

# Environmental innovation as a key factor in the investment attractiveness of Russian enterprises

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**Abstract** . The topic of environmental responsibility is becoming more and more relevant every year . Any production activity entails damage to the environment. Examples of harm caused include, for example, noise, thermal, electromagnetic and material pollution, expressed in the form of emissions of harmful materials into the environment. In addition, the production sector is associated with high costs of fuel, energy and water resources, which, if used irrationally, causes irreparable harm to the environment. The use of an old complex of industrial equipment also increases the negative impact on the environment, for example, it can consume large amounts of energy, which is irrational and dangerous. As a result of active industrial growth, the environment began to slow down the socio-economic development of all states. This article examines environmental attractiveness as a factor influencing the level of investment attractiveness of Russian enterprises. An idea of the elements of environmental attractiveness is given, and examples of the impact of environmental factors on the attractiveness of an organization are given. The phenomenon of “green economy” and its main features has been studied. The relevance of the optimal existence of ecology, society and economy is substantiated by finding mutual agreement of interests in these areas. Particularly relevant at present are studies aimed at finding and achieving the optimal existence of ecology, society and the economy , by finding mutual agreement of interests in these areas.

## 1 Introduction

The desire for environmental innovation within the business activities of enterprises has profound implications for the overall economic situation, especially relevant for the Russian industrial sector. The purpose of this study is to clarify the complex relationship between environmental innovation and investment attractiveness, to identify their relationship and the consequences arising from this connection.

Thus, at the present stage, environmental innovation, which means the targeted introduction of new methodologies, technologies and practices aimed at ensuring environmental sustainability, plays a primary role in modern scientific discourse. In the

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context of Russian enterprises, characterized by historical patterns of resource-intensive activities and environmental externalities, the integration of environmental innovations becomes a key factor influencing the efficiency of production activities. Such innovation occurs through a range of conditions, including the optimization of production processes, the introduction of environmentally friendly technologies and the development of sustainable supply chains.

Thus, the relevance of the study is confirmed by the fact that environmental innovation is decisive in order to increase the investment attractiveness of Russian enterprises. We believe that if the necessary environmental conditions are created, it is possible to ensure that domestic enterprises will be able to solve a colossal number of problems and will be able to attract an additional number of investors, including from foreign countries.

## **2 Materials and methods**

Of no small importance in the topic under study is given to conducting various experiments on site, as well as in laboratory conditions, which allows us to study the impact of new technologies and methods on ecosystems, as well as evaluate their effectiveness and sustainability.

Another important method in the study of our topic is the use of mathematical models and computer simulations to predict changes in ecological systems under various scenarios of climate change or the impact of human activities.

And finally, one cannot fail to note this method of studying environmental innovation as a key factor in the investment attractiveness of Russian enterprises as a method of interdisciplinary interaction. In this regard, the interaction of various scientific disciplines such as biology, geography, chemistry, sociology, economics and engineering sciences allows us to fully understand the complex relationships in ecological systems and develop effective strategies and solutions for their conservation.

## **3 Results**

Currently, environmental attractiveness is the state of an organization formed under the conditions of a system focused on the effectiveness of environmental activities aimed at preventing and reducing harmful impacts on the environment, quality control of compliance with maximum permissible standards, conducting examinations, testing, reporting and, and conservation of biodiversity [3].

When choosing an investment object, the investor will check compliance with the - requirements for providing production processes with the necessary regulatory and technical documentation in the field of environmental safety and the availability of permits and licenses; regularity of compensation payments for negative impacts provided for by law; monitoring and reducing the degree of negative impact; generation and timely submission of required environmental reporting.

This study is related, to some extent, to the use of certain elements of the development of investment attractiveness in business-as-usual conditions, which underlie the dynamic relationship between environmental innovation and investment attractiveness in the Russian industrial environment. Using a comprehensive analytical framework covering economic, environmental and social dimensions, there is a need to fine-tune the complex mechanisms through which environmental innovation shapes the investment landscape.

Since 2018, the national project "Ecology" has been operating in Russia. It includes many areas, covering the country's forest and water resources, diversity of biological species and the creation of an integrated solid waste management system.

Federal and regional programs cover the whole of Russia and include the purification and preservation of unique water bodies, such as the great Volga River and the unique freshwater Lake Baikal.

Cities with high levels of air pollution are also not ignored. The federal project “Clean Air” has been developed for them. Among the project participants is the large industrial center of the Sverdlovsk region, Nizhny Tagil, in which, as the program is implemented, the total volume of emissions into the air is decreasing [9].

Forest conservation, which involves combating deforestation, reproducing forest cover in all areas of cut down and dead forest plantations, involving the population in measures to protect, protect and reproduce forests will provide a comfortable and safe environment for the residents of our country.

In Table 1, we have developed the main criteria for the introduction of environmental innovations as a key factor in the investment attractiveness of any Russian enterprises.

**Table 1.** Criteria for the introduction of environmental innovations as a key factor in the investment attractiveness of any Russian enterprises

Criterion	Description
Legal Compliance	The ability of environmental innovation to meet the requirements of environmental legislation.
Economic benefit	The potential of environmental innovation to provide economic benefits through cost reductions or new markets.
Sustainability	The ability of innovation to improve a company's environmental sustainability by reducing its environmental footprint.
Innovation	The degree of novelty and technical complexity of environmental solutions, which determines their competitiveness.
Reputation capital	The impact of environmental innovation on the reputation of an enterprise among investors, consumers and the public.
Access to resources	The opportunity for environmental innovation to improve access to resources such as water, energy and raw materials.
Compliance Risk	A measure of the risk associated with compliance with environmental protection requirements and environmental safety standards.
Market introduction	The extent to which environmental innovations can be successfully introduced into the market and scaled up.

Thus, based on the results of this table, we can conclude that the successful implementation of such innovations depends on their compliance with legislation, the ability to provide economic benefits and improve the sustainability of the enterprise. Innovativeness, reputational capital and access to resources also play a significant role, while compliance risk and successful market penetration appear to be key challenges requiring careful management and strategic planning.

Firstly, large investment projects can be carried out in the field of municipal solid waste management, such as the construction of modern waste treatment complexes in cooperation with foreign partners.

Secondly, the growth of environmental attractiveness leads to a cleansing of the environment and, as a consequence, an increase in tourist flow. Agree, it's much more pleasant to walk along a clean city street, breathe in fresh, unpolluted air, plunge into a cool, clear river, and listen to the singing of rare birds in their natural habitat. People will flock to such cities to admire them, learn from their experience, and invest their money.

According to monitoring data carried out in Russia, the area of water and wind erosion has increased by 4.4%, waterlogging, swamping, flooding, salinization, alkalization, land pollution and littering are occurring. Gray cities, landfills, stagnant gasoline air, dirty, tasteless water [3].

In the results of the study, it should be noted that achieving the indicators established in the national project “Ecology” will lead to a transition to a “Green” economy throughout the Russian Federation. The economy of new advanced technologies and additional investments.

## 4 Discussion

As our research shows, there is currently a certain relationship between environmental innovation and the investment attractiveness of Russian enterprises. This fact is becoming a key discourse in the modern economic system, especially in the context of sanctions pressure on the Russian Federation in 2023-2024, and the impact of this on Russian enterprises. We suggest that this topic highlights the need for domestic enterprises to integrate environmental innovation into their operating paradigms, thereby promoting sustainable practices while increasing their competitiveness in the market.

Central to this relationship is the recognition of environmental innovation as a catalyst for mitigating environmental degradation, optimizing the use of resources and increasing resilience to external and internal environmental influences.

Embedding environmental innovation into the structure of Russian enterprises goes beyond simple compliance with regulatory requirements; it embodies a strategic imperative based on vision and adaptability. Businesses that effectively use environmental innovation not only improve operational efficiency, but also cultivate a reputation as responsible corporate citizens committed to protecting the environment. This reputational capital serves as a powerful currency to attract discerning investors who prioritize sustainability performance in their investment portfolios.

Moreover, the adoption of environmental innovation triggers a cycle of innovation and competitiveness within the enterprise ecosystem. By investing in research and development focused on environmentally friendly technologies and practices, Russian businesses are fostering a culture of innovation that promotes continuous improvement and differentiation in the marketplace. According to T.V. Kurbatov, such a trajectory not only increases the enterprise’s resistance to environmental risks, but also positions it as a leader in capitalizing on the trends of emerging markets, characterized by sustainable development imperatives [4].

Strategic investments in infrastructure, technology transfer and capacity building are needed to facilitate the diffusion of eco-innovations throughout the value chain, from R&D laboratories to commercial scale-up. Moreover, educational initiatives aimed at creating a culture of environmental awareness and entrepreneurship among the workforce serve as catalysts for developing a talent pool with the necessary skills and mindset to promote eco-innovation [2].

In addition, international collaboration and knowledge sharing platforms facilitate the mutual exchange of ideas, best practices and technological solutions, thereby catalyzing the global diffusion of environmental innovation. By participating in international networks and partnerships, Russian enterprises not only gain access to advanced technologies and markets, but also contribute to the global knowledge commons aimed at solving common environmental problems [8].

Essentially, the link between environmental innovation and investment attractiveness embodies a transformational trajectory characterized by synergy, sustainability and sustainability. Based on the results of the analysis, the following conclusions can be drawn.

Based on the results of the analysis, it can be concluded that the use of environmental innovations within the framework of the economic activities of Russian enterprises represents a convincing strategic plan for promoting sustainable development programs and at the same time increasing investment attractiveness.

As global environmental innovation evolves, characterized by rapid technological advances in the field, changing geopolitical dynamics and changing consumer preferences, the effectiveness of public policy instruments in attracting investment requires constant adaptation and improvement.

We believe that achieving the goals of attracting investment in the Russian Federation until 2030 requires a holistic and adaptive approach based on strategic forecasting, evidence-based policy development and interaction with stakeholders. Using a diversified portfolio of policy instruments, including regulatory reforms, fiscal incentives, strategic partnerships, and sustainability imperatives, the Russian Federation can navigate the complexities of the global investment landscape, catalyzing inclusive and sustainable trajectories of environmental initiatives that benefit all sectors of society.

Regional problems of applying environmental innovations to increase investment attractiveness manifest themselves as a complex interaction of economic, social, infrastructural and management problems. Addressing these barriers requires a holistic and multidimensional approach, including targeted measures to improve economic resilience, promote social inclusion, support infrastructure development and strengthen governance frameworks. By making concerted efforts to address these challenges, regions can create a favorable investment climate that promotes sustainable economic growth and prosperity for all stakeholders.

Access to research and development funding, the availability of necessary infrastructure and the need for supportive government policies are all critical factors that can hinder the adoption of sustainable practices [1].

## 5 Conclusion

Thus, this study examined the main factors in the use of environmental innovations in the possibilities of increasing the investment attractiveness of Russian enterprises. We came to the conclusion that environmental innovation provides Russian enterprises with a significant opportunity to increase their investment attractiveness.

Thus, by adopting sustainable practices, companies can adapt to the evolving investor landscape, improve operational efficiency and strengthen their reputation in the domestic market.

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