

# ЕКОНОМІКА ТА УПРАВЛІННЯ НАЦІОНАЛЬНИМ ГОСПОДАРСТВОМ

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## FINANCIAL PRIORITIES OF ECOLOGICAL SAFETY SUPPORTING (BASED ON THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT)

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**Introduction.** The Association Agreement between Ukraine and the EU provides for the implementation of 29 EU Directives in the sector "Environment" from the date of its signature (not ratification) according to the schedule, its cost and sources of funding. Main directions of the cooperation have been identified as follows: environmental policy at the sectoral and regional levels; approximation of the environmental legislation of Ukraine to the EU norms; institutional capacity development; support of the environmental policy implementation in the following sub-sectors: air, water resources, waste management, land and forest resources, etc.

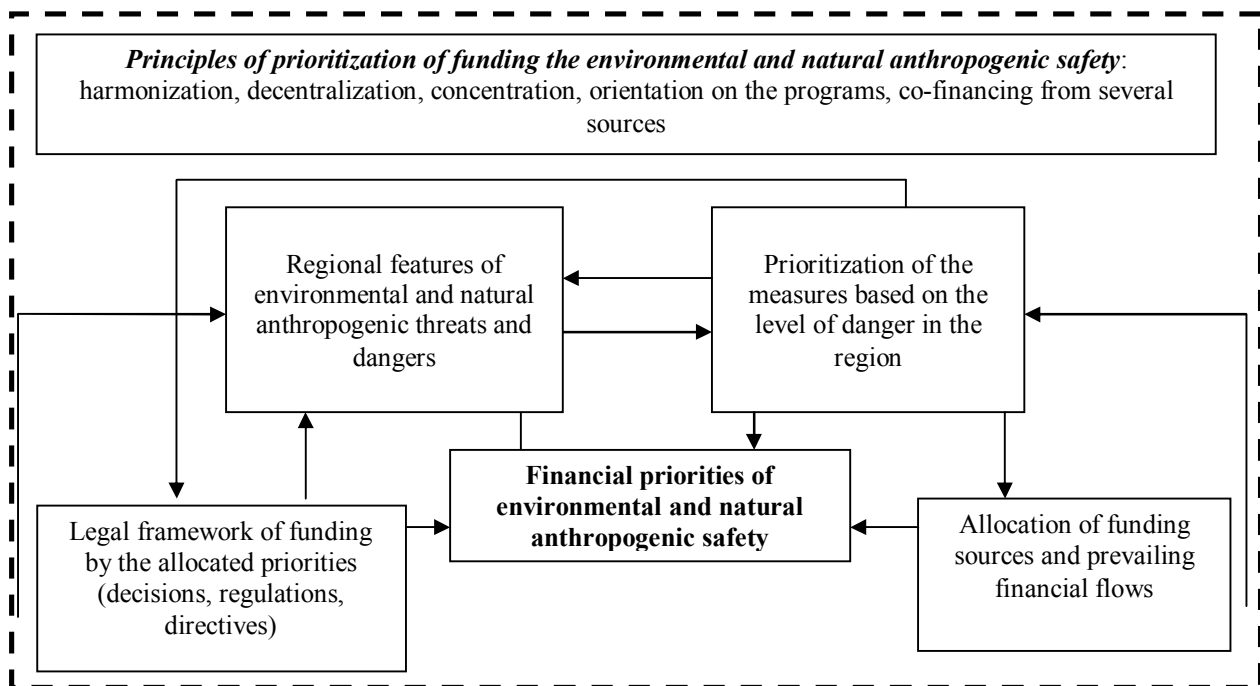
In this context the financing of environmental and natural and anthropogenic safety in the region should agree with the principles of EU regional policy: *harmonization, decentralization, concentration, orientation on programs, co-funding from several sources*. It has also to rely on the legal mechanisms and at the same time remain flexible. Theoretically (ideally), this approach should ensure consistency between the strategic priorities of the national environmental policy and the environmental policy of the EU states, which are realized in the form of target environmental programs and their respective financial support [1].

**Review of the recent research sources and publications.** The Strategy of National Ecological Policy of Ukraine until 2020 (paragraph 4.10 "Economic and financial mechanisms") notes that the assurance of stable financing of environment protection activity and improvement of economic instruments are the main prerequisites for implementation of ecological policy in Ukraine. In particular, the paper focuses on the need for further development of strategic guidelines of the financing. It should be noted that the differences in socio-economic development of the regions in Ukraine cause uneven technogenic impact on the environment, which requires a differentiated approach while studying the problems.

In this context, particularly topical is integration of the environmental priorities of the Fundamental Principles (Strategy) of Ukraine's State Environmental Policy for the period until 2020 and developed on their basis the National Action Plan for Environmental Protection of Ukraine in the regional socio-economic development by improving the economic basis of the environmental regulation, in particular, the financial mechanisms of guaranteeing the anthropogenic and environmental safety [2].

**Problem definition.** Today Ukraine has not developed a system of priorities of funding the environmental measures, especially at the regional level; there is no overall concept and the programs are financed by a residual principle.

**Main material and results.** Analyzing the world experience of the funding by the selected priorities we can note that their system is unstable and may change depending on the stage of transformation processes. The common approaches to prioritization of the financial assurance are the conceptual scheme of harmonization of the directives, environmental problems and the programs in the region, as well as the available and predictable financial flows (Fig. 1).



**Fig. 1. Scheme of prioritization of funding sources of the environmental and natural anthropogenic safety (developed by the authors based on [3-7])**

The mechanisms of financial support of the environmental safety are becoming of primary importance in the system of environmental and sustainable development. The most popular mechanisms among others are generally organizational and economic, in particular the charge for natural resources. A system of taxes and penalties is also widely used.

The international common practice is to establish separately a tax for industrial and domestic use of biosphere components. The system of taxation of all polluting industries has been adopted in the EU, where the costs on treatment facilities are sometimes up to 50% of the production costs. The US researchers argue that offering freedom to choose alternative solutions about payments for environmental pollution to enterprises creates certain preconditions not only to reduce the cost of pollution control, but also reduces production costs in general.

The economic incentives for the environmental activity are not limited only to compulsive actions. The policy of certain benefits and economic assistance to enterprises engaged in pollution control plays an important role. Nowadays a new market mechanism of environmental safety, which provides the implementation of environmental subsidies, loans, taxes, fees, penalties, credits and quotes associated with the emission of harmful substances into the atmosphere is being developed. It allows allocating the financial resources and accumulating them in government accounts or special funds. It is practiced in the USA, where private industrial capital gets various support in the field of environmental safety. Government subsidies occupy a special place in this support.

Funding of scientific research and development by the government plays an important role. In the USA, almost three-quarters of the budget of the Agency for the Environment (EPA) in the area of research are aimed to pay for contracts and grants of individual developments undertaken mainly in the industry. The researchers specialized in studying the sources of environmental safety financing suggest that in the long and medium term period it is reasonable to concentrate the financial resources on solving a number of the most important issues and reaching a limited list of purposes of environmental and natural and anthropogenic safety. These directions can be identified by taking into account the regional peculiarities of risks (it is a strategic task of improving the institutional environment of guaranteeing environmental safety). Scientists and practitioners single out the following key directions to improve the funding system [8-10]:

*Effectiveness of budget funds use in environmental and natural and anthropogenic safety:* review of the environmental investment projects and programs that require funding from the state budget (in terms of significance and importance), further implementation of elements of the market model of public finance management. At present, only a program-target method of budgeting, medium-term budget planning, strategic planning of key spending units are used; the transition from the indicative to the medium-term

budget planning which will provide regular budget funding of the long-term investment ecological projects and improve predictability of the expenditures in environmental and natural anthropogenic safety.

*There are monitoring of funding and assessment of the effect of its use:* constant monitoring of the volume of funding planned and allocated for the implementation of the measures to guarantee safety of the population by the regional authorities, as well as at high risk units in regions. The key decisions on expenditures should be made at the stage of previous formation of the project budgets at all levels, and new budgetary and legislative initiatives in regions should consider real possibilities of their financial support.

*Balancing expenditures and revenues to the regional budgets* provides for undertaking expenditures on environmental protection in volumes not less than revenues to regional budgets from the fee for special use of natural resources, environmental tax and penalties for environmental laws violations. The main source of such expenditures should be polluters' costs, which causes the attraction of private capital.

*Fiscal capacity of regional budgets* creates conditions for the reallocation of the state financial resources and budget structure adjustment. Under conditions of the current crisis, the most effective measure is to assign the portion of the corporate income tax to local budgets, which improves the financial support of the region environmental safety.

*Paradigm shift of financial support of the environmental safety in the region* provides a transition from the mechanical attraction of funds to the regional budget to system management of such funds in the region through the regional environmental funds as structural elements of the National Environmental Fund; funding of specific measures aimed at gradual achievement of stabilization or improvement of the environmental safety in the region.

*Effectiveness of credit funds use* requires clearly defined objectives and directions for attracting credit resources of deficit financing. It is necessary to capture in legislation the direction of borrowed resources exclusively for investment projects, such as preventing the risk of anthropogenic and natural emergencies and effective removal action in the region.

*Environmental insurance in environmental and natural anthropogenic safety* as one of the types of civil liability insurance of owners or users of high environmental hazard facilities due to possible accidental pollution of the environment and damage to the vital interests of third parties, providing the partial compensation for damage caused to victims.

Today permanent underfunding of pollution prevention measures, accumulated organizational problems have resulted in the situation where regions and cities had actually lost the leverage to limit environmental threats and risks. However, revitalization on the approximation of environmental legislation in accordance with the EU Directive on Environmental Protection requires searching new, alternative forms and instruments to attract funds for implementation of prevention of safety measures. In addition to "horizontal" Directives, the important tool for regulating relations in the field of prevention of environmental pollution within the Europe is the Cohesion Fund [11-12]. Member States with GDP below 90 % of the EU average are eligible for funding from the Cohesion Fund.

The assistance for countries planning to EU membership is provided through the Fund «The instrument for structural policy for pre-accession» (ISPA) to finance environmental and transport projects. According to the Fund's statute, it can allocate 63.4 billion euro for investment program by a number of categories. Using such main mechanisms as investment grants, subsidies, tax benefits and compensation during 2007-2014 the Cohesion Fund supported around 20 programs in 14 European countries. Most of them were financed joint with the European Regional Development Fund (ERDF) and related to the optimization of TEN-T and infrastructure in the country in compliance with environmental protection requirements. The effectiveness of the using the Fund's money is measured by an appropriate set of indicators including: indicators of the environment, transportation network, renewable energy development, and climate change (Table 1).

For the 2014-2020 period the Fund plans to provide assistance for development and optimization of the environment in Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovakia and Slovenia. Unfortunately, Ukraine cannot attract the Fund's resources to projects because of lack of the legal opportunities.

**Table 1**

**Indicators of performance efficiency of the Cohesion Fund**

Directions of financing	Effectiveness of funds use
<i>Environment</i>	
Solid waste, tonnes / year	Additional waste recycling capacity, tonnes / year
Supply of water, persons	Additional population served by improved water supply, persons

Wastewater treatment	Additional population served by improved wastewater treatment, population equivalent
Risk prevention and management	Number of persons benefiting from flood protection measures, persons
	Number of persons benefiting from forest fire protection measures, persons
Land rehabilitation, hectares	Total surface area of rehabilitated land, hectares
Provisioning of ecosystem-services and biodiversity	Surface of habitats supported to attain a better conservation status, hectares
<i>Energy and climate change</i>	
Renewable energy sources	Additional capacity of renewable energy production, megawatt
Energy efficiency	Number of households with improved energy consumption, households
	Reduction of the annual primary energy consumption in public buildings, kWh / year
	Number of additional energy users connected to smart grids, users
GHG reduction	Estimated annual decrease of GHG, tonnes of CO <sub>2</sub> eq
<i>Transport, km</i>	
Railway	Total length of new railway lines
	Total length of reconstructed or upgraded railway lines
Urban	Total length of new or improved tram and metro lines
Roads	Total length of constructed roads
	Total length of reconstructed or upgraded roads
Inland waterways	Total length of new internal river or sea routes

\*Source: systematized by author based on [11-12].

The problems of cross-border cooperation are considered in detail in the papers by E. Matviishyn [13], where the author analyzes the causes of insufficient activity of bordering regions communities in the projects of preventing environmental pollution or overcoming its consequences.

*The Cohesion Fund allocates a total of € 63.4 billion to activities under the following categories:*

Trans-European Transport Network (TEN-T). Identified by the EU as well as infrastructure projects facilitating the Connecting Europe Facility are high-priority;

environment. The Cohesion Fund can also support projects related to energy or transport, as long as they are safe for the environment in terms of energy efficiency, use renewable energy, facilitate developing rail transport, supporting intermodality, strengthening public transport, etc.

The evolution of the Fund's development begun in the 90s of the XX century when the European Commission proposed ("Delors II Package") to create the Cohesion Fund (according to the Maastricht Treaty) and increase the funding of regional policy. Functioning since 1993, the Fund provides co-financing and implementation of individual projects in the area of environmental protection and transport development in less developed EU countries. In 1992 European Council developed a budget for 1994-1999, when 153 billion was addressed to other regional policy funds and 15 billion – to the Cohesion Fund.

**Conclusions.** Any economic activity, especially in densely populated areas can cause emergence and spread of the environmental and natural anthropogenic threats and dangers. Therefore, it is necessary to keep to a number of principles, namely: prevention, diligence, compliance with the international environmental legislation and so on. Today the enterprises are a potential source of pollution in Ukraine and bordering states. Own funds and reserves are not enough to provide sufficient actions for the implementation of prevention measures (which is supported by the underfunding of major state target programs to prevent risks and dangers of emergencies). Organizational and economic potential (which is not available for Ukraine today) is concentrated in EU structural funds, in particular in the Cohesion Fund, which provides investment for overcoming the regional disparities, including environmental, through the appropriate mechanisms.

Given the intensification of the Ukraine-EU policy state support of implementation of the strategies for regional and urban development, taking into account the environmental component, empowerment of the local authorities as to identify and finance joint international environmental projects with the active involvement of the local authorities in developing and implementing software documents in the field of environmental protection should be priority.

The formation of insurance funds and other funding sources of measures on prevention and liquidation of emergency situations in the regions are still of high priority. This involves improving the system of

insurance and reinsurance of natural and technogenic risks of accidents; implementation of the mechanisms and methods of financial management in this area; improving credit conditions and standards for the prevention and elimination of emergency situations.

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**Hanna Obikhod**, PhD (Economics), associate professor, senior researcher. **Alla Omelchenko**, PhD (Economics), researcher. Public Institution «Institute for Environmental Economics and Sustainable Development of NAS of Ukraine». **Financial Priorities of Ecological Safety Supporting (based on the principles of sustainable development)**. The authors distinguished the need for further development of the funding system of guaranteeing ecological safety is established and a conceptual scheme of approaches to defining its priorities. There are described in the article the areas of optimization of financial flows in view of continued decentralization processes. These areas include: improvement of budget funds use (at national and regional levels) in environmental and natural and technogenic safety area; monitoring of funding; focus on balancing expenditures and revenues to the regional budget; strengthening of fiscal capacity of the latter; paradigm shift of financial support for environmental security of the region; development of environmental insurance. Possibilities for improving the financing system in the field of safety based on the potential involvement of EU structural funds, especially The Cohesion Fund, which is not currently available in Ukraine, are grounded.

This structure makes investments through appropriate mechanisms to overcome territorial disparities, including the environmental field. Special attention should be paid to the developed technique of evaluating the effectiveness of the use of its funds by indicators of the environmental state, energy to overcome the impact of climate change, the development of trans-European transport network (TEN-T).

**Key words:** ecological safety, financial priorities, reserve fund, sustainable development.

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**Ключові слова:** екологічна безпеки, фінансові пріоритети, резервний фонд, сталий розвиток.

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**Ключевые слова:** экологическая безопасность, финансовые приоритеты, резервный фонд, устойчивое развитие.