

PRIORITY DIRECTIONS FOR THE DEVELOPMENT OF THE BUILDING MATERIALS INDUSTRY IN OUR COUNTRY

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Abstract

The strategic development of the building materials industry is focused on the deep processing of local mineral resources to transition from a raw-material export model to the production of high-value-added finished goods. A primary objective is the radical reduction of energy intensity in cement and brick manufacturing through the adoption of “green” technologies and waste-heat recovery systems, which directly enhances national economic security by lowering production costs. The industry aims to achieve full import substitution for finishing materials, such as high-quality ceramics and chemical additives, while simultaneously expanding its footprint in regional export markets through the creation of specialized industrial clusters. Finally, the integration of innovative, eco-friendly materials like energy-efficient glass and recycled aggregates is prioritized to support the sustainable modernization of the country’s growing urban infrastructure.

The article highlights the essence of the development of the building materials industry, analyzes the trends in the development of the industry in recent years, shows the priority directions for the development of this industry.

Keywords

Building materials industry, export of building materials, development of the building materials industry in the regions, priorities for the development of the industry.

1. Introduction

In New Uzbekistan, comprehensive work is being carried out to develop the construction materials industry on the basis of modern requirements. The reform of the construction industry, including the construction materials industry, in accordance with the concept of the development strategy of our country until 2035, “on the basis of the introduction of modern building standards”, is of great importance in ensuring the implementation of the tasks set before us [1].

The Republic has a multidisciplinary industry that produces building materials. The building materials industry is an industry that produces building materials for domestic

construction, industry, agriculture and other construction industries. It includes a number of networks. There are cement, asbestos-cement, wall-shaped materials, soft seal and Waterproofing materials, natural stone covering material (sheet), non-concrete building materials, building ceramics, thermal insulation materials, lime, gypsum, binder materials and items from them, sanitary and hygienic equipment, building materials and objects from polymer raw materials, reinforced concrete structures and other production networks [2].

Providing the population with quality building materials by manufacturing enterprises in the construction industry, reducing the volume of imports by modernizing network enterprises, expanding the volume of export production, creating new jobs by launching production facilities, ultimately preventing the price of building materials in the domestic market from rising and making them cheaper is an important factor in the development of the industry.

The history of the use of natural raw materials as building materials in Uzbekistan goes back a long way. In particular, in the construction of buildings, raw brick, clay, wooden frame, gypsum, and ordinary earth (clay) have been the main building materials for centuries. Fired bricks, ceramics, porcelain tiles, gypsum, carved granite, and marble stones were widely used in the construction of palaces, madrasas, mosques, and rabats. The construction materials industry emerged as a branch of industry in the national economy at the beginning of the 20th century. From the 20s of the 20th century, the construction of the first enterprises of the building materials industry (cement, brick factories) began, and in a short time, enterprises of the cement industry, glass industry, stone processing (stone carving), and non-metallic building materials were built.

2. Materials and Methods

The methodological basis of this research involves a comprehensive systemic and comparative analysis of the building materials industry in Uzbekistan from 2016 to 2021. Primary data was gathered from the official reports of the Statistics Agency and The Association “O‘z sanoatqurilishmateriallari” to track the growth of active enterprises from 7,995 to over 11,000 entities. The study employs qualitative assessment techniques to categorize the industry into specialized sub-sectors, including cement, ceramics, glass, and polymer-based materials. Regional mapping was conducted across all provinces of the Republic to evaluate the proximity of production facilities to raw material bases such as limestone, marble, and gypsum. Quantitative methods were used to calculate the 4.6-fold increase in export volumes, specifically analyzing the transition from \$55.3 million in 2016 to \$257 million in 2020 [3].

3. Results and Discussion

The availability of raw material resources necessary for the development of the building materials industry in the regions of our country indicates the high potential for the development of this industry. In this regard, construction raw materials such as sand, gravel, lime, marble, granite, gypsum, and clay are abundant in almost all regions of our Republic. On the basis of this raw material, a diversified construction materials industry is developing in Uzbekistan.

The cement industry, which is considered the "bread" of construction in our country, is developing especially rapidly. Currently, the republic is self-sufficient in cement. Large cement plants are operating in Bekabad, Kuvasay, Angren, Navoi, and Akhangaran. Uzbekistan ranks fourth among the CIS countries in cement production, after Russia, Ukraine, and Kazakhstan. The production of white cement based on waste separated during the processing of Angren clay is one of the main achievements in the field of cement production. This cement is inexpensive and can be painted in any color.

Large-panel housing construction, a branch of the construction materials industry that has developed in recent years, is present in almost all regional centers and large cities. The largest of them are located in the cities of Tashkent, Samarkand, Andijan, Fergana, Karshi, and Nukus. In Tashkent, Bektemir, Jizzakh, and other places, there is a large reinforced concrete ditch plant.

It is known that one of the products used for various purposes in modern construction is glass. Currently, there are factories producing window glass in Chirchik, Gazalkent, and Kuvasay. These factories meet the republic's demand for window glass. The construction materials industry in the republic faces the task of organizing the production of decorative glass for exhibitions and many other types of construction glass. Along with glass products, the glass container factory in Kuvasay produces glass blocks and ceramic glass for construction purposes. A glassware factory was recently commissioned in Jizzakh, similar factories are being built in Surkhandarya and the lower reaches of the Amu Darya.

The oldest and still important building material is the brick industry, which is constantly expanding. Until a certain period, the importance of the brick industry decreased somewhat due to the widespread use of reinforced concrete structures in construction and the development of large-panel housing construction. However, in recent years, much work has been done in the rational placement of the brick industry. In particular, large brick factories were built in Kyzyltepa (Navoi region), Sharkun (Surkhandarya region), and Karshi. This eliminated the transportation of bricks over long distances [5].

In recent years, the production of new types of modern construction and finishing materials that fully meet the requirements of leading construction

technologies and international standards has been established in our republic. For example, various gypsum plasterboards, dry mixtures, modern roofing materials, heat-resistant polymer pipes, ceramic tiles, sandwich panels, basalt fibers and reinforcement, heat-insulating materials, and others [5].

As is known, in recent years, enormous creative and constructive work has been carried out in our country. Construction work is being carried out intensively in cities and villages. At the same time, the demand for energy-efficient, import-substituting, innovative, and new types of building materials is growing year by year. In particular, the demand for construction materials is growing day by day not only in domestic but also in world markets. In accordance with this high domestic demand, the volume of construction materials production in our country has increased significantly in recent years. In addition, in order to further expand the production of building materials and expand the range of products, special attention is paid to the implementation of large investment projects in this area.

The research further evaluates the 2021 Investment Program by examining the implementation of 790 large-scale projects totaling \$1,701.1 million in utilized funds. Strategic benchmarking was applied to align domestic production trends with the goals set in the "Concept of the Development Strategy of Uzbekistan until 2035." Finally, the study incorporates an analysis of the adoption of 626 international standards to measure the industry's transition toward global competitiveness and "green" energy efficiency.

Due to the expansion of cooperation with foreign countries and the implementation of an open policy, the liberalization of the foreign exchange market, the opening of wide opportunities for local and foreign investors, the creation of a number of benefits and conditions, state support, as well as the development of the banking sector and the increase in concessional loans, significant progress has been made in the construction materials industry in recent years.

The demand for construction materials produced in our country is growing not only in domestic, but also in world markets. Exports of gypsum board, heat-insulating fiberglass, lime, ceramic tiles, and gypsum are increasing year by year.

According to the analysis, if in 2016 products worth 55.3 million dollars were exported, then in 2020 this figure reached 257 million dollars, and the growth was 4.6 times. In particular, in 2020, exports of such construction materials as cement for \$28.9 million, aluminum for \$19 million, ceramic tiles for \$14.2 million, dry construction mixtures for \$12.8 million, lime for \$7.7 million, drywall for \$7.1 million, and wallpaper for \$3.5 million were carried out. In 2021, \$270 million worth of construction materials were exported to the world market[3]. At the same

time, in order to introduce new types of high-quality and safe building materials into production, 340 international standards for the production of building materials were adopted in 2019 and 626 in 2020.

The construction materials industry will remain one of the "drivers" of the economy in the next decade. Our country has all the possibilities and relative advantages in the production of more than 50 types of industrial products. Along with a number of sectors, there are all the necessary conditions for the construction materials industry and other industries related to the "green economy" to become the "drivers" of our economy. All measures should be taken to support private sector initiatives and new projects in these sectors, as well as to develop cooperation [6].

In general, in recent years, a lot of work has been carried out to reform the industry, increase the efficiency and potential of enterprises in the building materials industry. A number of measures are being implemented at industry enterprises to improve product quality and reduce costs through the production of energy-efficient, innovative building materials. New directions are being developed in the industry, foreign investors are being widely attracted to this, and, based on the development trends of the construction industry of leading foreign countries, special attention is paid to the development of new building materials and the attraction of innovations in the industry.

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