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**METHODOLOGY OF FORMATION OF MODERN ORIENTED  
ENVIRONMENTAL MANAGEMENT SYSTEMS IN  
WASTE MANAGEMENT**

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*The article discusses the methodological approaches to the formation of the modern environmental-oriented management systems in the field of waste management. We propose a mechanism of economic management in the sphere of waste management, which provides the introduction of environmental insurance, preferential lending and leasing.*

**Keywords:** *waste management, environmental-oriented management, environmental insurance, preferential loans, leasing*

**Problem statement.** The current dynamics of the socio-economic development of Ukraine is accompanied by an increased rate and extent of waste, resulting in high levels of stress the landfill and waste dumps. As a result of a chronically underfunded actions on efficient waste management (3% of the required amount) economic costs of pollution increase. As a result, the level of contamination of man-made products of Ukraine takes the first place in Europe. Therefore, the problem of accumulation of waste is one of the real threats to national security. Unfortunately, funding environmental measures from the government is at a low level, which significantly affects the international image. Therefore, Ukraine's strategic goal is to transform the scope of waste management in a cost-effective, attractive investment industry.

**Analysis of recent research and publications.** Despite the fact that the problems of waste management in the environmental-oriented systems have been discussed by in a number of leading national and international scientists, the issues of economic regulation in this sector of the market are not well developed. As the practice of recent years shocos, most of the projects associated with the waste could not be implemented because of the low economic attractiveness caused by the development of regulatory institutions.

**The purpose** of this paper is the analysis of methodological approaches to the development of modern environmental-oriented management systems in the field of waste management.

**The main material.** An important trend in contemporary realities in our country is the hierarchy of waste management, which provides the issue of transition from the burial and burning of waste to a more viable option for their treatment, namely the re-use (recycling) and recyclable. It should be stated that the general trend, which is inherent in most EU countries is, characterized by a reduction of landfill waste disposal at the same time at the same time the, preference is given to waste as heat, and on the basis of biocomposting. It must be borne in mind, too, that the disposal of waste in poligonax in the EU is in full compliance with strict environmental standards. This raises the need to consider ways to reduce the waste by enterprises through the introduction of 9 ISO 14000. The legal prerequisites for the implementation of these standards in Ukraine are related to the necessity of harmonization of Ukrainian and international legislation in the field of waste management.

To implement the requirements of the Law of Ukraine "On Waste" for mandatory recycling of waste, which are secondary raw materials, it is necessary to introduce economic instruments to encourage industrial enterprises, organizations and people in the separate collection of these materials and their transfer to specialized enterprises for processing.

Given the rapid depletion of certain types of natural resources, the need for large investments in the development of new fields, special attention should be paid to the possibility of deficient products of man-made resources accumulated. It should also be noted that many kinds of industrial wastes containing high amount of non-ferrous metals, but their removal has not yet been established in Ukraine. It should also be noted that the importance of the development of new deposits acquire storage conditions and shelf-life recycling. Primarily, this is due to the fact that through joint and stockpiling waste rock, changes of quality over time, as well as their mixing raw material properties vary greatly, and thus it is difficult to remove mineral components. It is important to recognize that with some degree of approximation as waste can be treated and polygons storage of solid waste from which you can obtain valuable components.

Based on the foregoing, it becomes urgent problem of the comprehensive utilization of waste. In connection with this assessment of the state of industrial and household waste, the analysis of the nature of their utilization, development of proposals for the rational use of secondary resources to determine the long-term strategy for the organization of production and recycling of consumer goods. The combination of a variety of complex tasks requires the use of raw materials of their comprehensive study before making an investment decision of a project waste production and consumption. The economic effect is seen in the fact that the scarce raw materials imported can now be produced in Ukraine, which will help create new jobs.

Unfortunately, there is currently no clear government program to control the accumulation and processing of waste. There is no the informational support for using recycled materials. There are no economic incentives for enterprises engaged in processing of waste, because now, this production may be unprofitable. Stimulus, in this case, it may be the provision of certain benefits, in particular, to pay for the land, electricity, water, utilities, rent. The advisability of granting such benefits to encourage the involvement of waste in production is due to the fact that their utilization is important, since it contributes to the elimination of landfills, reduces the amount of harmful emissions into air and water releases of land for agricultural, urban planning and other purposes.

One of the effective ways that are conducive to waste, reduce the volume of their education will be legally ustanrovlennaya high fees for waste storage, as well as significant benefits for those who have this waste will be recycled. From this perspective, it becomes apparent that the waste in the first place, should be the subject of interest for investors in this field.

Economic evaluation of investment projects related to waste management is essential for socio-economic analysis and preliminary calculations as the raw material for decision-making in the planning, design, modernization, construction and reconstruction. The economic viability of investment projects should be considered as a category that reflects the investment project goals and interests of the participants.

To choose the most rational variant of the investment project is desirable to have a systematic criterion that takes into account the factors and aspects of the economic and environmental performance, taking into account risk assessment. Incorrect assessment of risk can lead to environmental problems, and to inefficient solutions. The reduction of environmental risks is one of the major challenges of waste management, as it is associated with significant financial penalties in the event of injury.

In the field of waste management integrated risk assessment becomes very important. This vich is defined as la comprehensive safety indicator, expressed in the same monetary terms. In this case, the risk is considered to be an integrated multi-factorial function, which combines the risks of social, material and environmental damage.

It is important to develop and methodological approaches to the management of waste management, aimed at improving the use and waste minimization. This raises the problem of creating a modern process control system of waste management, a special place where the consideration should be allocated as a specific waste product.

In modern conditions, the main role in the prevention and elimination of environmentally harmful effects of waste management plays an economic mechanism of management of the area, which serves to be part of the economic mechanism, and the relationship of their goals provides a synergistic effect on the national level.

Systemic effects of all elements of the economic mechanism of management on the sphere of waste management (forms, methods, tools and instruments) are able to ensure the formation of stable sources of funding for sustainable waste management, the disclosure of innovation and investment potential of this sector, encouraging the protection and reproduction of natural resources potential of the country [1].

Throughout the world, there are attempts to effectively manage the ever-growing waste streams. According to the analysis of foreign experience of implementing this mechanism, it can be argued that his economic instruments should be directed at encouraging businesses and people to the sound management of wastes, limiting ecodestructive activities in this area and the accumulation of funds for environmental activities at the expense of waste at the national level.

Effective management of the waste management system should include approaches that lead to the optimal result, in particular, to improve the environment in compliance with the principle of cost-effectiveness [2].

Operation and development of the waste management in Ukraine is characterized by a low level of efficiency of the waste management field. Unfortunately, at in the present only some of the economic management tools area of waste management nova, namely, payments and penalties, which do not fully perform their duties because of the imperfections of the current approach to the characterization of the impact of this sector on the environment. The introduction of concessional lending and taxation measures, sound management, government support for environmental activities, material encouragement of enterprise environmental performance require the creation of an appropriate regulatory framework.

The formation of an effective economic mechanism for waste management seeks to involve various forms of private capital in the process of innovation and investment for the future modernization of this sector.

Based on the analysis of the basic features and functions of entities in the waste management, as well as taking into account the characteristics of the organization of the process in this area, there is a need for:

- combining operations of waste management into a single technological cycle;
- the conclusion of the circulation of waste from the housing sector in independent production;
- the creation of a separate fund for waste management at the national and regional levels (with the accumulation of payments for the collection, transport and disposal of waste);
- improvement of the tariff policy in this area.

There fore it is necessary to create the state of waste management, which must full a function of organization and management activities in the field of waste management. However, this requires significant financial investment in this sector by investors who have an interest in their investments into a new segment of the market.

With the right approach to this problem significant income may be received.

The increased investment activity of the main subjects of the areas of waste production and consumption requires the formation of the cluster that are the core businesses for the collection, transportation, disposal, seizure, disposal of waste and use of recycled materials. This will ensure the consolidation of state efforts on the end result, for the sake of which all the members of the cluster are functioning.

Depending on the level of performance of management in the sphere of waste management and the revealed features of this sector in the country it is necessary to justify a differentiated approach to the selection of financial and economic activities to ensure their optimal functioning. In this case, the tariff policy in the field of waste management should provide an economically motivated ekologically safe waste management and the transfer of responsibility for the externalities associated with environmental pollution. At the same time, it should identify the steps to improve the tariff system in the field of waste management, covering: the economic damage caused by the pollution of the environment payments for the collection, transport and disposal of waste, the inclusion of the rate of waste processing operations, the introduction of differential fees depending on the amount of recovered waste, which corresponds to the European experience.

The main problem in the field of waste management is the lack of an effective mechanism of regulation of this sector. The Existing in Ukraine at present mechanism of regulation of waste management is closer to the expansion option, which provides sore compensation for the damage caused to the environment. At the same time, and preventative measures are not used. In accordance with the applicable legal and regulatory documents in the Ukraine, the economic regulatory mechanism in the field of waste management includes both incentive measures (positive motivation), as well as tools of coercion (negative motivation). Part of the economic instruments of environmental management under Ukrainian law, unfortunately, are not applied, or are applied to a very limited extent, despite the support of these legislative instruments.

Being one of the economic regulatory mechanisms in the field of waste management, the importance of environmental insurance, which provides the basic functions common to all types of insurance. In this case, two main functions of insurance may be involved: the function of redress when the insured event or the compensation functions, preventive or precautionary function, which is to carry out activities to prevent the possibility of the loss.

The main difficulty in the environmental insurance is that at the moment it is very difficult to simulate emergency of ecological situation and therefore the cost of the damage due to the absence of any reliable or even approximate statistics. In connection with this, as a rule, in assessing possible damage the used inaccurate and approximate information about exceeding the permissible limits allow harmful

substances into the environment, or use data taken from their foreign counterparts.

Unfortunately, in Ukraine there is no mandatory environmental insurance in relation to waste management.

One of the most effective measures to finance programs in the field of waste management is leasing, which, in essence, is a form of credit. Practice shows that leasing is an effective financial mechanism that plays an important role in the process of renewal of fixed assets of industrial enterprises, as well as the development of the real sector of the economy.

It should be noted that the lease mechanism will work more efficiently in the presence of a single coordinating and controlling center. This center could serve both private and public organizations. As a rule, in the face of acts of state public administration, since in practice it is the customer service for the confiscation of waste and the guarantor of the transaction. The only drawback of the administration may be monopoly on the right to select participants for the scheme. In this connection it is necessary to regulate by law the rules for selecting participants leasing scheme in the treatment of industrial and domestic waste.

One of the mechanisms of stimulation of economic enterprises in the field of environmental management can be offered soft loans with banks. Providing tax incentives to banks by the state can be achieved by reducing the tax base of bank profits, lower tax rates, exemptions from certain types of bank taxes.

Donations may be made available to banks through funding from environmental charges, preferential interest rates on loans, which are directed to the implementation of environmental protection measures. In this case at the expense of budget funds to cover the difference between the ordinary and concessional rates of interest for loans. This form of government subsidies are widely used in foreign countries. In this case, the bank's lending activities of environmental measures are mutually largest of profits compared with the operations of the provision of all other loans. In addition, the provision of budgetary grants gives the bank guarantees refund and compulsory payment of interest on them.

**Conclusions.** A generalized global experience with a combination of state and market mechanisms in the field of waste management allows a more flexible use of data to really leverage the established conditions. The practical application of tools such as insurance, lending and leasing will not only make the waste management cost-effective, but also to attract more investment in this area.

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**МЕТОДОЛОГІЯ ФОРМУВАННЯ СУЧАСНИХ  
ЕКОЛОГО-ОРІЄНТОВАНИХ СИСТЕМ УПРАВЛІННЯ  
У СФЕРІ ПОВОДЖЕННЯ З ВІДХОДАМИ**

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*У статті розглядаються методологічні підходи до формування сучасних еколого-орієнтованих систем управління в сфері поводження з відходами. Запропоновано економічний механізм управління сферою поводження з відходами, що передбачає впровадження екологічного страхування, пільгового кредитування та лізингу.*

**Ключові слова:** *сфера поводження з відходами, еколого-орієнтована система управління, екологічне страхування, пільгове кредитування, лізинг*

**МЕТОДОЛОГІЯ ФОРМИРОВАНИЯ СОВРЕМЕННЫХ  
ЭКОЛОГО-ОРИЕНТИРОВАННЫХ СИСТЕМ УПРАВЛЕНИЯ  
В СФЕРЕ ОБРАЩЕНИЯ С ОТХОДАМИ**

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*В статье рассматриваются методологические подходы к формированию современных эколого-ориентированных систем управления в сфере обращения с отходами. Предложен экономический механизм управления сферой обращения с отходами, который предусматривает внедрение экологического страхования, льготного кредитования и лизинга.*

**Ключевые слова:** *сфера обращения с отходами, эколого-ориентированная система управления, экологическое страхование, льготное кредитование, лизинг*