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INNOVATIVE ECONOMY AS A FACTOR OF SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT OF KAZAKHSTAN

Abstract. The key to the formation of a new type of economy in Kazakhstan is large-scale investments in new technologies and the creation of conditions for the constant reproduction of knowledge and their implementation in new high-tech products and services. A large role in the development of the economy is played by information and communication technologies, which are the basis of the country's new infrastructure. They should develop at a faster pace than the level of economic development. The innovative activity of Kazakhstani enterprises is noticeable in industries that manufacture products with a low degree of processing. Noteworthy is innovative activity in industries where the domestic producer dominates.

Keywords: innovation, economics, sustainability, development, entrepreneurship, support.

INTRODUCTION

So, in agricultural regions, food suppliers, the largest percentage of innovative products in the total volume of industrial enterprises is noted. The enterprises of mechanical engineering and metalworking, light industry are forced to compete with the whole world. Over the past decades, many documents have been developed and adopted that reinforce the innovative path of development. Special structures have been created in the republic that finance innovative projects at the expense of state budget funds. The first steps have been taken to actively support the venture capital business. The created national innovation fund also includes the creation of venture funds in its tasks of institutional support of the innovation process. In order to expand the activities of small innovative enterprises in Kazakhstan, such forms as technology parks are used. In general, the Kazakhstani economy is moving towards a new economy. The problems of efficient use of scientific and technological potential are of strategic scope. Innovative processes in Kazakhstan are not so much market mechanisms as focused state policies; it is the state that can have a decisive influence on the formation of a national system of institutions that is adequate to the requirements of creating a new economy. Accelerated economic growth in developing countries, further industrialization and consumption growth, covering about a third of the world's population, increase the global demand for raw materials. Consequently, the main tendency of economic development for the coming long-term prospect is the outstripping demand for resources and, first of all, for raw materials.

MAIN PART

This process affects the state policy of all countries of the world, on the one hand, the desire to provide their own economies with the necessary volumes of raw materials, on the other hand, the active development and implementation of resource-saving technologies. Global raw materials markets are responding to ongoing processes by constantly increasing prices for both solid raw materials and energy.

The idea of innovations in efficient nature management as the basis of ecological and economic development and maintaining equilibrium in nature and quality living conditions follows from the definition of innovation given in international standards for statistics, science and technology: "innovation is the final result of investment activity that has been transformed into a new or improved a product on the market, and a new or improved technological process used in practice in practice, also a new approach to coaly services." Currently, ongoing processes in the global economic space indicate an acute crisis of the

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current development model. The construction of the mechanism of economically sustainable development in each state takes into account individual, inherent only to it regional environmental conditions, which are characterized by a number of interdependent problems, the main of which are: ecological problems in the management and organization of cost-effective efficient environmental management, while taking into account measures for the protection and reproduction of the environment natural environment;

- socio-economic, related to the quality of living standards and established traditions of the population, the commissioning of labor resources;
- the issue of improving the sectoral and territorial structure of state management, which meets the current rational needs of an innovative economy.

At the same time, the ecological and economic mechanism of environmental management and environmental protection in the Republic of Kazakhstan has not yet been sufficiently developed with regard to its relationship with the strategy of innovative development, therefore, the economic situation in the country does not meet the requirements of environmentally friendly and resource-saving development.

Share of the population with skills of using a personal computer, smartphone, tablet, laptop; standard programs.

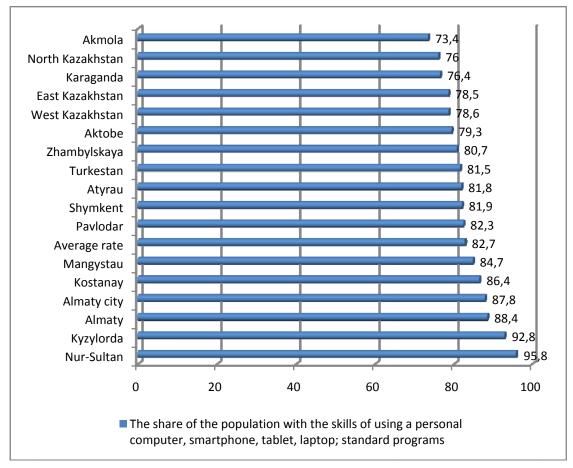


Figure 1 - Share of the population with skills of using a personal computer, smartphone, tablet, laptop; standard programs

Information security is quite high in Kazakhstan, since from 73.4 to 95.8 they have the skills to use a personal computer, smartphone, tablet, laptop; standard programs.

Investments in fixed assets - investments in order to obtain an economic, social or environmental effect by investors in case of new construction, expansion, as well as reconstruction and modernization of facilities that lead to an increase in the initial cost of the facility, as well as the purchase of machinery, equipment, vehicles, on the formation of the main herd, perennial plantations, etc.

Investments in fixed capital in Kazakhstan in millions of tenge are presented in Figure 1.

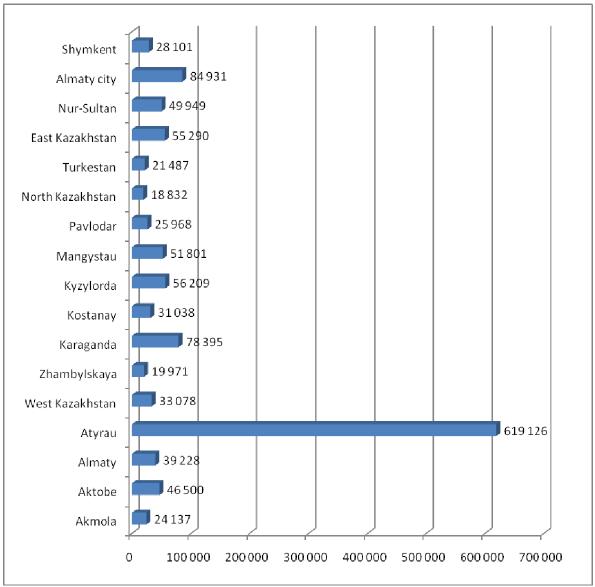


Figure 1 - Investments in fixed assets in Kazakhstan for 2018

Atyrau region accounts for investments in fixed assets - 619126 million tenge, then Almaty city 84,931 million tenge, and Karaganda region 78395 million tenge.

In January 2018, the volume of investments in fixed assets amounted to 636.9 billion tenge, which is 65.4% more than in January 2017.

Increased fixed investment compared

since January 2017, it was noted in 11 regions of the republic. At the same time, the largest increase in investments was observed in South Kazakhstan (2.6 times) and Atyrau (2.3 times) regions.

In January 2018, the volume of work on the construction and overhaul of buildings and structures amounted to 314.7 billion tenge.

Investments in agriculture, forestry and fisheries in January of this year decreased by 2.1% compared to the previous year and amounted to 9.9 billion tenge.

Despite the fact that a lot of scientific research has been accumulated and there is a scientific backlog both in the field of efficient environmental management and ecology, and in the field of building the mechanism of the economy of innovative development, it should be noted that they have never been considered in close relationship. The reason is that the problem of establishing an effective mechanism of economical nature management in the context of innovative development is an urgent theoretical and methodological problem that needs to be addressed immediately.

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Among the most important areas of the Green Bridge Partnership Program is to increase the ecoefficiency of the use of natural goods and investments in environmental services.

"Green economy" today is one of the priority tools for ensuring sustainable development of the country. The transition to a green economy can help achieve the goal of Kazakhstan becoming one of the 30 most developed countries in the world.

The availability and effectiveness of green technologies is still a key aspect of the global transition to a resource-efficient, resource-saving green economy. In particular, the improvement of obsolete technologies and their replacement with modern sustainable alternatives can significantly improve human health, affect the economical spending of funds, create jobs and, of course, have a positive impact on the state of the environment.

The main most important tasks for the transition to a "green non-resource-based economy" facing us are:

- improving the well-being of the population and the quality of the environment through cost-effective ways to mitigate pressure on the environment;
 - improving national security, including for transboundary water resources;
- improving the rationality of the use of resources (water, land, biological, etc.) and their management;
 - modernization of existing and construction of new infrastructure.

Thus, Kazakhstan, with its enormous natural resources, favorable geographical position and economic growth opportunities, is faced with the question of innovative development of environmental management economies. Given the fact that the country is focused on oil and coal energy, the most important direction for the development of the republic is the innovative development of the economy of environmental management and the prospects for the transition of Kazakhstan to a green economy.

Its main mechanisms are:

- systemic restructuring of the economy, including the introduction of resource-saving and low-waste technologies, as well as the development of modernized means of environmental protection to maintain the sustainability of ecosystems;
- the formation of an environmentally conscious society of the noosphere type, consisting of environmentally minded individuals, and the achievement of harmonious interaction between man and nature;
- reducing the intensity of use of natural resources, greening the economic mechanism of economic management, limiting the human impact on ecosystems, regulating the quality of the environment taking into account regional economic conditions by introducing preferential taxation;
- expanding the area of specially protected territories and strengthening their environmental status in order to achieve ecologically balanced development and maintain natural homeostasis of natural ecosystems as a result of intensification of environmental protection activities.

The set of elements of the ecological and economic mechanism for regulating the economy and ecology should be supplemented by a system of rationing of pollutants in the environment, taking into account environmental restrictions and aimed at economic stimulation of environmental activities.

Thus, the innovative path of social - ecological - economic development of the state includes:

- innovative ideas in technology (resource-saving and low-waste technologies);
- innovations in the management and organization of nature management in the region, taking into account the interests of the adjoining territories, as well as improving socio-economic relations in the division of principles of management, responsibility in the use of common natural ecosystems and natural resources;
- improving financial (resource) support systems for environmental protection and environmental education, educating the population and, on this basis, improving the ecological and technological culture, observing technological and industrial infrastructure;
- development of environmental business and environmental entrepreneurship, designed to significantly increase the efficiency of environmental management through the implementation of its reserves;
- restoration of agricultural land contaminated with chemicals due to the long-term use of mineral fertilizers and pesticides.

CONSOLUTION

Consequently, the establishment of a unified environmentally-oriented management system and the widespread use of financial and economic mechanisms for sustainable development require the introduction of differential rental taxation, special taxation rules for certain types of industries, levying fines and pollution charges, tax incentives for investments in fixed assets for environmental purposes, auction sale of rights pollution that is harmful to the environment in production and consumption processes.

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ИННОВАЦИЯЛЫҚ ЭКОНОМИКА ҚАЗАҚСТАННЫҢ ТҰРАҚТЫ ӘЛЕУМЕТТІК-ЭКОНОМИКАЛЫҚ ДАМУЫНЫҢ ФАКТОРЫ

Аннотация. Қазақстан экономикасының жаңа түрін қалыптастырудың кілті жаңа технологияларға ауқымды инвестициялар салу және білімді үнемі жаңартып отыру үшін жағдайлар жасау және оларды жаңа жоғары технологиялық өнімдер мен қызметтерге енгізу болып табылады. Экономиканың дамуында елдің жаңа инфрақұрылымының негізін құрайтын ақпараттық-коммуникациялық технологиялар үлкен рөл атқарады. Олар экономикалық даму деңгейіне қарағанда тезірек қарқынмен дамуы керек. Қазақстандық кәсіпорындардың инновациялық қызметі өңдеудің төмен деңгейімен өнім шығаратын салаларда байқалады. Бір қызығы, отандық өндіруші басым болатын салалардағы инновациялық қызмет.

Түйін сөздер: инновация, экономика, тұрақтылық, даму, кәсіпкерлік, қолдау.

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ИННОВАЦИОННАЯ ЭКОНОМИКА КАК ФАКТОР УСТОЙЧИВОГО СОЦИАЛЬНО-ЭКОНОМИЧЕСКОГО РАЗВИТИЯ КАЗАХСТАНА

Аннотация. Ключом к формированию экономики нового типа в Казахстане являются масштабные инвестиции в новые технологии и создание условий для постоянного воспроизводства знаний и воплощения их в новые высокотехнологичные продукты и услуги. Большую роль в развитии экономики играют информационные коммуникационные технологии, являющиеся основой новой инфраструктуры страны. Они должны развиваться опережающими темпами по сравнению с уровнем развития экономики. Инновационная активность казахстанских предприятий заметна в отраслях, производящих продукцию с низкой степенью переработки. Обращает на себя внимание инновационная активность в отраслях, где доминирует отечественный производитель.

Ключевыеслова: инновации, экономика, устойчивость, развитие, предпринимательство, поддержка.

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REFERENSE

[1] Upushev E. M., Stamkulova K. U. "Green" economy is the future development of Kazakhstan // KazEUKhabarshysy / Bulletin of KazEU. 2013. No. 3. p. 28-35.

- [2] Decree of the President of the Republic of Kazakhstan dated May 30, 2013 No. Concept on the transition of the Republic of Kazakhstan to the "green economy" // Kazakhstanskaya Pravda. 2013. June 1. No. 186-188.
- [3] Bayzakov S. B., Mukhanov M. N. Green growth as a factor in the innovative development of Kazakhstan [Electron. resource] // Local sustainable development. 2013. No. 7. URL: http://fsdejournal.ru/node/415 (date of access: 10.2014)
- [4] Abykaev N. A. Kazakhstan in the global energy and environmental strategy [Electron. resource] // Local sustainable development. 2013. No. 7. URL: http://fsdejournal.ru/node/428 (accessed: 10/20/2014)
 - [5] Balmford A. Economic reasons for the conservation of wildlife // Science. No. 297 (5583). with. 117-120.
- [6] Upland Yu. EXPO-2017: a chance to turn to the "green economy" [Electron. resource] // Business Kazakhstan. 2013. January 25. No. 2 (349). URL: http://dknews.kz/expo-2017-shans-povernut-nazelenuyu-ehkonomiku.htm (accessed: 09.2014)
- [7] Sabitova V. EXPO-2017 will bring only political dividends [Electron. resource] // Capital. April 03. URL: http://kapital.kz/economic/13609/expo-2017-prineset-lish-politicheskiedividendy.html (accessed: 08/13/2014)
- [8] Dyusembaeva L.K., BabazhanovaZh.A., BulakbayZh.M., NurbayevaG.Ye. Strategy of interaction of the state and small business as a factor of innovative development. N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294, Volume 1, Number 323 (2019), 107 116 https://doi.org/10.32014/2019.2224-5294.16
- [9] Sembiyeva L.M., Beisenova L.Z., Alikulova L. B. Details of Performance Audit Organization in the Republic of Kazakhstan. N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294 https://doi.org/10.32014/2019.2224-5294.77 Volume 2, Number 324 (2019), 246–251.
- [10]Korgan B.B., Sabirova R. K., Adietova E.M. Innovative economy of Kazakhstan. N E W S OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN SERIES OF SOCIAL AND HUMAN SCIENCES ISSN 2224-5294 https://doi.org/10.32014/2019.2224-5294.147 Volume 4, Number 326 (2019), 123–129.

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