Prof. Dr. Tinasilov M.D.1

Prof. Dr. Urkumbaeva A.R.2

MSc. Tinassilov R.M.3

1) Kazakh-Russian Medical University, 050000 Almaty, Kazakhstan

2) Almaty Technological University, 050000 Almaty, Kazakhstan

3) Rhenish Friedrich Wilhelm University of Bonn, 53113 Bonn, Germany

Abstract: The article examines the analysis of the state of the chemical industry and shows that the main problems of its development are instability, a slowdown in growth rates in previous years, a decrease in the most important indicators of production efficiency, a slow improvement in the structure of industrial chemical production and exports, a sufficiently high physical and moral depreciation of the main production assets of chemical products, a high level of resource costs. The authors recommend that in modern conditions, the development of chemical industrial facilities requires modernization and reconstruction of earthquake-resistant buildings and the building of the chemical industry becomes not only products, products, but also technological, economic, organizational, social, and managerial aspects. Modernization of production involves an increase in the level of equipment and technology used at the enterprise. Updating of fixed assets, as a rule, is carried out as various malfunctions of machinery and technology, machinery, and equipment are detected. Modernization provides a comprehensive and highly efficient upgrade of production.

Keywords: industry, growth rates, improvements, reconstruction, earthquake-resistant, modernization, wear, efficiency, production, modernization.

**RECONSTRUCTION AND MODERNIZATION OF CHEMICAL INDUSTRIAL EARTHQUAKE-RESISTANT INDUSTRIES**

**Analysis of the modernization of earthquake-resistant chemical industrial production**

The chemical industry is to a large extent the defining sector of the national economy. The analysis of the state of the chemical industry shows that at present the main problems of its development are instability, a slowdown in growth rates in previous years, a decrease in the most important indicators of production efficiency, a slow improvement in the structure of industrial chemical production and exports, a sufficiently high physical and moral depreciation of the main production assets of chemical products, a high level of resource costs. The main factor constraining the growth of chemical industrial production and positive structural shifts is the low competitiveness of domestic chemical products. That is, not the timely reconstruction of existing production facilities of the chemical industry in the conditions of modernization of their seismic resistance and low investment and innovation activity in this industry, which led to the lack of competitive ability of manufactured chemical products on the market.

The concept of modernization means "giving something a modern look, under modern requirements, for example, upgrading equipment to increase its productivity."

However, in recent years, the modernization of the chemical industry has expanded due to the inclusion of a set of organizational, economic, and social areas, which gives the modernization a comprehensive character.

Modernization provides a comprehensive and highly efficient upgrade of production. This capacious concept includes not only the renewal of manufactured products but also profound transformations in the technique and technology of production, labor organization, and management, in the entire system of social and economic relations at the enterprise.

Renewal, as one of the main goals of modernization, acts as an important source of social and economic efficiency of production, thereby emphasizing the special role of modernization in achieving high results.

Since the chemical industry has several production organizations and types of production, many of them must be improved and updated. The objects of modernization of these production organizations can be innovations and the production system associated with the innovation of modernization.

The objects of modernization and reconstruction of earthquake-resistant buildings and buildings of the chemical industry are not only products, products, but also technological, economic, organizational, social, and managerial aspects. Modernization of production involves an increase in the level of equipment and technology used at the enterprise. Updating of fixed assets, as a rule, is carried out as various malfunctions of machinery and technology, machinery, and equipment are detected. In our opinion, the effectiveness of the company's activities in the implementation of the reconstruction and modernization program is largely determined by the rationality of the production structure, as well as the organization of its functioning.

**Ways to solve problems**

The solution to these tasks requires an industrial policy aimed at activating the investment and innovation activities of industrial organizations for the production of chemical goods, modernization of equipment, the introduction of new and new technologies, increasing the production efficiency and competitiveness of the Kazakh industry based on the reconstruction of earthquake-resistant production facilities and other structures innovative development path.

In this regard, a course has now been taken for the intensive development and reconstruction of earthquake-resistant branches of the chemical industry. The essence of intensive development to modernize the industrial sector of the chemical industry is that an increase in the scale of production will be achieved not so much by increasing labor, material, and financial resources, but by further improving their use by modern human resources. One of the urgent tasks of the development of the industry of the Republic of Kazakhstan at present is the reconstruction and modernization of production, taking into account the general depreciation of production assets.

Modernization plays a special role in improving the quality of reconstruction of earthquake-resistant chemical industry facilities for the production of various goods and products. At the stage of reconstruction of earthquake-resistant production facilities and their modernization, the quality improvement parameters characterize the technical level of the product as the total result of research, design, engineering, technological solutions, standardization, and unification. At the stage of modernization, the required level of technical, economic, and social parameters of new products can be laid, and the problem of choosing a world-class analog is solved.

In this regard, the modernization reflects the measure of compliance with the requirements and standards for quality contained in the technical documentation.

Under the conditions of reconstruction of earthquake-resistant production facilities of the chemical industry, the following main directions for the modernization of production can be distinguished:

creation and introduction into production of new products and technologies, resistance to seismology, and improvement of production efficiency and competitiveness of industrial chemical products.

low capacity of the domestic market of industrial products and a narrow range of products.

the underdevelopment of deep processing in the chemical processing industry,

low solvency of manufacturers of industrial products, and limited demand for products of the industrial sector of the economy from small and medium-sized businesses, create conditions for the import of industrial chemical products and goods.

outstripping the growth rates of prices and tariffs for products of natural monopolies compared with prices for industrial products.

With a 1.9-fold increase in prices for industrial products in 2018-2021, prices for basic energy resources increased significantly more.

With rising prices for energy resources for the production of chemical goods and their products:

- prices for the most important types of raw materials and materials used by industrial enterprises are increasing;

- a high share in the cost of industrial products of the costs of transporting products by rail, due to the increase in tariffs.

The increase in tariffs for transportation by rail leads to:

• the lack of competitiveness of domestic chemical industrial products at a price compared to similar imported products, the shortage of qualified personnel in the field of production and management of enterprises;

• low level of innovation activity in the chemical industry and, accordingly, a low share in the production of high-tech, high-tech products with high added value;

• investment unattractiveness of the industry and insufficient working capital of enterprises.

Mainly existing industrial enterprises in Kazakhstan:

1. they are poorly engaged in the financing of scientific research, the introduction of new developments to increase the competitiveness of production and products;

2. lack of large promising investment projects in the industry;

3. lack of modern quality management systems of enterprises, weak marketing, and production management.

As a result, the mechanism of modernization and reconstruction of earthquake-resistant fixed assets is represented by such interacting elements as the methods, and measures necessary for the timely and properly innovative reproduction of fixed assets. At the same time, rational interaction of the elements of this mechanism, in our opinion, is possible in the conditions of such a combination, which is focused on economic growth, increasing production efficiency, and the level of competitiveness of the enterprise and its products.

It should be noted that the interaction of such elements of the mechanism of modernization and reconstruction of earthquake–resistant fixed assets as measures and actions of an economic, financial, marketing, organizational, social, and innovative nature, methods of economic, structural – organizational, and financial - investment orientation of regulatory, balance sheet and analytical methods to improve results and establish their objective level provides:

1. meaningful and objective disclosure, analysis of existing patterns, and categories of efficiency of the use of fixed assets.

2. The solution to these tasks requires an industrial policy aimed at intensifying the investment and innovation activities of industrial organizations for the production of chemical goods, modernization of equipment, and introduction of new technologies, increasing the production efficiency and competitiveness of the Kazakh industry based on the reconstruction of earthquake-resistant production facilities and other structures innovative development path.

3. In this regard, a course has now been taken for the intensive development and reconstruction of earthquake-resistant branches of the chemical industry. The essence of intensive development to modernize the industrial sector of the chemical industry is that an increase in the scale of production will be achieved not so much by increasing labor, material, and financial resources, but by further improving their use by modern human resources. One of the urgent tasks of the development of the industry of the Republic of Kazakhstan at present is the reconstruction and modernization of production, taking into account the general depreciation of production assets.

4. Modernization plays a special role in improving the quality of reconstruction of earthquake-resistant chemical industry facilities for the production of various goods and products. At the stage of reconstruction of earthquake-resistant production facilities and their modernization, the quality improvement parameters characterize the technical level of the product as the total result of research, design, engineering, technological solutions, standardization, and unification. At the stage of modernization, the required level of technical, economic, and social parameters of new products can be laid, and the problem of choosing a world-class analog is solved.

5. In this regard, the modernization reflects the measure of compliance with the requirements and standards for quality contained in the technical documentation.

6. Under the conditions of reconstruction of earthquake-resistant production facilities of the chemical industry, the following main directions for the modernization of production can be distinguished:

7. creation and introduction into production of new products and technologies, resistance to seismology, and improvement of production efficiency and competitiveness of industrial chemical products.

8. low capacity of the domestic market of industrial products and a narrow range of products.

9. underdevelopment of deep processing in the chemical processing industry,

10. low solvency of manufacturers of industrial products, and limited demand for products of the industrial sector of the economy from small and medium-sized businesses, create conditions for the import of industrial chemical products and goods.

11. outstripping growth rates of prices and tariffs for products of natural monopolies in comparison with prices for industrial products.

12. With a 1.9-fold increase in prices for industrial products in 2018-2021, prices for basic energy resources increased significantly more.

13. With rising prices for energy resources for the production of chemical goods and their products:

14. - prices for the most important types of raw materials and materials used by industrial enterprises are increasing;

15. - a high share in the cost of industrial products of the costs of transporting products by rail, due to the increase in tariffs.

16. The increase in tariffs for transportation by rail leads to:

17. the lack of competitiveness of domestic chemical industrial products at a price compared to similar imported products, the shortage of qualified personnel in the field of production and management of enterprises;

18. low level of innovation activity in the chemical industry and, accordingly, a low share in the production of high-tech, high-tech products with high added value;

19. investment unattractiveness of the industry and insufficient working capital of enterprises.

20. Mainly existing industrial enterprises in Kazakhstan:

21. 1. poorly engaged in the financing of scientific research, the introduction of new developments to improve the competitiveness of production and products;

22. 2. lack of large promising investment projects in the industry;

23. 3. lack of modern quality management systems of enterprises, weak marketing, and production management.

24. As a result, the mechanism of modernization and reconstruction of earthquake-resistant fixed assets is represented by such interacting elements as the methods, methods, and measures necessary for the timely and properly innovative reproduction of fixed assets. At the same time, rational interaction of the elements of this mechanism, in our opinion, is possible in the conditions of such a combination, which is focused on economic growth, increasing production efficiency, and the level of competitiveness of the enterprise and its products.

25. It should be noted that the interaction of such elements of the mechanism of modernization and reconstruction of earthquake–resistant fixed assets as measures and actions of an economic, financial, marketing, organizational, social, and innovative nature, methods of economic, structural – organizational and financial - investment orientation of regulatory, balance sheet and analytical methods to improve results and establish their objective level provides:

26. meaningful and objective disclosure, analysis of existing patterns and categories of efficiency of the use of fixed assets;

27. adequacy of the use-value of machinery and equipment to their economic and social characteristics;

28. establishment of forms of social depreciation of machinery and equipment based on the degree of divergence of the social identifiers of a particular machine, equipment, their totality, and innovative changes in the active elements of fixed assets.

**References:**

1. Tinasilov M.D. Baimoldaeva M.T,Duisebaev B.S. Innovative technology of human resources potential in human resources management. VI MNPC "Innovative technologies and advanced solutions", MUIT. Bishkek, KR No.4/2018, 110-113s.

2. Tinasilov M.D. Innovative technologies for the construction of high-rise buildings in conditions of environmental and energy security (plenary reports) Bulletin of the International Association of Experts on Earthquake-Resistant Construction No. 1/2016(1) Bishkek, Kyrgyz Republic pp.56-60.

3. Urkumbayeva A.R. Tinasilov M.D. Digital economy to the development of innovation of the latest technology of the Republic of Kazakhstan IX International Scientific and Practical Conference "Modern Economy: concepts and models of innovative development" Plekhanov Russian University of Economics, Moscow-2018

4. Urkumbayeva A.R. Tinasilov M.D. Baymoldayeva M.T. Foreign economic aspects of accelerated technological modernization of Kazakhstan VI MNPK Innovative technologies and advanced solutions", MUIT, Bishkek, KR No.4/2018, 164-165s.

5. Tinasilov M.D., Tinasilov R.M. Innovation of automation of the chemical industry in the fied of economics. Scientific and informational journal "Science and Innovative Technologies", MUIT Bishkek, KR No. 3/2022 (122- 127 pages)