards different options for further development. From the point of view of the environmental situation and processes of nature use, three possible scenarios of the development of events can be distinguished (Table 8.2).

The scenario of depressive development shares many common features with the

economic situation in Ukraine in the early and mid-1990s. If events unfold according to this scenario, the country will continue to experience economic depression, with periods of slight economic recovery transitioning into a decline in production. The most difficult situation will continue to affect high-tech industries. The social sphere will deteriorate. One of the negative consequences of this development scenario is the lag in the development of the housing and utilities sector and the degradation of infrastructure.

In conditions of depression, environmental issues are not a priority for the vast majority of citizens. The demand for eco-friendly products is minimal. With limited investment volumes, the share of investments allocated to environmental protection measures is minimal. However, in some respects, the environmental situation begins to improve due to the reduced environmental load from a decrease in economic activity. At the same time, the likelihood of technological accidents increases, the volume of accumulating waste grows, and further degradation of disturbed ecosystems occurs.

In the case of extensive growth, rapid development is possible, but it significantly increases the environmental burden. Although investments rise, funds for environmental protection remain minimal, focusing only on the most profitable sectors. Companies expanding production through extensive resource use are uninterested in environmental transparency. The state, aiming to support economic growth, avoids strict environmental regulations. A negative social consequence of this scenario is sharp wealth differentiation, including regional disparities in Ukraine. Successful regional centers with rapidly growing infrastructure contrast with depressed rural areas. The low standard of living, along with a lack of social and domestic infrastructure, leads to low environmental awareness. Thus, extensive economic growth does not foster widespread ecological consciousness, increases environmental pressures, and may ultimately lead to an ecological crisis.

The state actively pursues social equality policies for vulnerable populations and regions, resulting in minimal wealth differentiation. This development model is typical of countries with a high level of development where primary needs are largely met. Both urban and rural areas have well-developed, high-quality social and domestic infrastructure, and the population has a high standard of living. A wide range of people is interested in solving environmental issues: for citizens, the quality of the environment and products is crucial; for businesses, reputation and a "green image" matter; and the state strictly controls environmental matters. Significant environmental restoration work is carried out, although past economic development has led to complex environmental problems.

Table 8.2. Scenarios of possible options for the ecological and economic development of Ukraine

Balanced growth	*Extensive growth*	*Depressive growth*
1.Economic growth through the development of high-tech industries (microelectronics, telecommunications, machine engineering) and the non-production sector. Maintaining stable production rates in the raw materials sector and industries related to primary resource processing. A reduction in the share of raw material industries in the total volume of production. A slight increase in the share of military expenditures, while reducing the share of military spending in the state budget.	1. High economic growth rates driven by export-oriented industries (mainly related to mining, energy, chemical industry, and some sub-sectors of machine engineering) and certain sectors serving the domestic market. A significant share of ecologically hazardous industries with high material intensity in the economy. A considerable increase in investment in fast-developing sectors. A slight increase in military expenditures in the budget.	1. Maintaining a stagnation-based economic structure. Modest economic growth rates against a backdrop of declining production in high-tech industries. A slight increase in investment, mainly driven by investments in export-oriented sectors and industries producing consumer goods with inelastic demand. A reduction in military expenditures despite the rising share of military spending in the state budget.
2.Maintaining a stable level of natural resource consumption, with a significant reduction in production material intensity. Decreasing emissions, though with a slight increase in certain emission volumes. Development of waste recycling technologies. Growth in public and private investments for environmental protection. Expansion of industries focused on producing eco-friendly products and environmental protection technologies. Restoration of damaged ecosystems.	2. A sharp increase in resource consumption. Slight reduction in material intensity. Increased emissions and discharges of pollutants, with a decrease in the proportion of emissions and discharges, along with rising waste volumes. Introduction of modern waste recycling technologies. Modest growth in environmental protection investments. Development of certain industries related to the production of environmental protection technologies. A significant increase in environmental burden, with a growing number of destroyed ecosystems. Conducting environmental restoration activities in a limited number of areas.	2. Maintaining stable levels of natural resource consumption. Increase in material intensity of production. Slight increase in pollutant emissions. Growth in specific emissions and discharges, with an increase in accumulated waste volumes. Lack of modern waste recycling technologies. Maximum level of investments directed towards environmental protection. Modest production of environmental protection technologies. Absence of environmental restoration activities.

3. Growth in government social spending. Reduction of income differentiation among citizens to 5-7 times. Increase in public and private investments in the development of housing and communal infrastructure. Development of the socio-cultural complex. Expansion of private housing construction in small towns and rural areas. Increase in government spending on education. Growth in the proportion of individuals with higher education in society.	3. A slight increase in government social spending. Significant income differentiation among citizens. Presence of depressed regions. A small portion of citizens living below the poverty line. Increase in private spending on housing and communal infrastructure development. Differentiation in the development of housing and communal services. Rapid infrastructure development in large metropolitan areas. Relatively developed socio-cultural complex in large cities.	3.Reduction in government social programs. Significant income differentiation among citizens. The majority of citizens live below the poverty line. Degradation of housing and communal infrastructure. Underdeveloped socio-cultural complex. Minimal level of private housing construction. Low level of construction activity. Lack of significant investments in infrastructure development. Reduction in government spending on education. Decline in education quality. Increased differentiation in education quality. Decrease in the number of people with higher education.
4. Development of information technologies in environmental protection. Expansion of environmental information publications. Accessibility of environmental information for citizens. Growth in popularity of eco-friendly products. Increased prestige of a favorable socio-environmental living environment. Development of environmental awareness.	4. The environmental monitoring system is not highly developed. There are only a few informational publications on environmental protection issues. Limited access to information about the environmental aspects of large enterprises' activities. A small segment of the population purchases eco-friendly products. Significant differentiation in citizens' views on environmental issues.	4. Underdeveloped environmental monitoring system. Lack of access to environmental information. Lack of interest among citizens in environmental issues. Absence of demand for eco-friendly products.

Questions for self-control:

1. What conditions should modern ecological and economic policy in Ukraine provide?
2. What situation does the scenario of balanced economic growth describe?
3. What are the possibilities of ecological and economic development of Ukraine in the case of depressed growth?
4. What situation does the scenario of extensive growth describe?

Topic 9. The European Union and its role in shaping Ukraine's environmental policy

1. Application of EU environmental legislation for legal support of environmental protection and formation of effective environmental policy of Ukraine.
2. The principle of European environmental policy "the polluter pays".
3. The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL).
4. Modern operating market-based instruments for environmental protection.

The beginning of the 21st century is marked by the intensification of a number of global issues, with environmental protection being one of the most significant. In recent years, the European Union has played a key role in addressing environmental problems. The trends observed in the EU compel us to consider complex theoretical issues such as the formation of environmental policy aimed at preserving and restoring the natural environment of Europe. Therefore, the main directions of the EU's environmental policy and the stages of its development should form the basis of Ukraine's environmental policy.

The analysis of the European Community (EU) legislation in the field of environmental protection is of great importance for the further improvement and enhancement of the effectiveness of environmental policy in Ukraine. Currently, developed countries are transitioning to an ecological era, where social production, especially in industry, must function and develop not only according to economic principles but also in line with ecological laws and patterns, taking into account the objectively existing ecological limits and constraints. These trends are most pronounced in the context of globalization, informatization, and computerization of production, the development of microelectronics and informatics, as well as communication systems and mass media.

The scientific and technological revolution enables the solution of socio-economic problems, significantly impacts industrial production, its techniques and technologies, the products being produced, as well as the surrounding environment.

However, this does not address the ecological problems in industry. The positive experience of developing and applying EU environmental legislation for ensuring environmental protection, rational use of natural resources, and forming an effective environmental policy in Ukraine is essential for:

1. Developing a dynamic ecological policy in Ukraine that considers the country's societal needs, aiming to protect the environment and public health during economic activities, particularly during Ukraine's transition to sustainable economic development and its structural, functional, and spatial transformation. This should lead to the creation of new environmental legislation, including for industrial production.
2. Ensuring the alignment of Ukrainian and European environmental legislation.
3. Ensuring continuity and step-by-step progress in addressing regional environmental challenges in industrial production.
4. Utilizing a comprehensive set of organizational-legal, economic, ideological, and other measures for legal environmental protection in industry, based on political, socio-economic, ecological, and other conditions specific to the country's development.

The European Union is the largest region influencing global environmental policy. The modern European Union (EU) is unique among all existing groups of states formed through regional economic and ecological integration, as it stands on the brink of full integration.

European environmental policy is based on the principles of preventing and eliminating pollution sources, as well as the "polluter pays" principle. Long-term

environmental action programs form the foundation for future measures in all areas of environmental policy. These programs are integrated into horizontal strategies and are taken into account in international environmental negotiations, as the implementation of environmental policy today is of crucial importance.

The EU's environmental policy is based on the principles of preventing and eliminating the sources of pollution, as well as the "polluter pays" principle. The precautionary principle is a risk management tool that can be used when there is scientific uncertainty about the potential risk to human health or the environment resulting from certain actions or policies. For example, if there are doubts about the potentially harmful effects of a product and uncertainty remains after an objective scientific assessment, instructions may be given to stop the distribution of the product or withdraw it from the market. Such measures must be non-discriminatory and proportionate, and they should be reviewed as soon as more scientific information becomes available.

The EU plays a key role in international environmental negotiations. It is a participant in numerous global, regional, or subregional environmental agreements covering a wide range of issues, such as nature conservation and biodiversity, climate change, and transboundary air or water pollution. At the 10th Conference of the Parties to the Convention on Biological Diversity, held in Nagoya (Japan) in 2010, the EU made a significant contribution to the agreement on a global strategy to halt biodiversity loss by 2030.

Similarly, the European Union helped shape several major international agreements adopted at the UN level in 2015, such as the 2030 Agenda for Sustainable Development (which includes 17 global sustainable development goals and 169 associated targets), the Paris Agreement on climate change, and the Sendai Framework for Disaster Risk Reduction. In the same year, the EU also became a participant in the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international network of environmental enforcement bodies from EU member states, candidate countries, and Norway, established to strengthen law enforcement by providing a platform for policymakers, environmental inspectors, and law enforcement officers to exchange ideas and best practices.

The European Parliament plays a key role in shaping the EU's environmental legislation. During its eighth term, it addressed issues related to legislation arising from the Circular Economy Action Plan (such as waste disposal, batteries, and end-of-life vehicles), climate change (ratification of the Paris Agreement, land use accounting, and changes in land use and forestry in the EU's climate change commitments). The Parliament has repeatedly emphasized the need to improve the implementation of environmental policy as a key priority. In its resolution "Improving the benefits of EU environmental actions: strengthening trust through better knowledge and response," it criticized the insufficient level of environmental law enforcement in member states and made several recommendations for more effective implementation, such as sharing best practices between member states and between regional and local authorities. In its position on the current environmental action program, the Parliament stressed the need for stricter compliance with EU environmental legislation. Additionally, it called for the creation of

safer conditions for investors supporting environmental policies and efforts to combat climate change, to better integrate environmental issues into other strategies.

Based on the European Environment Agency's report, the following classification of current market instruments can be outlined:

- **Trade permits** introduced to reduce emissions (e.g., CO2 emission quotas) or conserve natural resources (e.g., fishing quotas);
- **Environmental taxes** implemented to change prices and influence consumers and producers;
- **Environmental contributions** established to cover fully or partially the costs of environmental services, pollution reduction, and waste disposal;
- **Environmental subsidies and incentives** introduced to encourage the development of new technologies, creation of new environmental goods and services markets, and support for high levels of environmental protection;
- **Liability and compensation schemes** designed to ensure adequate compensation for environmental harm and costs of prevention and restoration.

Practical experience clearly shows that the most effective approach is to use a combination of these instruments. Since the mid-1990s, the share of market-based instruments has significantly increased, particularly concerning taxes, contributions, and trade permits. Most measures have remained within the EU, including the ten new member states, associated countries, and transitional states in Central and Eastern Europe.

Questions for self-control:

1. Why is positive experience in the development and practice of EU environmental legislation needed to legally ensure environmental protection and form an effective environmental policy in Ukraine?
2. What principles are based on EU environmental policy?
3. Name the current market instruments, based on the report of the European Environment Agency.

Topic 10. The state of the environment as an indicator of sustainable development

1. Main indicators of the state of the environment.
2. Ecological indicators of the state of the environment.
3. Tasks of integrated indicators of the state of the environment.

A key element of the information support system for environmental policy, considering sustainable development goals, is a set of integrated indicators (in international practice – environmental indicators) of the state of the natural environment in a region. Only properly developed and formulated indicators can ensure an objective analysis of the situation, the development of target guidelines, and the justification of measures for environmental improvement and economic growth stabilization.

It is evident that the resource-based nature of the environmental indicators adopted in Ukraine does not meet the modern requirements for forming a sustainable development system, which are based on the principles of the UN Conference on Environment and Development. The introduction of integrated environmental indicators is becoming

relevant, as it would allow for a coordinated approach to addressing environmental, human existence, and socio-economic development issues.

At this stage, the international community views environmental indicators as a comprehensive tool for measuring and representing eco-economic trends in a country.

Based on these positions, three main types of indicators are identified:

- **Indicators of the current environmental state** (e.g., levels of NOx), which determine the existing environmental parameters;
- **Indicators of impact or pressure** (e.g., NOx emissions), which reflect the anthropogenic impact on the environment;
- **Indicators that regulate the impact on the environment**, through which it is determined how different agents respond to specific influences.

The general tasks of integrated environmental indicators in international practice are:

- **Assessment of the place and role of environmental problems** that accompany the economic growth of the state;
- **Determination of strategic priorities in short-term and long-term socio-economic development programs**, aimed at sustainable development of society and its balance with dynamic environmental processes;
- **Identification of sources of financing and political priorities for environmental issues** that require urgent solutions based on realistic, effective, and economically balanced decisions.

The term "indicator" is derived from the Latin word *indicar*, meaning to reveal or inform the public. In modern terms, it represents an empirical model of reality that serves as the basis for the development of indexes. Indexes are the pinnacle of the information pyramid; they are the most aggregated numerical indicators used to determine environmental policy measures and make relevant decisions. An index represents the ratio of the actual state to the optimal state of the environment.

The optimal state of the environment refers to scientifically grounded optimal parameters of natural ecosystems in terms of their assimilation capacity with regard to anthropogenic impact in regional natural conditions. The information base used to develop environmental indicators can cover all consequences of impact on the surrounding environment, so this data is sometimes difficult to adapt for specific goals. For this purpose, international practice widely uses a fundamental classification scheme for environmental indicators, which serves to systematize diverse environmental information and make it more accessible and acceptable for managers and the public.

In a broader sense, the use of environmental indicator classification arises from the following series of questions:

- What is happening to the state of the environment and natural resources?
- Why is this happening?
- What are we doing about it?

Indicators of changes or trends in the physical and biological state of the natural environment (state indicators) answer the first question;

indicators of stress or anthropogenic pressure causing changes in the surrounding natural environment (pressure indicators) answer the second question; and environmental

policy measures that regulate the presence and development of environmental problems (response indicators) answer the third question.

Considering this issue in more detail, it is necessary to emphasize that condition indicators determine the qualitative state of the natural environment, especially those of its parameters that worsen the conditions of human life (for example, the preservation of the ozone layer, air quality in urban areas, etc.).

Impact indicators, on the other hand, identify the causes of environmental problems: the depletion of natural resources through their extraction, or excessive emissions of pollutants or waste into the environment, as well as anthropogenic intervention such as infrastructure development or the preservation of natural ecosystems for specific uses. In other words, these indicators measure the degree of stress on the environment

Response indicators identify the efforts required by a society or a government to improve the environment or reduce its degradation. Thus, they measure how environmental policies are implemented in terms of agreements reached, financial commitments, scientific research, relevant regulations, the introduction of financial incentives or behavioral changes.

This structure of impact-state-response indicators, which follows the logical sequence of cause-impact-social response, was developed by the Organisation for Economic Co-operation and Development (OECD) based on earlier work done by the Canadian government. As an internationally accepted framework, it can be used at the national level, as well as in sectoral and regional contexts.

For successful implementation, environmental indicators must meet the following characteristics:

- They should be targeted and adapted to specific goals.
- They should align with the overall objectives of the country's environmental policy.
- They should have a high degree of aggregation and comprehensiveness.

The implementation of the international indicator system requires the collection of an information database at local and regional levels by the Ministry of Environmental Protection of Ukraine, local government bodies, the State Statistics Service of Ukraine, the Chief Sanitary and Epidemiological Directorate, and others. This information needs to be analyzed and systematized to define ecological, economic, and social indicators regarding the state of the natural environment and trends in its transformation, as well as the effectiveness of state regulations on anthropogenic impacts on the environment. The Ministry of Environmental Protection of Ukraine, based on the determination of the compliance indices of integrated indicators with their optimal values, should propose priority areas for national environmental policy and make strategic decisions for their implementation.

Questions for self-control:

1. What are the general objectives of integrated environmental indicators?
2. Give a classification of environmental indicators.
3. Name the main factors in the implementation of an international system of indicators.

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