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Paper Authors: **Sulaymonov Ikhboliddin Otajonovich¹, Shokirov Nurmukhammad Utkirbek ugli², Nosirova Sayidakhon Usmonovna³**



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MODERN PRODUCTION AND ECOLOGY

Sulaymonov Ikhboliddin Otajonovich¹, Shokirov Nurmukhammad Utkirbek ugli²,
Nosirova Sayidakhon Usmonovna³

Candidate of Sciences in Economy, Department of geography Andijan State University¹

Andijan State University, 3 rd year student of geography²

Geography teacher of secondary school № 18. Bulakbashi district of Andijan region³

Abstract: This article reflects changes in the economy, ecology and natural environment as a result of the creation of territorial production complexes, the use of low-waste and non-waste technologies.

Keywords: production, waste, low-waste technology, waste-free technology, utilization, secondary raw materials, territorial production complex, optimization.

Introduction

As a result of the annual increase in modern industrial production, along with the development of the economy, rising living standards, the negative impact on the environment and the ecology is growing.

Accordingly, in recent years, more and more attention has been paid to the problem of greening mass production, especially its practical aspects. Solving this problem requires the implementation of interrelated technical, technological and organizational measures aimed at reducing the contradictions between nature and the economy and maintaining a favorable environment for people.

The normal functioning of the economy in the conditions of high man-made pressure is supported by the replacement of traditional technologies with new, advanced technologies, saving waste, reducing the material and energy density of production processes, timely rehabilitation of degraded lands, organizing integrated use of natural resources.

One of the important environmental and economic challenges is to drastically reduce these wastes and introduce low-waste production. We know that only 10-12% of natural materials go to the finished product, the rest goes to waste, while the volume of waste disposal does not exceed 3-4%.

It should be noted that at present there are very few enterprises that do not use their waste. In most sectors of the economy, waste is a valuable secondary raw material, and its

combined use is of great benefit. In particular, its use in aluminum production will enable to reduce capital investment by 40%, reduce energy consumption by 25% and save water at the same time.

Factors hindering the mass use of industrial waste: the departmental approach of ministries that consider waste to be "someone else's product", lack of funds and equipment, and imperfect incentives for workers and engineers. The expediency of the use of waste in various sectors of the economy is determined by the limited sources of certain types of raw materials for the production of construction and other materials. In addition, the use of waste often eliminates environmental and economic problems such as time-consuming tasks, such as dumping in storage and creating landfills, occupying large areas, and polluting the environment.

The use of waste from the coal industry in the production of building materials is a pressing problem.

In the production of bricks, waste rock is used as the main raw material and additives.

Coating for the wall reduces the cost of the product through the use of coal preparation waste in the production of ceramics, as well as eliminates the cost of excavation of clay in the quarries. Waste generated during shale mining is an important raw material for the production of mineral fertilizers.

The rocks of mines and concentrators can be used in the production of valuable materials

(aluminum, iron, rare metals, etc.). Sometimes rocks are used as low-grade fuel. Thin flat waste rocks that are not actively eroded are often considered suitable for biological development.

The utilization of heat in the air of mines is of practical importance, as it enters in large quantities through air vents in the deep parts of the mines. The temperature of the air coming out of many deep ore deposits throughout the year corresponds to the air temperature in greenhouses. This makes it possible to use the heat of mine ventilation devices to grow vegetables and fruits, and ultimately to get high efficiency from the heat that is wasted into the air.

Main part

The building materials industry is a leader in the use of other industrial wastes (IES wastes, slag and ash, wastes from the chemical and petrochemical industries, wood processing, etc.). Light industrial wastes are also recycled, although the share of this industry in their formation is small. In the manufacture of footwear, leather waste, fur shavings, felt waste are almost not recycled.

Recently, in order to solve the problems of environmental protection and rational use of natural resources, much attention has been paid to the creation of low-waste industries based on the complex processing of raw materials.

Low-waste (non-waste) production is a combination of industries in which the natural resources involved are used less, raw materials are processed in all respects, and the resulting waste is used to the maximum.

The problem of creating low-waste production in the conditions of regional production complexes, clusters can be completely solved.

The regional production complexes created by N.N.Baransky and NN Kolosovsky include grouping of interconnected enterprises, integrated use of natural resources, organization of service and ancillary enterprises, reduction of construction sites, transportation costs of raw materials and waste, etc. provides full access. At the same time, capital investment is reduced by 20-30% compared to the construction of individual enterprises.

The most progressive form of organization of production is regional production complexes. They are a collection of closely interconnected enterprises that ensure the preservation of the natural environment and the maximum use of raw materials and waste.

The activity of such complexes is determined by the most rational balance of natural, material and labor resources

Structurally, regional production complexes consist of the following systems:

- 1) leading specialized enterprises;
- 2) additional enterprises supplying equipment and materials to leading specialized enterprises;
- 3) enterprises for the use of industrial waste.

Depending on their characteristics and functional aspects, low-waste regional production complexes affect the economic development of regions. The activity of such complexes, in turn, affects the geographical location, regional production links, as well as their interaction with various components of the natural environment.

In most cases, regional and local (industrial units, industrial centers, etc.) regional production complexes are separated. At present, we can only talk about the operation of local low-waste regional production complexes, because the creation of such regional complexes is a task for the future. In the future, it is necessary to gradually form regional low-waste regional production complexes, as local complexes will be merged into larger parts.

It is often practically impossible to fully assimilate the entire mass of raw materials within a single enterprise. Consequently, the enterprise in many cases cannot be the main link in low-waste production. Such a cell is often a local regional-manufacturing complex that includes product manufacturing and processing facilities, as well as treatment facilities. For example, in the coal industry, a local complex may include a coal mine, a concentrator, stone processing and building materials plants, as well as a wastewater treatment and demineralization plant and a salt disposal plant.

In fact, the transformation of regional production complexes into low-waste complexes is determined primarily by the location of new economic facilities and the reconstruction of existing ones, as well as the level of rational use of natural and labor resources. At the same time, it is determined by the development of mining and processing enterprises, as well as service enterprises.

The most effective method within the framework of regional production complexes can provide a complex approach to the use of raw materials and waste, as well as the cooperation of enterprises in various fields. Here, some industrial wastes are raw materials for others. For example, enterprises in the building materials industry can use large amounts of waste from metallurgy, mining, energy and other industries. This situation leads to a significant reduction in waste that pollutes the natural environment without any use.

The issues of rational distribution of waste processing enterprises should be addressed on the basis of in-depth and comprehensive analysis of their characteristics. It is important to take into account the interdependence of industrial enterprises and organizations with the capabilities of the district in the provision of natural resources and waste. The location, composition, and scale of waste management enterprises largely depend on the region's natural resources and sectors of the economy (including those that meet the needs of the population).

Conclusion

The main criteria for sustainable development are determined by such components as life expectancy, welfare level, education level and environmental status. In this regard, in some respects, Uzbekistan lags behind the developed countries of the world.

In order to optimize the location of enterprises, industrial and domestic waste, it is necessary to obtain information on the status of existing waste processing enterprises, the location and feasibility of new enterprises of this type, types of waste, their quality and replacement of traditional raw materials.

In the creation of low-waste regional production complexes, it will be necessary not only to combine the same type of production, but also to combine different raw materials and waste processing industries. At the same time, it is necessary to make a clear quantitative and qualitative analysis of the performance of the networks planned to be added to the complex. The condition for the formation of low-waste regional production complexes is the full use of raw materials, energy and labor resources in other regions and complexes.

Their functions are determined by the size of the planned low-waste regional production complexes. Economic zones and industrial centers can become a regional basis in the planning of low-waste regional production complexes or their separate links, as economic and environmental factors that have a decisive impact on the development and distribution of productive forces within their borders should be studied in detail and taken into account as much as possible.

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