# INTEGRATION OF ESG PRINCIPLES INTO THE SUSTAINABLE DEVELOPMENT STRATEGY OF KAZAKHSTAN

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**ABSTRACT.** *Kazakhstan is actively integrating Environmental, Social, and Governance (ESG) principles into its national sustainable development strategy. The implementation of ESG policies is considered a key driver of sustainable economic growth, enhancing investment attractiveness and improving the quality of life for the population. The purpose of the study is to identify key factors that contribute to the successful integration of ESG principles into the sustainable development strategy of Kazakhstan, as well as to identify the main barriers and opportunities on the path to carbon neutrality by 2060. The study highlights positive trends in Kazakhstan's ESG policy, particularly in the transition to a green economy, supported by renewable energy investments and low-carbon policies, strengthened corporate governance standards and increased ESG reporting transparency, the role of state-led policies and international collaboration in driving ESG initiatives. This study employs a qualitative research approach, incorporating a literature review, case study analysis, and comparative assessment of ESG policies in Kazakhstan. It analyzes government regulations, corporate ESG reports, and international benchmarks to evaluate the country's progress. A SWOT analysis is conducted to identify key strengths, weaknesses, opportunities, and threats in ESG implementation. The findings are based on data from global institutions (World Bank, OECD, UNDP), national policies, and corporate sustainability reports to provide a comprehensive evaluation.*

**KEYWORDS:** *sustainable development, green economy, ESG principles, public policy, low-carbon development, green energy.*

## INTRODUCTION

At the present stage, sustainable development is becoming a priority for all countries, and Kazakhstan is no exception. The implementation of ESG principles (environmental, social, and governance) is considered a key factor in sustainable economic growth, increasing investment attractiveness, and improving the quality of life of the population. Experts note that the global trend toward sustainable development has led to a significant increase in interest from businesses, governments, and society in the ESG agenda (Elkington, 1998).

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The ESG concept is closely linked to the theory of sustainable development, which advocates for a balanced approach to economic growth, social well-being, and environmental preservation. The core principle of sustainable development, as articulated in the Brundtland Report (1987) "Our Common Future" emphasizes meeting the needs of the present generation without compromising the ability of future generations to meet their own needs. ESG principles serve as a practical implementation of this approach, focusing on three fundamental dimensions:

- Environmental sustainability (E - Environmental): Minimizing the negative impact of businesses and governments on the environment and ensuring the rational use of natural resources.
- Social sustainability (S - Social): Promoting social justice, human capital development, and the protection of employee and community rights.
- Governance sustainability (G - Governance): Establishing transparent institutions, combating corruption, and safeguarding stakeholder interests.

ESG approaches can reduce risks, increase transparency, and improve the reputation of companies, which is especially important in the context of growing environmental awareness and public demand for responsible business. In recent years, Kazakhstan has been actively taking steps to integrate ESG principles into the national sustainable development strategy. According to the World Bank report (World Bank, 2021), Kazakhstan is actively implementing ESG principles both at the state level and in the corporate sector. Rey Bakbergen (2023) notes that the implementation of ESG initiatives in Kazakhstan is accompanied by the integration of best international practices, which contributes to sustainable economic growth and increased transparency of corporate governance. However, the country has many challenges to overcome, including a lack of institutional support and limited resources for the implementation of ESG strategies. The process of implementing ESG principles faces a number of challenges, such as limited financial resources, lack of modern technologies, and shortage of qualified personnel, especially in energy-intensive sectors. In modern conditions, it is important to switch to the principles of sustainability, taking into account the specific conditions of the country. The Russian experience offers valuable insights into achieving carbon neutrality, particularly for Russia as an exporter, which needs to identify industrial goods and services to replace its energy resources (Kudrin, 2021). It is worth noting that such challenges are also relevant to the conditions of Kazakhstan, and perhaps this is why the first important initiatives are noted in the energy sector and country policies play the role of a vector for the development of this direction. This article presents an analysis of the current ESG policy of Kazakhstan, considers the achievements and challenges in its implementation, and offers recommendations for improving the effectiveness of the implementation of ESG initiatives at the state and corporate levels. The purpose of the study is to identify key factors that contribute to the successful integration of ESG principles into the sustainable development strategy of Kazakhstan, as well as to identify the main barriers and opportunities on the path to carbon neutrality by 2060.

The integration of ESG principles into Kazakhstan's sustainable development strategy is important based on the following:

- The ESG (Environmental, Social, Governance) concept is an approach to assessing the activities of companies and governments with an emphasis on sustainable and responsible development. ESG principles assess the impact on the environment, compliance with social obligations, and the quality of corporate governance, which has become an important criterion for investors and international organizations. (Who Cares Wins, 2004).
- Environmental factors include resource and carbon management, and measures to preserve biodiversity and prevent pollution. In the context of global climate change, ESG factors help businesses minimize their environmental footprint (Johnson et al., 2020).
- Social factors relate to labor standards, respect for human rights, inclusion, and support for local communities. Research shows that companies implementing social ESG principles have higher employee loyalty and maintain a positive image (Johnson et al., 2020).
- Governance factors cover corporate structure, transparency, and anti-corruption. Companies with a high level of governance have better financial results and lower operational risks (Johnson et al., 2020).

This approach allows you to focus on the main pillars of the sustainability of society, and plan the necessary initiatives and projects, both at the level of individuals, households, companies, as well as entire industries and countries. Moreover, as global experience shows, the choice of priorities and a deep understanding of ESG principles allow you to move toward sustainable development more effectively

## LITERATURE REVIEW

Integration of ESG principles (environmental, social, and governance factors) is becoming an important component of sustainable development. This helps improve corporate reputation, reduce environmental risks, and increase investment attractiveness. Kazakhstan is actively implementing ESG standards, which are consistent with global trends and support the transition to a low-carbon economy.

ESG principles cover three key areas: environmental factors (emission reduction, sustainable resource management), social aspects (support for local communities, respect for workers' rights), and governance mechanisms (transparency, anti-corruption). Aldowaish et al. (2022) emphasize that ESG affects business models through changes in approaches to value creation, processes, and interactions with stakeholders. However, the main problem is the lack of unified standards, which makes it difficult to assess the effectiveness of ESG.

There are other interpretations of the ESG concept in the scientific literature, for example, in the article by Zh. R. Babaeva, K. K. Semenov, and A. S. Semenova, the ESG (Environmental, Social, Governance) concept is considered as an approach that integrates environmental, social, and governance aspects into the strategy of organizations to achieve sustainable development. The authors note that the ESG concept is not universal and is interpreted differently depending on the cultural, economic, and institutional context. In Russian realities, ESG is perceived as a way to

increase investment attractiveness and minimize risks for business, as well as a tool for achieving sustainable development goals (Babaeva et al., 2024).

Kazakhstan has demonstrated significant success in promoting ESG through the implementation of renewable energy projects, the development of an environmental code, and the introduction of ESG information disclosure standards (OECD, 2021). For example, the construction of 100 MW solar power plants in the Zhambyl region was a significant step in reducing the carbon footprint (LSM.KZ, 2019). Also, an important milestone was the adoption of the concept of transition to a "green economy" in 2013 (World Bank, 2021).

However, it is worth paying attention to the challenges, as the following stand out among the challenges of ESG integration in Kazakhstan (Optimism.kz, 2024):

- Environmental challenges: Kazakhstan, as a major oil and gas producer, has a special responsibility in the fight against climate change and reducing its carbon footprint. The transition to green energy requires significant investment, which creates difficulties for government agencies and businesses.
- Social aspects: Social programs of large corporations in Kazakhstan are often aimed at supporting local communities, improving working conditions, and ensuring gender equality. However, compared to global standards, the country has significant work to do in this area.
- Governance and transparency: Transparency of company activities and accountability to shareholders are becoming central issues for many enterprises in Kazakhstan. Although corporate governance standards are improving, there remain problems with ensuring full transparency and availability of data on company activities.

As experts note, there are factors that influence how effectively companies are ready to adopt the sustainability agenda in their activities. The authors highlight key aspects such as economic efficiency, environmental sustainability, waste management, corporate social responsibility, gender issues, and governance structure. Particular attention is paid to the impact of ESG disclaimers, the COVID-19 pandemic, religious factors, board composition and size, national interests, and technological innovations on business sustainability. The study emphasizes that the integration of ESG practices helps to increase innovative potential, create value, and improve the financial performance of companies. Thus, social and environmental responsibility are considered as interdependent elements that contribute to sustainable business development (Ahmad et al., 2023). ESG principles allow companies to minimize risks, attract investment, and improve their reputation (Elkington, 1998). Dong (2023) notes that ESG promotes innovation and increases employee satisfaction.

In recent years, there has been a significant increase in interest in integrating ESG (environmental, social, governance) principles into corporate sustainability strategies. Research highlights the importance of ESG factors in increasing the transparency, sustainability, and competitiveness of companies.

Lokuwaduge and Heenetigala (2017) focus on ESG disclosures among metals and mining companies listed on the Australian Securities Exchange. The authors find that despite the growth of ESG reporting, there is significant variability in the metrics used,

making it difficult to compare ESG performance across companies. They highlight the need for standardization of reporting and proactive stakeholder engagement to improve the quality of ESG data. Monteiro et al. (2023) conducted a global analysis of business commitment to the Sustainable Development Goals (SDGs) in the post-pandemic period. Using the HJ-biplot method, they find significant differences in the level of SDG commitment across regions and countries.

Within the framework of sustainable development, Kazakhstan actively works with international organizations, including the World Bank, which allows attracting the necessary knowledge and financing (World Bank, 2021). Kazakhstan has made significant strides in its ESG agenda, but there are still unresolved issues that require a comprehensive approach. Effective integration of ESG principles will strengthen the country's sustainable development, increase its competitiveness in the international arena, and ensure the achievement of carbon neutrality goals by 2060.

The study shows that companies from countries with collectivistic cultures and strong legal systems demonstrate higher SDG commitment, highlighting the influence of the institutional context on ESG practices. Saha et al. (2024) examine the relationship between SDG-oriented practices and corporate financial performance, as well as the role of public governance in this context. An analysis of company data from different industries and countries shows that environmental SDGs have a positive impact on financial performance, while social SDGs can have a negative impact. However, effective public governance mitigates the negative impact of social SDGs, highlighting the importance of institutional support for the successful integration of ESG principles. These studies highlight the need for standardization of ESG reporting, active stakeholder engagement, and consideration of the institutional context when developing and implementing ESG strategies. They also demonstrate that effective public administration and cultural characteristics of countries play a key role in the successful integration of ESG principles into corporate practices.

## RESEARCH METHODOLOGY

This article uses a qualitative research method, including a systematic analysis of scientific literature and regulatory documents to examine the integration of ESG principles into sustainable development in Kazakhstan. The analysis is based on data from international and regional sources, including scientific publications and regulatory documents.

The study is based on scientific works such as the work of Lokuwaduge and Heenetigala (2017) and focuses on the lack of standardization of ESG reporting among companies in the metallurgical industry, which is an obstacle to comparing the effectiveness of ESG initiatives (Lokuwaduge & Heenetigala, 2017). Given that the mining industry is still key in the industry and economy of Kazakhstan, it is important to focus on approaches that define possible mechanisms for implementing ESG principles based on uniform standards and transparency. First of all, we are talking about the lack of standardization of reporting, since different companies use incomparable formats and indicators, which complicates the analysis of ESG effectiveness. An equally important aspect is the influence of regulatory authorities and their ability to motivate companies

to create transparent reporting. Another key factor in the development of the industry is stakeholder engagement, as transparent ESG reporting allows for better consideration of the interests of investors, employees, and society.

The analysis by Monteiro et al. (2023) showed that the level of commitment to the Sustainable Development Goals (SDGs) depends on the social and institutional context. This approach demonstrates how regional characteristics affect the success of ESG programs (Monteiro et al., 2023). The authors' findings are valuable in that they determine the effectiveness of a centralized approach in promoting the concept of sustainability. This made it possible to analyze current policies and government initiatives from the standpoint of the effectiveness of integrating the ESG agenda into all areas of the national economy.

The findings by Saha et al. (2024) complement the methodological framework, emphasizing the importance of effective public administration to mitigate the negative impact of social initiatives and enhance their positive effect. In the context of Kazakhstan, this means the need to strengthen the role of government institutions in regulating and supporting ESG initiatives through the development of mechanisms for subsidizing and stimulating social programs.

The research methodology includes data collection using a systematic search through Scopus and JSTOR. The thematic analysis allowed us to identify key topics such as the influence of institutional factors, ESG standardization, and the role of public policy. The study also takes into account the role of government regulation, including strategic documents of Kazakhstan, such as the Concept for the Transition to a Green Economy (Kazakh Ministry of Ecology, 2013). These data are integrated with international standards, such as the Paris Agreement (UNFCCC, 2016).

The methodology provides a comprehensive approach that allows us to study the interaction of ESG principles at the level of the state, business, and society, as well as to assess their impact through case analysis and the use of SWOT analysis.

Case analysis will allow us to study practical examples of the implementation of ESG initiatives in various sectors of the economy of Kazakhstan, and identify successful strategies and possible barriers. This will help transfer best practices to the national level and adapt them to local realities. SWOT analysis, in turn, will provide a structured approach to assessing the strengths and weaknesses of the current ESG agenda, as well as identifying opportunities and threats to sustainable development. Using these methods will create a deeper understanding of how ESG principles influence the national economy and shape its competitiveness in the global environment.

## RESEARCH RESULTS

By framing ESG integration within theories of transitional economies, institutional change, and sustainable development, Kazakhstan's ESG strategy gains stronger conceptual grounding. This approach helps explain policy challenges, regulatory dynamics, and corporate adaptation processes, reinforcing ESG as a structural component of Kazakhstan's economic and institutional evolution toward sustainability and global integration.

Kazakhstan, as a post-Soviet transition economy, faces challenges related to market liberalization, institutional development, and economic diversification. ESG adoption aligns with:

*Path Dependency Theory* (North, 1990): Institutional inertia and legacy structures influence ESG policy implementation. Kazakhstan's historical reliance on extractive industries slows the transition to sustainable practices, requiring strong policy interventions.
*Modernization Theory* (Rostow, 1960): Kazakhstan's shift from a resource-dependent model to a diversified, knowledge-based economy mirrors the stages of economic modernization, where ESG adoption plays a role in enhancing investment attractiveness and global competitiveness.

Institutional theories explain how regulatory environments, governance structures, and corporate norms evolve to integrate sustainability principles:

*New Institutional Economics* (Williamson, 2000): ESG adoption reflects the co-evolution of formal (laws, policies) and informal (corporate culture, investor expectations) institutions. The introduction of ESG reporting standards in Kazakhstan highlights the institutionalization of sustainability norms.
*Regulatory Capture Theory* (Stigler, 1971): The effectiveness of ESG policies depends on government independence from industrial lobbying. Strong regulatory frameworks and anti-corruption measures are crucial to prevent ESG from becoming a symbolic rather than substantive policy.
*The Brundtland Report* (WCED, 1987) provides the foundation for sustainable development, emphasizing the need for long-term economic, environmental, and social balance.
*Triple Bottom Line* (Elkington, 1998): ESG implementation in Kazakhstan must balance economic growth, environmental responsibility, and social well-being to ensure sustainable progress.
*Ecological Modernization Theory* (Mol & Spaargaren, 2000): Kazakhstan's green economy transition and renewable energy policies demonstrate a shift toward market-driven environmental governance, where economic and environmental goals are mutually reinforcing.

*How these approaches are implemented in practice?*
Kazakhstan began to actively develop the ESG concept in the early 2010s in response to global challenges in the field of sustainable development and in connection with commitments made in the international arena. The first important steps were taken with the adoption of the Environmental Code of the Republic of Kazakhstan in 2007 and the Law on Renewable Energy Sources in 2009, which laid the foundation for green growth policy (OECD, 2021).

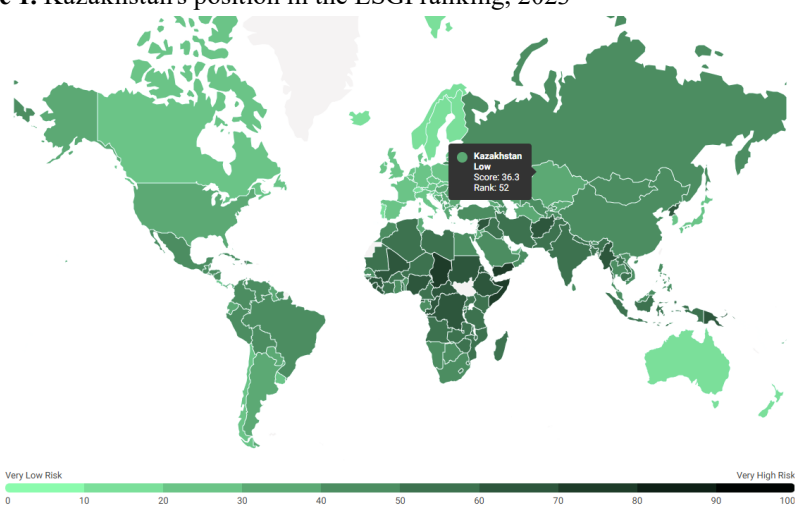
In 2013, the "Concept of the Transition of the Republic of Kazakhstan to a Green Economy" was adopted, which formed the course for sustainable development and the implementation of ESG standards. According to World Bank experts, this concept has become an important milestone in the economic development of Kazakhstan, allowing the country to become a regional leader in environmental reforms (World Bank, 2021).

In 2016, Kazakhstan signed the Paris Agreement and committed to reduce greenhouse gas emissions, which also stimulated the implementation of ESG principles (UNFCCC, 2016).

In recent years, Kazakhstan has strengthened the requirements for ESG information disclosure for companies, which underlines the government's commitment to achieving carbon neutrality by 2060 (Kazakh Ministry of Ecology, 2022).

The state's position in the field of ESG (Environmental, Social and Governance) plays a decisive role in achieving sustainable development, since it is state initiatives, regulations and support that form the basis for the successful implementation of ESG principles in a wide range of activities. The state sets the strategic direction for business and society, creating conditions for the introduction of environmentally friendly technologies, socially responsible business conduct and transparent management. Through the development of the regulatory framework, the provision of financial incentives and support for sustainable projects, the state creates a culture of responsibility that is aimed at long-term social and environmental well-being. The proactive position of the state allows stimulating investments in the "green" economy, attracting international partners interested in sustainable development, and creating a favorable environment for innovation. As a result, not only the quality of life of the population improves and natural resources are preserved, but also the country's competitiveness in the global arena is strengthened, opening up new opportunities for economic growth. Kazakhstan is actively involved in the sustainable development agenda and stands out among the countries of the Central Asian region due to its comprehensive approach to ESG initiatives and significant steps aimed at improving environmental and social indicators. Kazakhstan's 52nd place among 183 countries in the world with an index of 36.6 points in the ESGI (Environmental, Social and Governance Index) rating for 2023 is the result of systematic work on the implementation of ESG principles in the public and corporate governance system (Figure 1).

**Figure 1.** Kazakhstan's position in the ESGI ranking, 2023




*Source: ESG Index 2023, https://risk-indexes.com/esg-index/*

The promotion of ESG principles in Kazakhstan began relatively recently. However, since the early 2010s, the first strategic and regulatory acts aimed at sustainable development have been developed at the state level. The beginning was laid in September 2000, when Kazakhstan, at the Millennium Summit of the heads of state of the UN member states, along with 189 countries of the world, signed the Millennium Declaration and committed to achieving the Millennium Development Goals (MDGs) by 2015 (UN, 2000). In order to ensure the timely achievement of the MDGs, the Government of the Republic of Kazakhstan integrated them into the medium-term development program until 2010, as well as into the development programs of key ministries and agencies. It was from this period that the organizational and legal basis for the transition to "green growth" was laid through the adoption of a number of legislative documents, including the Environmental Code (2007), the Law on Support for the Use of Renewable Energy Sources (2009), and the Concept of Transition to a "Green Economy" (2013).

The issue of preserving the environment and protecting against the harmful effects of fossil fuels used in the energy sector focused attention and raised the issue of the need to introduce renewable energy sources. At that time, renewable sources produced less than 1% of the electricity consumed in the country (Sospanova, 2019).

The norms of primary legislation in the field of renewable energy were implemented with the adoption of the Law of the Republic of Kazakhstan "On Support for the Use of Renewable Energy Sources" (2009), subsequently, significant amendments and additions were made to it (Law of the Republic of Kazakhstan "On Renewable Energy Sources", 2009). This law defined the legal basis for the development of renewable energy, providing state subsidies and benefits for companies engaged in the production of energy from renewable sources. The adoption of this law was an important step in creating conditions for a sustainable energy sector that meets ESG goals.

Following the chosen environmentally friendly course, Kazakhstan's policy was focused on building a green economy, which became a key element in the state's long-term strategy for ensuring sustainable economic growth. The adoption of the "Concept of the Transition of the Republic of Kazakhstan to a Green Economy" in 2013 laid the foundation for the national sustainable development strategy and became the starting point for promoting ESG initiatives at the state level (Concept of Transition to a "Green Economy", 2013). The concept defined the main areas and tasks, including increasing energy efficiency, developing renewable energy sources, and improving water and waste management (Table 1).

The cases presented in the table show that the transition to a green growth model requires a comprehensive approach that includes not only the introduction of renewable energy sources but also the complete transformation of traditional industries, which is achieved through innovative infrastructure projects and government support.

**Table 1.** Strategy for Kazakhstan's transition to a "green" economy model using case studies as an example

| | Description of the stage | Year | Example |
|---|---|---|---|
|  | Optimization of resource allocation and efficiency. Development of green infrastructure | 2013-2020 | A project to modernize water supply and sanitation systems in major cities such as Astana and Almaty. This project aims to reduce water losses and improve the quality of water resources, which is in line with the goals of a green economy and sustainable development. The project used innovative technologies to monitor leaks and optimize water use, which reduced losses by 20-30%. (World Bank, 2021). |
|  | Rational use of natural resources, Large-scale implementation of new renewable energy sources and energy-saving technologies | 2020-2030 | A 100 MW solar power plant project in Zhambyl region. This project is a significant step toward achieving the country's goals of increasing the share of renewable energy sources and reducing carbon emissions (LSM.KZ, 2019). |
|  | Complete transition to a green growth model. Transformation of traditional sectors of the economy into the development of new industries based on renewable energy sources | 2030-2050 | An example of a complete transition to a green growth model and the transformation of traditional industries into new industries based on renewable energy sources (RES) is the Danish project to create the world's first "energy island" infrastructure in the North Sea. This project aims to produce and store energy using offshore (marine) wind farms, which symbolizes a systemic shift from traditional energy resources to renewable sources and stimulates the development of new industries (Danish Energy Agency, 2021). |
| | Investment allocation: ">1% of GDP or 3-4 billion US dollars annually" | | |

*Source: developed by the authors based on Green Economy: Realities and Prospects in Kazakhstan. Report of the World Bank Group, Samruk-Kazyna Fund, 2018*

The cases presented in the table show that the transition to a green growth model requires a comprehensive approach that includes not only the introduction of renewable energy sources but also the complete transformation of traditional industries, which is achieved through innovative infrastructure projects and government support.

These examples - from solar power plant projects in Kazakhstan to a large-scale energy island initiative in Denmark - demonstrate that success in achieving sustainable development depends on targeted efforts, such as:

- *investing in renewable energy and innovation:* the use of the latest technologies and methods of producing clean energy (for example, solar and wind power plants) helps reduce emissions and optimize natural resources;

- *government support and attracting private capital:* government policy and partnerships with private investors are key factors in ensuring the financing and stability of projects;
- *creating new jobs and sustainable economic development:* the development of a green economy contributes to the creation of new jobs and the growth of a new industrial sector, which helps minimize the negative consequences for the economy of abandoning traditional hydrocarbon resources;
- *reducing the environmental burden:* measures aimed at improving the environment, such as the creation of hydrogen infrastructure and the introduction of energy-saving technologies, help achieve long-term climate goals and ensure environmental sustainability.

These cases show that green growth is not only an environmental but also an economic strategy that ensures sustainable development and competitiveness in the international arena and that consistent and effective steps are needed, which are already being taken in the realities of the Kazakhstani economy.

The period from 2014 to 2020 was the first stage of the concept implementation, during which the main focus was on the preparation of the regulatory and legal framework to support the green economy. The second stage of the green economy concept implementation, which covers the period from 2021 to 2030, focuses on the mass introduction of green technologies and the achievement of targets for the use of renewable energy sources.

In 2016, Kazakhstan ratified the Paris Agreement, committing to reduce greenhouse gas emissions (Law of the Republic of Kazakhstan "On Ratification of the Paris Agreement", 2016). This event had a significant impact on the country's ESG policy since the Paris Agreement obliges participants to implement measures to combat climate change. In this regard, Kazakhstan developed targets to reduce carbon emissions by 15% by 2030 compared to 1990 levels.

Even before the official signing of the Paris Agreement, in September 2015, Kazakhstan submitted its nationally determined contribution (NDC) under the UN Framework Convention on Climate Change. As part of the NDC, Kazakhstan committed to achieving the following goals:

- an unconditional reduction in greenhouse gas (GHG) emissions by 15% by December 2030 compared to 1990 levels;
- a conditional reduction of GHG emissions by 25% by December 2030 compared to 1990 levels, subject to additional international investment, access to the low-carbon technology transfer mechanism, funds from the Green Climate Fund, and the flexible mechanism for countries with economies in transition.

In 2017, the state program "Digital Kazakhstan" (no longer in effect) was adopted, aimed at digitalization of various sectors of the economy, including energy and environmental monitoring, which contributed to increasing the efficiency of resource use and reducing the environmental burden.

The Law of the Republic of Kazakhstan "On Subsoil and Subsoil Use" (2017 edition) established stricter environmental requirements for subsoil users, obliging companies in the mining industry to introduce environmentally friendly technologies and carry out land reclamation. The law also includes requirements for disclosure of information on environmental impact and social responsibility, which contributed to the implementation of ESG standards in one of the most carbon-intensive sectors of the economy. In 2021, the updated Environmental Code was adopted, which introduced mandatory requirements for ESG information disclosure for companies listed on the Kazakhstan Stock Exchange (KASE). The new code strengthened the requirements for managing emissions, waste, as well as water and energy resources. The implementation of the code is aimed at increasing the environmental responsibility of companies, creating conditions for sustainable development, and adapting to international environmental standards. This document includes provisions for the disclosure of environmental information, monitoring greenhouse gas emissions, and ensuring environmental safety.

In December 2020, at the Climate Action Summit, the President of the Republic of Kazakhstan Kassym-Jomart Tokayev announced a new goal - to achieve carbon neutrality by 2060. This ambitious commitment became part of a broader strategy for the transition to a green economy. This decision underscores the seriousness of the country's intentions in the fight against climate change. An important step in implementing the commitments made was the approval in February 2023 of the "Strategy for Achieving Carbon Neutrality of the Republic of Kazakhstan until 2060". According to this strategy, by 2060 the country plans to achieve zero GHG emissions, provided that 45% of GHG is absorbed from the land use, land use change, and forestry (LULUCF) sectors. In addition, the country will actively introduce low-carbon technologies, expand renewable energy facilities, and improve energy efficiency in all sectors of the economy.

Kazakhstan's aspiration to achieve carbon neutrality by 2060 reflects the main strategic goal of the country's ESG policy. Within this goal, attention is paid to three key areas:

1. Reducing carbon emissions, especially in the energy and industrial sectors.
2. Supporting renewable energy sources, including increasing their share to 30% by 2030.
3. Developing corporate social responsibility, which involves improving working conditions, supporting local communities, and increasing company transparency.

The choice of these priorities is due to environmental and economic factors. Kazakhstan is one of the most carbon-intensive economies in the region, and the integration of ESG standards, especially in strategic sectors such as energy and mining, is important both for increasing investment attractiveness and for protecting the environment.

Agenda 2030 is closely interconnected with the green development policy. Kazakhstan continues to work actively to achieve the Sustainable Development Goals (SDGs) by 2030.

President of the Republic of Kazakhstan K. Tokayev, taking part in the UN Summit on Sustainable Development Goals in 2023, noted in his speech that achieving the SDGs

is a national priority. Kazakhstan is open to cooperation with all member states in striving for a more just and sustainable world.

It should be noted that the Coordination Council for Sustainable Development Goals has been established under the Government of the Republic of Kazakhstan, the tasks of which are to consider and develop proposals for the formation of a unified policy for the implementation of the SDGs. The heads of central government bodies, as well as representatives of the UN, the UN Development Program (UNDP), and the European Union (EU), take part in the discussions and work of the Coordination Council.

The existing system of state planning in Kazakhstan contributes to the effective implementation of tasks within the SDGs. Strategic and program documents are interconnected and interdependent, which allows for the effective integration of SDG objectives and indicators at the national and regional levels and the achievement of the goals.

Also, at the UN Sustainable Development Goals Summit, Kazakhstan initiated the creation of a Regional SDG Hub for Central Asia and Afghanistan. As a result, the Regional SDG Platform for Central Asian States was launched in the region within the framework of the UNDP program funded by the European Union. This is only a small part of the large-scale work carried out by our state in the field of Agenda 2030.

## DISCUSSION OF THE RESEARCH RESULTS

Currently, the most advanced sectors in the context of implementing ESG policies are energy, mining, and the financial sector:

- the energy sector is actively developing renewable energy projects, especially wind and solar, in order to reduce dependence on hydrocarbon resources;
- the mining industry is implementing measures to manage water resources, reclaim land, and reduce emissions, which is necessary to minimize environmental damage;
- the financial sector supports ESG through KASE, having introduced disclosure standards, and is developing products for financing sustainable projects, including green bonds.

State support, international investments, and natural conditions contribute to the development of ESG programs in the energy sector. According to strategic documents, renewable energy sources (RES) are expected to become the dominant share of electricity production by 2050. Following this strategy, RES is rapidly expanding.

In 2024, three new RES facilities with a total capacity of 34.75 MW were commissioned, made possible through investments amounting to 13.7 billion tenge. By the end of 2024, the total electricity generation from RES facilities in Kazakhstan reached 7,581.33 million kWh, marking an 11.9% increase compared to 2023. The share of RES in Kazakhstan's energy structure grew from 5.92% to 6.43%. Table 2 presents data on the installed capacity and the number of RES facilities over recent years.

**Table 2.** Installed Capacity and Number of Renewable Energy Facilities in Kazakhstan (2022–2024)

| Type of RES Facilities | Installed Capacity (MW) | | | Number of Facilities | | |
|---|---|---|---|---|---|---|
| | End of 2022 | End of 2023 | End of 2024 | End of 2022 | End of 2023 | End of 2024 |
| Wind Power Plants **(WPP)** | 948.00 | 1,394.60 | 1,520.05 | 46 | 57 | 59 |
| Solar Power Plants **(SPP)** | 1,148.00 | 1,202.60 | 1,222.61 | 44 | 45 | 46 |
| Hydropower Plants **(HPP)** | 260.00 | 269.61 | 287.68 | 37 | 39 | 40 |
| Biomass Power Plants | 1.77 | 1.77 | 1.77 | 3 | 3 | 3 |
| **Total** | **2,357.77** | **2,868.57** | **3,032.11** | **130** | **144** | **148** |

*Source: KPMG study "Ambition to Triple Renewable Energy Capacity by 2030", KPMG Kazakhstan*

Despite the progress in renewable energy development, Kazakhstan faces several barriers, including:

- Technical limitations such as insufficient energy storage capacity and a lack of maneuverable power to balance the electricity market.
- Economic and regulatory challenges, including the need to reform tariff policies to enhance the competitiveness of renewables compared to traditional fuels.
- Structural issues such as the lack of local equipment production, dependency on imports, a shortage of qualified specialists, and the absence of a system for recycling outdated renewable energy components. Addressing these challenges requires a comprehensive approach to ensure the sustainable development of the sector.

As Kazakhstan is heavily reliant on the export of mineral resources, compliance with ESG standards has become a mandatory requirement for international markets, pushing the mining sector to adopt sustainable practices. The Subsoil and Subsoil Use Law (2017) obliges companies to implement environmentally safe technologies, while the New Environmental Code (2021) mandates mining companies to disclose ESG-related information.

A notable example is KAZ Minerals, a major mining and processing group in Kazakhstan, which is actively working to reduce water consumption and promote water reuse. In 2023, the group's total water intake decreased by 1%, primarily due to a 24% reduction in water consumption at the Bozshakol mine, achieved by increasing the use of reclaimed water from the tailings storage facility after a pump station relocation in late 2022. Additionally, KAZ Minerals monitors greenhouse gas (GHG) emissions and reports them following international standards. In recent years, the company has reduced $CO_2$-equivalent emissions intensity by transitioning to open-pit mining with modern extraction technologies, further aligning its operations with global ESG requirements (Kaz Minerals, n.d.).

However, other sectors such as agriculture, transport, construction, and tourism need additional support to achieve ESG goals. The development of sustainable agriculture, environmentally friendly transport solutions, energy-efficient construction, and eco-tourism remains an urgent task for the country.

Nowadays, despite being a key economic sector, agriculture in Kazakhstan heavily relies on traditional farming methods, leading to environmental degradation and inefficient resource use. The overuse of water and chemical fertilizers contributes to soil depletion and reduced agricultural productivity. Moreover, climate change-induced droughts pose a severe risk to food security, necessitating the adoption of climate-resilient agricultural technologies.

The construction industry is a major contributor to carbon emissions, primarily due to the use of traditional building materials such as concrete and bricks. The sector lacks comprehensive green building standards, and energy-efficient construction technologies are not widely adopted.

Kazakhstan's transportation sector is highly dependent on fossil fuels, contributing significantly to greenhouse gas emissions. The limited development of public transport infrastructure and electric vehicle (EV) charging stations further exacerbates the problem. The adoption of hydrogen-powered transport and biofuels remains in its infancy.

The tourism industry in Kazakhstan remains largely focused on traditional mass tourism, leading to environmental degradation and excessive resource consumption. There is a lack of infrastructure for sustainable tourism, such as eco-friendly accommodations and responsible travel routes. Additionally, there are no tax benefits or investment programs aimed at promoting the development of ecotourism.

In addition to financial constraints, institutional challenges hinder ESG implementation in Kazakhstan. One of the key limitations is the underdeveloped market for social bonds. Currently, only development institutions, both international and local—such as the Asian Development Bank (ADB), the Eurasian Development Bank (EDB), and the Damu Entrepreneurship Development Fund—act as issuers of social bonds in the country.

As of October 2023, the total sustainable finance market in Kazakhstan amounted to 226.9 billion tenge, with:

- Green bonds account for 112.9 billion tenge (50%).
- Green loans totaling 37.3 billion tenge (16%).
- Social bonds make up 76.7 billion tenge (34%) (Astana International Financial Centre [AIFC], 2024).

However, the issuance of social bonds remains limited, primarily due to the lack of standardized criteria for defining social projects and target beneficiary groups. The absence of such standards increases risks associated with "social washing," a phenomenon similar to greenwashing, where projects are labeled as socially responsible despite failing to meet genuine sustainability criteria.

To foster the growth of the social bond market and strengthen ESG integration, Kazakhstan must:

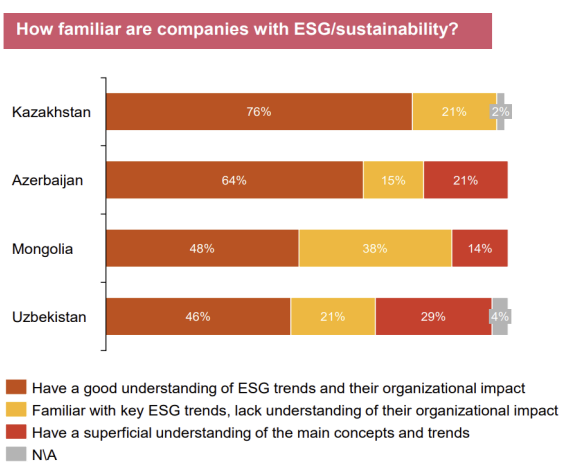
- Develop a regulatory framework defining eligible social projects and target groups.
- Establish clear impact assessment metrics to ensure transparency and accountability.
- Align national social bond standards with international guidelines, such as those set by the International Capital Market Association (ICMA).

Enhancing institutional infrastructure and regulatory oversight will be crucial in building investor confidence and expanding sustainable finance opportunities in Kazakhstan.

Kazakhstan demonstrates successful ESG cases in renewable energy and the mining industry, where international standards and investments play a crucial role in promoting sustainable practices. However, challenges in social finance, transportation, and other sectors highlight regulatory gaps, a lack of incentives, and low private-sector engagement. To ensure effective ESG development, additional support measures and standardization efforts are required.

In the corporate sector, Kazakhstani companies demonstrate a strong awareness of ESG concepts, largely driven by the government's proactive efforts in developing a sustainable development strategy over the past decade. Initiatives such as the 2060 Carbon Neutrality Strategy have played a key role in integrating sustainability into the national agenda, encouraging the widespread adoption of ESG principles across businesses and diverse industries (Figure 2.) (PwC Kazakhstan, n.d.).

**Figure 2.** The progress in the implementation and application of ESG practices by companies in different countries




*Source: ESG Awareness in Eurasia PwC Kazakhstan Edition. https://www.pwc.com/kz/en/publications/esg/esg-awareness.html*

According to PwC Kazakhstan is making noticeable progress in the implementation and application of ESG practices by companies. According to the survey results, companies in Kazakhstan demonstrate a high degree of maturity in ESG integration, marked by

developed ESG strategies, active management involvement, and comprehensive non-financial reporting practices. However, there still exist barriers to meaningful ESG integration: lack of experience, budget constraints, and legal and regulatory challenges. To overcome them and promote ESG initiatives, companies need regulatory support, financial assistance, technical expertise, and competencies in ESG management systems.

Another critical barrier to ESG implementation in Kazakhstan is the low engagement of small and medium-sized enterprises (SMEs). There remains a significant gap between large corporations and SMEs in terms of adopting ESG initiatives. Many SMEs lack the necessary resources and expertise to effectively integrate sustainable practices into their operations. The primary reasons for this challenge include:

- Limited awareness of ESG benefits: many SMEs fail to recognize the potential advantages of ESG adoption, such as enhanced reputation, increased investor interest, and reduced operational risks. As a result, their motivation to implement sustainable practices remains low.
- Resource constraints and financial barriers: unlike large corporations, SMEs often lack the necessary financial and human resources to develop and implement ESG strategies. Furthermore, the absence of financial incentives, such as tax breaks and subsidies, makes ESG integration a costly and complex process for smaller businesses.

Thus, Kazakhstan's ESG policy can be assessed as comprehensive and ambitious, especially given the long-term goals of achieving carbon neutrality by 2060 and transitioning to a "green economy". However, there remain both positive and problematic aspects that require analysis in terms of strengths, weaknesses, opportunities, and threats (Table 3).

**Table 3.** SWOT analysis of ESG policy in Kazakhstan

| **Strengths:** | **Weaknesses:** |
|---|---|
| - Clear strategy and ambitious goals<br>Kazakhstan has set specific targets to reduce emissions and increase the share of renewable energy, demonstrating its commitment to sustainable development. These goals are consistent with the country's international commitments, such as the Paris Agreement.<br>- Development of the legal framework<br>The adoption of the updated "Environmental Code" and other regulatory documents, including obligations to disclose ESG information, demonstrate a desire to create a legal infrastructure that stimulates the implementation of environmental and social standards.<br>- Support for renewable energy<br>The energy sector emphasizes the development of renewable energy sources, which helps reduce the country's carbon footprint. Legislative incentives and subsidies for "green" | - Insufficient control and monitoring<br>Despite the existence of a regulatory framework, control and monitoring mechanisms remain a weak link. The implementation of ESG standards is often not monitored at the proper level, which leads to formal compliance with standards without significant changes in business behavior.<br>- Limited financial and technological resources<br>Kazakhstan faces a deficit of modern technologies and a lack of investment to fully transition to ESG practices, especially in traditional sectors such as mining and chemical industries.<br>- Low awareness among businesses and the population<br>For many Kazakhstani companies, ESG principles remain more of a formality than a strategic necessity. Insufficient awareness |

| | |
|---|---|
| energy help attract investment in this sector.<br>- International cooperation<br>Kazakhstan actively participates in international initiatives and cooperates with international financial organizations, which strengthens the country's position on the global stage and allows it to attract experience and technology for sustainable development. | and understanding of ESG policies among the population also slows down progress in this direction. |
| **Opportunities:**<br>- Investment attractiveness.<br>Strengthening ESG policies increases Kazakhstan's attractiveness to international investors who focus on sustainable development. Successful implementation of ESG standards will allow the country to attract "green" investments and improve its position in international rankings.<br>- Development of innovative technologies and renewable energy<br>Transition to ESG practices can stimulate the development of innovative technologies and create new jobs in the field of sustainable development, which will support economic growth and technological progress.<br>- Support for rural regions through sustainable agriculture<br>Introduction of sustainable agricultural practices can support the development of rural regions, reduce their dependence on traditional agricultural methods and improve their economic situation. | **Threats:**<br>- Economic risks in a resource-dependent economy<br>Kazakhstan remains dependent on the hydrocarbon industry and the export of raw materials. The transition to ESG and reducing carbon emissions may cause economic difficulties in the short term, especially in industries sensitive to the costs of implementing new technologies.<br>- Slow adoption in some key sectors<br>The mining and transport sectors, which have a significant environmental impact, need to modernize and implement ESG practices. Delays in adaptation may reduce the effectiveness of ESG strategies and lead to additional environmental risks.<br>- The impact of global economic fluctuations<br>Global economic changes, such as lower oil prices or rising inflation, may affect Kazakhstan's ability to implement ESG policies, as resources will be directed to address more pressing economic issues. |

*Source: compiled by the authors*

Analyzing various aspects of ESG integration in public policy, it should be noted that Kazakhstan has a number of advantages that contribute to the implementation of a more effective ESG policy and help strengthen the country's sustainable development:

1. *Rich resources for the development of renewable energy.* Kazakhstan holds substantial potential in renewable energy sources, such as solar and wind energy. Large territories with favorable climatic conditions for solar and wind power plants make it possible to develop large-scale projects in these areas. This gives Kazakhstan an advantage in reducing its dependence on hydrocarbons and creating a new, environmentally sustainable energy infrastructure.

2. *Geographical location and role in regional initiatives.* Kazakhstan occupies a strategic position at the intersection of transport routes between Europe and Asia, which creates opportunities for attracting investment in transport and logistics with an emphasis on sustainable development. Developing infrastructure for international transit corridors with an ESG focus can make Kazakhstan more attractive to international partners and investors.

3. *International commitments and support.* Kazakhstan actively participates in global sustainable development initiatives, such as the Paris Agreement, and cooperates with international financial institutions that provide both technical and financial support for ESG projects. This cooperation provides access to advanced technologies and green investments that can accelerate the transition to a sustainable economy.

4. *Government support and availability of ESG strategies.* Kazakhstan has demonstrated political commitment to ESG goals through the adoption of strategic documents such as the Green Economy Concept, the updated Environmental Code, and the strategy to achieve carbon neutrality by 2060. These regulations and programs create the foundation for the ESG agenda, encouraging public and private companies to implement sustainable practices.

5. *Development of an ESG-oriented financial sector.* Kazakhstan's financial sector, in particular the Kazakhstan Stock Exchange (KASE), is implementing ESG reporting standards, which increases the corporate transparency and responsibility of companies. This contributes to the growth of sustainable financial products, such as green bonds, which attract investors focused on ESG standards.

6. *Innovative potential and support for start-ups.* Kazakhstan is developing an innovative sector, especially in the field of technologies for monitoring and managing environmental risks. Support for start-ups and innovative companies in the fields of renewable energy, agriculture, and waste recycling creates new opportunities for integrating ESG solutions at all levels of the economy.

## CONCLUSION

Studies indicate notable progress in sustainable development through the application of ESG principles and a transition to a green economy model. While Kazakhstan's ESG policy reflects positive trends and is aligned with long-term objectives, the country faces several barriers that must be addressed through an integrated strategy.

Implemented projects focusing on infrastructure modernization, the introduction of renewable energy sources, and the adoption of energy-efficient technologies have shown promise in significantly reducing emissions and optimizing resource use. These efforts have improved the environmental situation in the country and enhanced its international reputation.

However, to achieve full carbon neutrality, further research is necessary to evaluate the long-term effectiveness of these projects. Additionally, there is a need to implement ESG in less active sectors, such as agriculture and transportation.

To effectively implement ESG principles, it is crucial to develop educational and informational programs that raise awareness and enhance the competencies of employees. The findings of this study could also serve as a foundation for revising state policies aimed at promoting a green economy and fostering sustainable integration into the global market.

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## CONFLICTS OF INTEREST

The author(s) declare no conflict of interest that could compromise the objectivity or integrity of the publication. .

## AUTHORS' CONTRIBUTIONS

LS: conceptualization, methodology, software, supervision; AA: formal analysis, investigation, writing – original draft; NN: visualization, funding acquisition, project administration; SZ: resources, data curation, writing – review & editing.

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