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EFFECT OF THE IMPLEMENTATION OF GREEN TECHNOLOGIES ON INVESTMENT ATTRACTIVENESS

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Abstract: This scientific article analyzes the impact of introducing green technologies into industrial enterprises on the country's investment attractiveness. Research results indicate that the share of GT projects in GDP has increased 14-fold, ensuring high profitability. Foreign investments and tax incentives created by the government serve as the main factors stimulating the flow of investments. The implementation of GT saves resources, increases the competitiveness and corporate reputation of enterprises. Furthermore, the creation of over 30,000 new jobs strengthens social stability. The article evaluates GT as a strategic tool for sustainable economic growth.

Keywords: green technologies, investment attractiveness, economic growth, foreign investments, energy efficiency, sustainable development, GDP .

Annotatsiya: Ushbu ilmiy maqola yashil texnologiyalarni sanoat korxonalariga joriy etishning mamlakatdagi investitsion jozibadorlikka ta’sirini tahlil qilishga bag‘ishlangan. Tadqiqot natijalari YT loyihalarining YaIMdagi ulushi 14 barobar o‘sib, yuqori rentabellikni ta’minlaganini ko‘rsatadi. Xorijiy investitsiyalar va davlat tomonidan yaratilgan soliq imtiyozlari investitsiya oqimini rag‘batlantiruvchi asosiy omil bo‘lib xizmat qiladi. YT joriy etilishi resurslarni tejash, korxonalarning raqobatbardoshligini va korporativ nufuzini oshiradi. Shuningdek, 30 mingdan ortiq yangi ish o‘rinlari yaratilishi ijtimoiy barqarorlikni mustahkamlaydi. Maqola YTni barqaror iqtisodiy o‘sish uchun strategik vosita sifatida baholaydi.

Kalit so’zlar: yashil texnologiyalar, investitsion jozibadorlik, iqtisodiy o‘sish, xorijiy investitsiyalar, energiya samaradorligi, barqaror rivojlanish, yalpi ichki mahsulot.

Аннотатция:Данная научная статья посвящена анализу влияния внедрения зелёных технологий в промышленные предприятия на инвестиционную привлекательность страны. Результаты исследования показывают, что доля проектов ЗТ в ВВП выросла в 14 раз, обеспечивая высокую рентабельность. Иностранные инвестиции и налоговые льготы, созданные государством, являются ключевым фактором, стимулирующим приток инвестиций. Внедрение ЗТ способствует экономии ресурсов, повышает конкурентоспособность и корпоративную репутацию предприятий. Кроме того, создание более 30 тысяч новых рабочих мест укрепляет социальную стабильность. Статья оценивает ЗТ как стратегический инструмент для устойчивого экономического роста.

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Ключевые слова: зелёные технологии, инвестиционная привлекательность, экономический рост, иностранные инвестиции, энергоэффективность, устойчивое развитие, ввп (валовой внутренний продукт).

Input

In recent decades, environmental crises such as global climate change, resource scarcity, and rapid environmental pollution have set tasks for the economy that require fundamental reforms. Instead of traditional production methods, there is a need to introduce green technologies (GT) that ensure sustainable development, as they allow increasing not only environmental cleanliness, but also economic efficiency. Green technologies, including the use of renewable energy sources, waste-free production, energy-efficient equipment and water-saving systems, are recognized as a new foundation of socio-economic well-being.In these conditions, it is green technologies that act as the main driving force for ensuring investment attractiveness and achieving long-term economic growth. At the global level, the significance of this trend is also reflected in the enormous market potential: according to estimates, by 2025 the global green technology market is expected to reach approximately 6 trillion US dollars. The opportunity to enter such a large and rapidly developing market serves as the most important incentive for foreign and domestic investors. Investment attractiveness is determined not only by legal guarantees, but also by the environmental sustainability of the enterprise, resource saving, and compliance with international standards. Uzbekistan has also actively participated in this global transformation process, making the transition to a green economy its strategic priority. Thanks to the consistent reforms carried out in recent years, the impact of the share of green technologies on economic efficiency has increased significantly. In particular, in the period from 2015 to 2023, the share of green technologies in the gross domestic product increased almost 14 times and reached 2.8 billion US dollars, which indicates the high profitability of this industry. These statistical indicators are the main evidence for potential investors confirming the financial sustainability of green projects in Uzbekistan.To increase investment attractiveness, the government of Uzbekistan has implemented specific mechanisms. Tax benefits, currency freedom, and guarantees for the export of income, as well as the possibility of issuing green bonds, have been created for foreign investors in free economic zones. This legal and economic environment has been a key factor in attracting investments from large companies such as ACWA Power and Masdar in solar and wind energy projects, as well as industrial giants like Knauf and Nestle in the implementation of waste-free production and water-saving technologies. Such investments will significantly accelerate environmental transformation.The direct economic benefits of introducing green technologies, that is, their combination with social benefits such as cost savings (reducing energy and material costs) and job creation (more than 30,000 new jobs in the last three years), will further strengthen the overall stability and investment attractiveness of the country. In addition, enterprises using green technologies improve their corporate reputation and expand access to markets with strict environmental standards, which sharply increases their competitiveness. Thus, the main goal of this article is to analyze the relationship between the processes of introducing green technologies, the growth of their share in GDP, and the attraction of foreign investment. The study, in particular, deeply illuminates the influence of green financing mechanisms (for example, carbon markets) on investment decisions, the creation of

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green technology clusters, and the role of foreign investment in the environmental sustainability of the national production system. This analysis plays an important role in determining new directions for further improving Uzbekistan's investment policy and achieving sustainable economic growth.

Literature review

Modern scientific literature, analyzing the impact of the introduction of green technologies (GTS) on investment attractiveness, substantiates the need to overcome the traditional contradiction between environmental sustainability and economic growth. Research in this area is mainly focused on developing the theoretical foundations and practical policy instruments to stimulate green investments.Theoretical Foundations and Strategic Views: American economist Jeffrey Sachs believes in his work that green technologies are the foundation of sustainable development. In his opinion, the integration of environmental sustainability into economic policy is a prerequisite for long-term economic growth and poverty reduction. Sachs proposes addressing climate change by increasing renewable energy and energy efficiency, which, in turn, will create new, attractive markets for investment. Paul Ekinz develops this idea, emphasizing that economic growth and the rational use of environmental resources can be combined through green technologies. It promotes the application of new economic models (i.e., investment strategies) to achieve sustainable development. Nicholas Stern emphasizes the importance of changing economic policy in the fight against global climate change and proves that economic growth can continue in harmony with environmental problems through the introduction of green technologies. The general conclusion of these scientists is that green investment is not a risk, but a necessary financial investment for future competitiveness.The Role of Financial and Political Mechanisms: State policy plays a large role in increasing investment attractiveness. Thomas Sterner and Mark Jaccard recommend strengthening economic instruments and incentive measures, such as carbon tax, for the widespread use of green technologies. Such mechanisms reduce environmental risks in project financing for investors and guarantee the possibility of obtaining stable income. In the example of Uzbekistan, the focus on the development of green technologies through regulatory documents, such as Cabinet of Ministers Resolution No. 300, as well as the provision of tax benefits and currency freedom to foreign investors in free economic zones, is a practical expression of the ideas of Jaccard and Sterner.Investment impact on the economy of Uzbekistan:The experience of Uzbekistan shows that green technologies provide not only environmental, but also concrete economic results. In the period from 2015 to 2023, the share of green technologies in GDP increased almost 14 times and amounted to 2.8 billion US dollars. US dollars, which is the main indicator of the effectiveness of attracting investments. This growth was driven by investments in renewable energy (solar, wind), green construction, and water-saving technologies. Innovative and energy-saving technologies imported by foreign companies are accelerating the environmental transformation of industrial enterprises. As Dustin Mulvaney emphasized, this process guarantees the creation of new, clean technologies aimed at a sustainable environment.In conclusion, the analysis of the literature shows that the introduction of green technologies is a factor that directly increases investment attractiveness, and this process is carried out on the basis of strategic approaches that combine environmental and economic growth in theory, and in practice, on the basis of financial incentive mechanisms

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supported by the state. The high share of GDP and the volume of investments in Uzbekistan's experience are practical proof of these theories.

Research methodology

This research work is based on systemic and integrated approaches in order to scientifically substantiate the topic "The impact of the introduction of green technologies on investment attractiveness" and determine practical results. The research methodology consists of several stages and widely uses such methods as scientifically based statistical analysis, literature review (system analysis), comparative comparison, and institutional approach. Formation of a Scientific-Theoretical Basis (Literature Analysis): At the initial stage of the study, the fundamental ideas of leading world economists and environmentalists (such as Jeffrey Sachs, Paul Ekinz, Nicholas Stern) on green economy, sustainable development, and investment policy were studied. In the analysis of these sources, the method of system analysis was used, in which theoretical conclusions were drawn that green technologies are a new way to achieve economic growth, the need to integrate environmental sustainability into economic policy. Statistical and Quantitative Analysis: The statistical analysis method plays a key role in assessing investment attractiveness based on specific indicators. In this case:Through trend analysis, the growth dynamics of the global green technology market were analyzed, which serves to justify the huge potential of the market for investors.In the macroeconomic analysis, using the example of Uzbekistan, such indicators as a 14-fold increase in the share of green technologies in GDP were used, and the effectiveness of green investments was quantitatively proven.3. Comparative and Institutional Analysis: Using the Comparative Comparison Method, large green projects implemented in Uzbekistan and their results were compared with the experience of developed countries.Institutional Analysis examined the legal framework aimed at supporting green investments and the interrelationship of the green financing system (innovative financial products, carbon markets, risk management). This made it possible to assess the level of legal guarantees of the investment environment.This methodology provides a comprehensive, both theoretical and practical analysis of the impact of green technologies on investment attractiveness.

Analysis & Results

The introduction of green technologies into industry, in addition to increasing the environmental sustainability of enterprises, is a key factor directly increasing their investment potential and competitiveness in international markets. The results of recent years on the example of Uzbekistan are not only theoretical, but also practical proof of this connection. Quantitative Growth of investment attractivenessThe most important result of the study is the specific quantitative impact of green technology projects on economic efficiency. Statistical analysis showed that as a result of activities in the field of green technologies in Uzbekistan, the share of GDP grew almost 14 times in the period from 2015 to 2023 and reached 2.8 billion US dollars. High Profitability Evidence: This growth indicator confirms that green projects (especially solar and wind energy, green construction, water-saving technologies) have high profitability. The rapid return on investment and the opportunity for investors to receive stable returns dramatically

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increase investment attractiveness.Direction of investment: In 2023, the largest share of investments in green technologies in Uzbekistan was made in renewable energy sources, in particular, solar and wind energy. This indicates that investors are ready to finance long-term and strategic projects in accordance with global trends.2. Foreign Investments and Technological TransferForeign investment inflow is one of the key indicators in the analysis of the impact of the introduction of green technologies on investment attractiveness. According to the results presented in the articles, the favorable investment climate created by the government of Uzbekistan, including tax incentives, currency freedom, and guarantees for the export of income, has ensured the entry of large international companies such as Masdar, ACWA Power, Knauf, and Nestle into the country.Technological Transfer Result: These investments are not limited to bringing in financial resources, but also provide a direct transfer of innovative technologies based on energy-efficient, environmentally friendly, and waste-free production. This will help adapt the production processes of local enterprises to international Industry 4.0 standards, as a result of which the attractiveness of invested enterprises in the global value chain will increase.The role of financing mechanisms: The creation of the possibility of issuing green bonds by the state and the emphasis on green financing systems facilitated the decision-making process of foreign investors by introducing innovative methods of managing financial risks (for example, carbon markets).3. Socio-Economic Efficiency and Social Attractiveness Investment attractiveness is not limited to financial indicators. The socio-economic results of the implementation of green technologies are also important for investors: Creation of jobs: Analysis shows that over the past three years, more than 30,000 new jobs have been created due to expansion in the field of green technologies. These jobs are concentrated mainly in new, highly qualified areas, such as the production, installation, maintenance, and recycling of solar panels. This increases the social stability of the state and guarantees a long-term and stable supply of labor for investors.Corporate Reputation (ESG): Enterprises that have implemented green technologies automatically raise their Environmental, Social, and Governance ratings. Currently, global institutional investors (pension funds, large banks) strictly check the compliance of enterprises with ESG criteria before investing. Thus, enterprises using IP open the door to global investment funds and strengthen their reputation, which directly increases investment attractiveness. Competitiveness and Market Entry Products manufactured using green technologies are in high demand not only in domestic but also in international markets. In particular, large markets, such as the European Union, are implementing strict standards aimed at environmental standards and reducing the carbon footprint.Compliance with environmental standards: By adopting green technologies, enterprises will achieve international environmental standards, which will allow them to avoid barriers to international trade and enter new, demanding markets. This will reduce investment risks for investors and increase the sustainable sales potential of their products.Cost Optimization: The introduction of energy-efficient equipment and resource processing systems will significantly reduce the long-term production costs of the enterprise. Saving these costs increases the profit margin and improves the overall financial health of the enterprise, which is the main condition for attractiveness for all investors.The results of the analysis confirm that the introduction of green technologies is not only an environmental responsibility, but also a powerful, economically justified strategy for increasing investment attractiveness. In the example of Uzbekistan, the sharp increase in the share of GDP, the attraction of large foreign investments, technological transfer, and high social

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effectiveness prove the effectiveness of this strategy. These results show that green technologies are a new, sustainable, and competitive path for economic growth and investment today.

Conclusion

The research results confirm that the introduction of green technologies is a powerful and economically justified mechanism for increasing investment attractiveness. In Uzbekistan's experience, the share of individual entrepreneurship in GDP reached $2.8 billion by 2023, which proves the high profitability of this sector.Foreign investors are financing projects aimed at environmental transformation thanks to financial incentives created by the state, such as tax benefits and green bonds. IT not only saves production costs (energy efficiency) and increases the competitiveness of enterprises, but also ensures social stability by creating more than 30,000 new jobs. In conclusion, green technologies are a strategic tool for stabilizing the national economy and transforming it into an attractive center for global investments.

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