

# THE BASIC TOOLS OF LEGAL REGULATION OF WASTE MANAGEMENT SYSTEM

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*The paper analyzes the requirements of the European legislation on waste management. We consider the EU Directive schorehulyuyut control certain types of waste. Approaches to create a model for industrial waste management.*

**Key words:** waste, Directive EU model of waste management, recycling.

A characteristic feature of the scientific and technological process is the increase in social production. The rapid development of productive forces leads to involvement in the economy of a growing number of natural resources. The degree of rational use is, however, generally quite low. All this leads to the urgent need to improve waste management in manufacturing plants. The basis for the development of new methods of waste management in manufacturing plants is the development of effective and timely management measures.

In total there are five major waste streams: industrial waste (26%), mining waste (29%), construction waste (22%) and municipal solid waste (14%). Of this amount, 27 million. T (2%) are hazardous waste [1]. An important component of the overall waste management is the process of recycling (involvement in waste recycling), which allows to significantly reduce the cost of funds deposited waste, minimize their environmental impact and turn into economic circulation valuable resources. Theoretical and practical aspects of these problems are reflected in the works of many local and foreign scientists [2].

The **aim** of the study is an analysis of waste management in the European Union and developing recommendations and proposals for a model management.

**Materials and methods research.** Served as the regulations (EU Directive, national and international standards). The study used methods of analysis and synthesis, as well as the methodology for quality management cycle PDCA example.

**Results.** General guidelines of the European Union's environmental and resources (which include waste management) set out in the memorandum of the EU in 1957 in the "Environment". Under this Agreement, one of the key challenges facing the EU is to promote a high level of protection and improvement of environmental quality.

Over time, this situation has developed in a large number of legal acts pan-European legislation governing environmental protection and use of natural resources, dedicated today in a separate branch of law - environmental law that covers many aspects of human impact on the environment.

Value major EU legislative instruments (directives, regulations and decisions), in environmental protection as shown in Fig. 1.

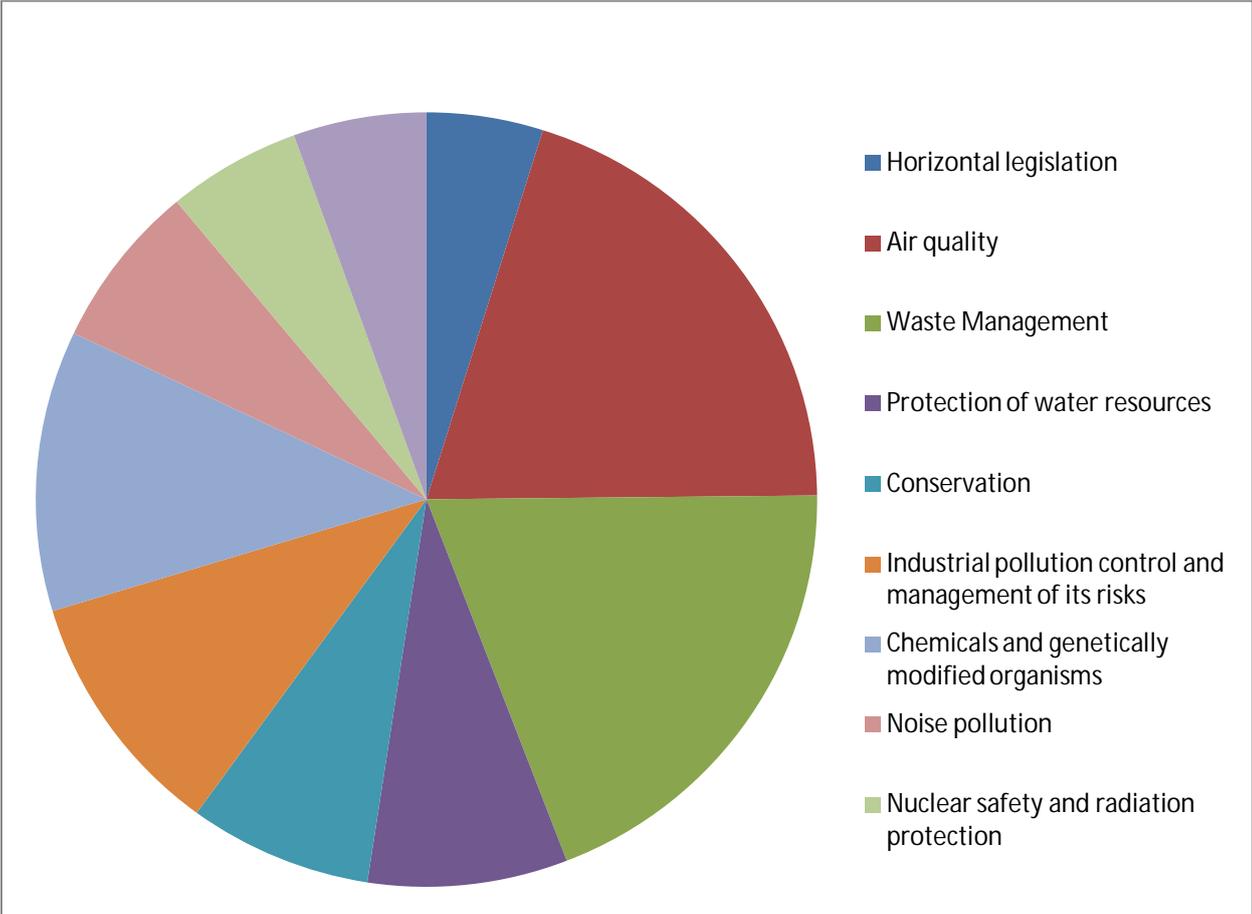


Fig. 1 Legal EU documents by Sector

Regulatory and policy documents are the main tools of regulation regarding environmental quality in the EU. Also in the EU, there is a number of market instruments that complement regulatory methods including: financial instruments of environmental protection, environmental agreements, environmental duties and taxes, environmental programs, integrated product policy, eco-labeling, plans, waste management [4].

Of the several instruments are binding, as determined by national laws, such as the payment of applicable taxes. Some are created voluntary groups of market participants ( recycling system for particular industries, environmental certification, etc.).

The general definition of "waste" contained in the Framework Directive in respect of waste which defines waste as any substance or object utilized by the user itself, or that he has disposed of in accordance with the applicable national law. As this definition is too general, as an annex to the Directive is a list of specific substances and objects that can be considered waste. This list is enlarged and changed; It is now more than 600 types of waste.

The European Community has signed a number of documents in the field of waste management, which can be divided into three main categories:

- primary legislation in the sector of waste;
- directive on certain categories of waste;
- directives for special methods of regulation Recycling [3].

Basic guidelines for waste sector by such documents as the Framework Directive on Waste 75/442 / EEC on hazardous waste Directive 91/689 / EEC, Directive 96/61 / EC of comprehensive pollution prevention and control, and its Resolution of the European Parliament and of the Council (EC) № 1013/2006 on the transportation of waste.

To regulate the relations of certain categories of waste introduced the following documents: Directive 86/278 / EEC on the use of sewage sludge in agriculture, the European Parliament and Council Directive 94/62 / EC on packaging and waste, Directive of the European Parliament and of the Council 2000/53 / EC on used cars,

European Parliament and Council Directive 2002/96 / EC on used electrical and electronic equipment Directive of the European Parliament and of the Council 2006/21 / EC on waste management mining, Council Directive 96/59 / EC on waste containing polychlorinated biphenyls and terphenyls more.

The last category of legal requirements of regulation processes of methods includes the following documents: Council Directive 1999/31 / EC on the landfill of waste ground, Council Decision 2003/33 on eligibility criteria for terrestrial waste landfills and the European Parliament and Council Directive 2000/76 / EC on the incineration waste.

Framework Directive on waste is the basic law of the EU in the field of waste management, which was adopted in 1975 and reprinted in 2006. Currently, the Directive being amended in the future it will be merged with the Directive on hazardous waste and Directive on waste oils. This document is the definition of waste and the key concepts declared position that waste management (collection, storage, removal) may not cause a threat to the environment and human health, the conditions of control of shipments of waste within the EU. The Directive are characterized by the concept of "waste", "manufacturer", "owner", "control", "delete", "recycling", "collection", etc., and established a hierarchy of waste management that is recommended for use by all Member States [3 ].

The hierarchy of waste management - a universal model of handling any kind of waste - is waste classification actions according to their priority and is based on the following principles:

- prevent or reduce waste;
- separation of waste at their sources;
- recycling of waste by returning to the manufacturing process;
- recycling - waste management for one new raw materials or products;
- disposal of waste to reduce the hazards of the environment;
- disposal - the worst alternative waste management [5].

The Directive requires Member States to consolidate the principles at the level of national legislation, however, a number of EU countries in adopting special acts considered its recommendations.

For waste Directive provides for the establishment of an international network of specialized companies using effective and safe technologies for processing and recycling. These companies may have different ownership, but they have to get permission for waste management in their respective national or international organizations [3].

Waste production is considered to be the collection of all kinds of raw materials in the production process stages are temporarily unused or lost forever. This waste can be classified according to the aspect of the study and directions for their use. A rational distribution of production waste is an important prerequisite for developing effective management measures such as waste management model.

When developing waste management model applied PDCA cycle, which in ISO 9000 is described as a set of sequentially executed phases within each activity, resulting in the ability to control these activities through feedback. The model involves four main stages: planning - setting goals and processes required to produce results that meet customer requirements and the organization's policies, implementation - implementation processes, test - monitoring and measurement of processes and products, given the policy objectives and requirements for products and reports on the results and activities is taking steps to continually improve performance operation processes. To ensure these basic stages model provides a number of other steps to be carried out company. Therefore, the development of waste management model consists of the following stages:

- determining the environmental aspects of the company associated with the formation of waste;
- waste classification and determination of the scope of their education;
- planning: a comparison of methods of utilization of various types of waste;

- introduction: the choice of the most effective of these methods and their implementation in the workplace;
- check the results obtained by re-inventory and calculate income and expenses;
- improved: minimizing waste.

The initial phase of development management model provides a review of all aspects of the life of the enterprise, in which waste is generated. In the second stage of identifying under each activity, classified and cheated volumes. The result includes a statistical report on the inventory of waste present in the company, which provides information on the types, amounts and classes of danger. It can have an arbitrary shape and updated monthly. After accumulating the statistics on waste in the company, updating its terms be extended. Thus, as a result of data analysis can determine the approximate time the volume of waste, danger and their need for frequency-export. The next stage - the classification of waste according to state classification of waste separation to safe and dangerous and the types depending on the method of disposal. After classification and inventory waste begins planning phase, which consists in analyzing the possible methods of utilization for each type. There are ways of dealing with waste in accordance with the Framework Directive shown in Fig. 2 in descending order of their preference.

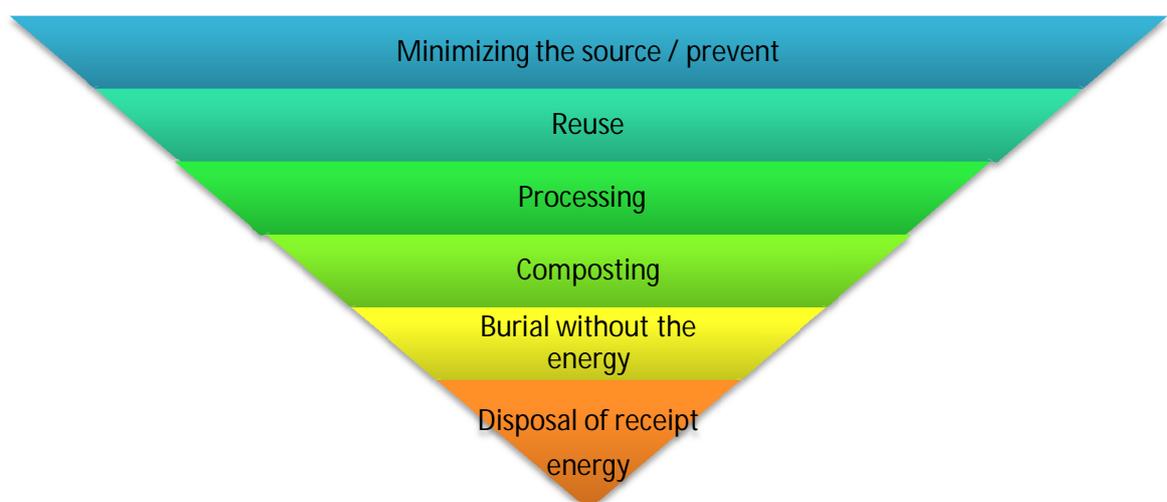


Fig. 2. International "waste hierarchy"

Also actions for waste prevention measures include education and reduce their number and provide steps to reduce their toxicity and danger. Usually they consist in changing the production process (use of less toxic initial resources refusal or minimal use of toxic materials for processing of raw materials, etc).

**Conclusions.** Analysis of the requirements of European legislation on waste management suggests that the EU is committed to a significant reduction of generated waste through its three principles: prevention of the formation, processing and recycling technologies and improve the final implementation and monitoring.

The approach to the development of models of environmental management in the field of waste management, which is based on the methodology of quality management cycle PDCA example, providing for continuous improvement and meets modern international standards.

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## **Основні інструменти правового регулювання системи управління відходами**

*Н. Б. Сілонова*

Проаналізовано вимоги Європейського законодавства в сфері поводження з відходами. Розглянуто Директиви ЄС, що регулюють управління окремими видами відходів. Запропоновано підходи для створення моделі управління промисловими відходами.

**Ключові слова:** відходи, Директиви ЄС, модель управління відходами, утилізація.

## **Основные инструменты правового регулирования системы управления отходами**

*Н. Б. Силонова*

Проанализированы требования европейского законодательства в сфере использования отходов. Рассмотрены Директивы ЕС, регулирующих управление отдельными их видами. Предложены подходы для создания модели управления промышленными отходами.

**Ключевые слова:** отходы, директивы ЕС, модель управления отходами, утилизация.