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ESG-INVESTMENT OF KAZAKHSTAN'S ENDOWMENT FUNDS: INSTITUTIONAL CONSTRAINTS AND MECHANISMS TO OVERCOME THEM

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Abstract. The study aims to identify and systematise the regulatory, financial, economic, organisational, and managerial constraints in Kazakhstan's endowment funds' transition to ESG investment, and to substantiate mechanisms for overcoming them. The methodological basis includes documentary and comparative legal analysis, an institutional approach, a comparative study of public examples, and scenario financial modelling. The regulatory framework has been analysed as of October 1, 2026. The analysis found that creating special legislation on endowment capital and developing national infrastructure for sustainable financing create institutional prerequisites for ESG investment but do not automatically ensure the implementation of relevant practices. The study identified limitations related to the permissibility of financial instruments, the certainty of the investment mandate, the quality of ESG information, professional competencies, and administrative costs. Scenario calculations for conditional funds with capital of 50, 100, and 500 million tenge showed that the financial availability of ESG procedures depends on asset scale. With a notional cost of 1.20 million tenge, the estimated coverage limits were 80 million tenge in the positive scenario and 240 million tenge in the negative scenario. Comparing institutional examples from Almaty, Astana, and the

Karaganda region made it possible to identify differences in management tasks at certain stages of fund development. The scientific novelty lies in the development of an analytical model of the ESG transition, combining the legal admissibility of investments, financial capabilities, and organisational readiness. The practical significance of the results depends on their potential use in developing investment declarations, regulating interactions with management companies, and forming a control system. The limitations of the study are due to the lack of a comparable database of financial and portfolio indicators of endowment funds in Kazakhstan.

Keywords: endowment funds, ESG investment, target capital, sustainable financing, regulatory and legal regulation, institutional barriers, investment management

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ESG-ҚАЗАҚСТАННЫҢ ЭНДАУМЕНТТІК ҚОРЛАРЫНА ИНВЕСТИЦИЯЛАР: ИНСТИТУЦИОНАЛДЫҚ ШЕКТЕУЛЕР ЖӘНЕ ОЛАРДЫ ЕҢСЕРУ ТЕТІКТЕРІ

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Аннотация. Зерттеудің мақсаты Қазақстанның эндаумент-қорларының ESG-инвестициялауға көшуінің нормативтік-құқықтық, қаржы-экономикалық және ұйымдық-басқарушылық шектеулерін анықтау және жүйелеу, сондай-ақ оларды еңсеру тетіктерін негіздеу болып табылады. Әдістемелік негіз деректі және салыстырмалы-құқықтық талдау, институционалдық тәсіл, қоғамдық мысалдарды салыстырмалы зерттеу және сценарийлік қаржылық модельдеу болды. Нормативтік база 2026 жылғы 1 қазандағы жағдай бойынша талданды. Нысаналы капитал туралы арнайы заңнаманы қалыптастыру және тұрақты қаржыландырудың ұлттық инфрақұрылымын дамыту ESG-инвестициялаудың

институционалдық алғышарттарын жасайтыны, алайда тиісті тәжірибелерді автоматты түрде енгізуді қамтамасыз етпейтіні анықталды. Қаржы құралдарының рұқсат етілуіне, инвестициялық мандаттың айқындылығына, ESG-ақпараттың сапасына, кәсіби құзыреттер мен әкімшілік шығыстарға байланысты шектеулер анықталды. 50, 100 және 500 млн теңге капиталы бар шартты қорлар үшін сценарийлік есептеулер ESG-рәсімдердің қаржылық қолжетімділігінің активтер ауқымына тәуелділігін көрсетті. Ұйымдастыру пакетінің шартты құны 1,20 млн теңге болған жағдайда оны жабудың есептік шекарасы оң сценарийде 80 млн теңгені және теріс инвестициялық нәтиже сценарийінде 240 млн теңгені құрады. Алматы, Астана және Қарағанды облыстарының институционалдық мысалдарын салыстыру қорларды дамытудың жекелеген кезеңдеріндегі басқару міндеттерінің айырмашылығын анықтауға мүмкіндік берді. Ғылыми жаңалық-инвестициялардың құқықтық рұқсат етілуін, қаржылық мүмкіндіктер мен ұйымдастырушылық дайындықты біріктіретін ESG-ауысудың аналитикалық моделін жасау. Нәтижелердің практикалық маңыздылығы оларды инвестициялық декларацияларды әзірлеу, басқарушы компаниялармен өзара іс-қимылды реттеу және бақылау жүйесін қалыптастыру кезінде пайдалану мүмкіндігімен анықталады. Зерттеудің шектеулері Қазақстанның эндаумент-қорларының қаржылық және портфельдік көрсеткіштерінің салыстырмалы базасының болмауына байланысты.

Түйін сөздер: эндаумент қорлары, ESG-инвестициялау, нысаналы капитал, тұрақты қаржыландыру, нормативтік-құқықтық реттеу, институционалдық кедергілер, инвестициялық басқару

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ESG-ИНВЕСТИРОВАНИЕ ЭНДАУМЕНТ-ФОНДОВ КАЗАХСТАНА: ИНСТИТУЦИОНАЛЬНЫЕ ОГРАНИЧЕНИЯ И МЕХАНИЗМЫ ИХ ПРЕОДОЛЕНИЯ

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Аннотация. Цель исследования заключается в выявлении и систематизации нормативно-правовых, финансово-экономических и организационно-управленческих ограничений перехода эндаумент-фондов Казахстана к ESG-инвестированию, а также в обосновании механизмов их преодоления. Методологическую основу составили документальный и сравнительно-правовой анализ, институциональный подход, сравнительное изучение публичных примеров и сценарное финансовое моделирование. Нормативная база проанализирована по состоянию на 1 октября 2026 года. Установлено, что формирование специального законодательства о целевом капитале и развитие национальной инфраструктуры устойчивого финансирования создают институциональные предпосылки ESG-инвестирования, однако не обеспечивают автоматического внедрения соответствующих практик. Выявлены ограничения, связанные с допустимостью финансовых инструментов, определенностью инвестиционного мандата, качеством ESG-информации, профессиональными компетенциями и административными расходами. Сценарные расчеты для условных фондов с капиталом 50, 100 и 500 млн тенге продемонстрировали зависимость финансовой доступности ESG-процедур от масштаба активов. При условной стоимости организационного пакета 1,20 млн тенге расчетные границы его покрытия составили 80 млн тенге в положительном сценарии и 240 млн тенге в сценарии отрицательного инвестиционного результата. Сопоставление институциональных примеров Алматы, Астаны и Карагандинской области позволило определить различия управленческих задач на отдельных стадиях развития фондов. Научная новизна заключается в разработке аналитической модели ESG-перехода, объединяющей правовую допустимость инвестиций, финансовые возможности и организационную готовность. Практическая значимость результатов определяется возможностью их использования при разработке инвестиционных деклараций, регламентации взаимодействия с управляющими компаниями и формировании системы контроля. Ограничения исследования обусловлены отсутствием сопоставимой базы финансовых и портфельных показателей эндаумент-фондов Казахстана.

Ключевые слова: эндаумент-фонды, ESG-инвестирование, целевой капитал, устойчивое финансирование, нормативно-правовое регулирование, институциональные барьеры, инвестиционное управление

Introduction. The sustainable development of educational, scientific, and socially oriented organisations requires long-term financing sources that reduce dependence on budget allocations and current charitable receipts. One such mechanism is an endowment fund, which invests endowment capital and uses the income to finance socially significant programs. The effectiveness of these funds is determined by their ability to preserve capital, ensure stable payments, and manage long-term investment risks. In modern conditions, environmental, social, and managerial factors (Environmental, Social and Governance - ESG) are

becoming increasingly important, the integration of which makes it possible to take into account the potential impact of non-financial risks on the value of assets and the sustainability of investment activities. For endowment funds, the use of ESG approaches is associated with the need to coordinate the investment strategy, financial obligations, and socially significant goals of the funded programs.

International studies confirm the importance of ESG factors for investment management. Friede et al. (2015), summarising more than 2,000 empirical studies, found predominantly positive and neutral relationships between ESG characteristics and financial results. Amel-Zadeh and Serafeim (2018) found differences in how investors use ESG information, while Berg et al. (2022) showed significant methodological differences between ESG ratings. These results indicate the need for a comprehensive assessment of the financial and non-financial characteristics of assets when making investment decisions.

In Kazakhstan, the relevance of ESG investment is shaped by special legal regulation for endowment capital and the development of a sustainable financing infrastructure. The adoption of the Law of the Republic of Kazakhstan dated June 30, 2025, No. 199-VIII, "On Endowment Funds and Endowment Funds (Endowments)", has established the legal basis for the activities of relevant organisations. Resolution No. 44 of the Board of the Agency of the Republic of Kazakhstan for Regulation and Development of the Financial Market dated August 28, 2025, established additional requirements for acceptable financial instruments and asset management (Republic of Kazakhstan, 2025; RFBR, 2025).

According to the Ministry of Science and Higher Education of the Republic of Kazakhstan, as of June 30, 2025, there were 22 endowment funds in the country, a significant part of which operated mainly on a charitable model without systematic formation of investment income (Ministry of Science and Higher Education of the Republic of Kazakhstan, 2025). At the same time, the Kazakhstan Stock Exchange KASE is developing a sustainable financing infrastructure, including the ESG Data Platform and the sustainable bond segment. However, the expansion of market opportunities does not automatically mean that endowment funds are ready to use appropriate tools.

The main research problem lies in the contradiction between the development of regulatory and market prerequisites for ESG investment and the limited organisational and financial capacity to implement them in practice. Implementing ESG principles requires coordinating the investment mandate, complying with legal restrictions, obtaining reliable information, attracting qualified specialists, and financing additional control procedures. These requirements may be particularly difficult for funds with a relatively small amount of endowment capital.

Despite the growth of international research on responsible investment, Kazakhstan has not sufficiently studied how regulatory, financial, economic, organisational, and managerial constraints shape endowment funds' ESG transition. Special attention should be paid to the issues of compliance of ESG strategies with the requirements of national legislation, the distribution of responsibility among

participants in investment management, and the economic proportionality of additional administrative costs.

The study aims to identify and systematise the regulatory, financial, economic, organisational, and managerial constraints to Kazakhstan's endowment funds' transition to ESG investing and to substantiate mechanisms for overcoming them. To achieve this goal, we analysed legislation and the institutional infrastructure of sustainable financing, classified barriers, assessed administrative costs through scenario analysis, and conducted a comparative review of public examples from Almaty, Astana, and the Karaganda region.

The scientific novelty lies in developing an analytical model of the ESG transition that combines three interrelated conditions: the regulatory permissibility of investment instruments, the fund's financial capabilities, and the organisational readiness of management participants. The proposed approach explains the limitations of implementing ESG principles in practice, taking into account the specifics of the endowment fund institute in Kazakhstan.

The methodological basis includes documentary research, comparative legal and institutional analysis, systematisation of constraints, and scenario financial modelling. The regulatory framework has been reviewed as of October 1, 2026. The study's practical significance lies in the potential to apply the results to develop investment declarations, organise interactions with management companies, plan administrative expenses, and improve control over ESG investment decisions.

Literature review. The development of ESG investment is an important aspect of institutional capital management, driven by environmental risks, social expectations, and corporate governance requirements. These factors are particularly relevant to endowment funds, which must balance long-term capital preservation, investment returns, institutional missions, and stakeholder interests.

The theoretical foundations of responsible investment are associated with stakeholder theory. Hart and Zingales (2017) argue that investor preferences extend beyond financial returns to social considerations. For endowment funds, this approach connects investment objectives with the public purpose of endowment capital.

The CFA Institute, Global Sustainable Investment Alliance, and Principles for Responsible Investment (2023) distinguish ESG integration, thematic investment, screening, and impact investing. While ESG integration incorporates sustainability factors into investment assessments, impact investing additionally targets measurable social or environmental outcomes. Financing social programs through endowment income does not necessarily indicate ESG integration within the investment portfolio.

Friede, Busch, and Bassen (2015), reviewing over 2,000 empirical studies, identified predominantly positive or neutral relationships between ESG performance and financial outcomes. However, these relationships vary across markets, instruments, and methodologies. Pástor, Stambaugh, and Taylor (2021) demonstrated that increased demand for sustainable assets may raise current prices

while reducing expected future returns. These findings highlight the importance of evaluating long-term investment characteristics rather than relying exclusively on historical performance.

Amel-Zadeh and Serafeim (2018) identified diverse motivations for ESG integration, including risk management, investment opportunities, and stakeholder expectations. Their findings emphasise the need to establish clear ESG objectives in investment policies to prevent inconsistent managerial interpretations and strengthen oversight.

The reliability of ESG assessments remains a significant challenge. Berg, Kölbel, and Rigobon (2022) attributed rating divergence to measurement methodologies (56%), indicator coverage (38%), and weighting approaches (6%). Similarly, the OECD (2025), examining over 2,000 metrics across eight rating products, confirmed substantial methodological differences. For Kazakhstan's endowment funds, these findings underline the importance of verifying ESG data quality and assessment methodologies, particularly when investment management is outsourced.

Fiduciary responsibilities also influence ESG implementation. PRI and UNEP FI (2019) consider financially material ESG factors essential for long-term investment risk management. Nevertheless, their application depends on national legislation and institutional legal status. International recommendations therefore provide methodological guidance without replacing Kazakhstan's mandatory endowment management requirements.

Research on university endowments reveals both advantages and costs of responsible investment. Aragon, Jiang, Joenväärä, and Tiu (2025) identified positive associations between responsible investment policies, charitable donations, and prospective student interest. Additional donations were estimated at 12% of endowment assets in the studied sample, although management costs and investment return volatility increased, while overall asset growth remained comparable to conventional funds. These findings indicate that ESG adoption can strengthen stakeholder confidence but requires additional resources. However, these estimates cannot be directly applied to Kazakhstan because of institutional and financial differences.

Arnold, Earl, Farizo, and North (2024), examining university endowment portfolios during 1997–2023, demonstrated that asset allocation depends on market conditions and risk-return characteristics. Consequently, ESG-compliant instruments must also meet liquidity, currency risk, and distribution requirements.

Information disclosure and sustainable financing standards provide additional methodological foundations. IFRS Foundation (2023), through IFRS S1, establishes disclosure areas covering governance, strategy, risk management, metrics, and targets. These principles can improve endowment transparency without necessarily requiring full international reporting. Similarly, the International Capital Market Association (2025) identifies the use of proceeds, project evaluation, proceeds management, and reporting as key Green Bond Principles. However, compliance does not replace credit, liquidity, or legal assessments.

In Kazakhstan, ESG investment development is supported by the Law of the Republic of Kazakhstan dated June 30, 2025, No. 199-VIII, related asset management regulations, the ESG Data Platform, and the expansion of sustainable bonds on the Kazakhstan Stock Exchange (KASE). These developments strengthen the legal and informational infrastructure, although the availability of ESG instruments does not demonstrate their actual adoption by endowment funds.

The reviewed literature identifies three interconnected areas: ESG-related investment performance, institutional governance mechanisms, and financial and organisational implementation constraints. Despite extensive international research, Kazakhstan's endowment sector remains insufficiently examined, particularly regarding regulatory requirements, financial transparency, and institutional capacity.

Thus, the research gap concerns the limited understanding of how regulatory, financial, organisational, and managerial barriers jointly affect ESG adoption by Kazakhstan's endowment funds. This study addresses this gap through an analytical framework integrating the legal permissibility of investment instruments, financial capacity to implement ESG procedures, and organisational readiness. The framework supports the classification of implementation barriers, scenario-based cost assessments, and recommendations for improving endowment investment management.

Materials and methods. The study applies an integrated approach to analysing regulatory, financial, organisational, and managerial constraints on ESG investment in Kazakhstan's endowment funds. The methodology combines documentary and comparative legal analysis, institutional assessment, barrier classification, and scenario-based financial modelling. The research object is Kazakhstan's endowment fund sector, while its subject is the barriers to ESG integration and mechanisms for overcoming them.

The information base includes Kazakhstan's legislation, official government materials, Kazakhstan Stock Exchange (KASE) publications, international studies, methodological documents, and publicly available information on university endowments. The regulatory framework was analysed as of October 1, 2026, distinguishing effective provisions from adopted amendments not yet in force. Key sources include Law No. 199-VIII of June 30, 2025, Resolution No. 44 of August 28, 2025, and Law No. 352-VIII of July 23, 2026. The theoretical framework draws on research concerning ESG and financial performance (Friede et al., 2015; Pástor et al., 2021), responsible investment in university endowments (Aragon et al., 2025), and ESG information reliability (Amel-Zadeh & Serafeim, 2018; Berg et al., 2022; OECD, 2025). International approaches were adapted to Kazakhstan's regulatory context.

The first stage involved documentary and comparative legal analysis of investment declarations, permitted instruments, professional asset management, diversification, investment income allocation, administrative expenses, and disclosure requirements. Mandatory legal provisions were distinguished from additional ESG management procedures.

The second stage focused on institutional analysis and classified barriers into regulatory, financial, and organisational-managerial categories. Particular attention was paid to governance responsibilities, professional competencies, ESG data quality, conflicts of interest, and monitoring costs. The qualitative classification provided a basis for identifying potential solutions.

The third stage examined publicly documented institutional examples: KBTU Endowment (Almaty), MNU Endowment (Astana), and the STU Endowment Fund initiative at Abylkas Saginov Karaganda Technical University. The comparison considered announced programs, organisational development, and information availability. These examples were selected based on accessible official sources and do not constitute a representative sample. Actual returns, asset values, and ESG maturity were not assessed.

The fourth stage employed scenario-based financial modelling to evaluate administrative budget constraints under different capital levels and investment outcomes. Three hypothetical endowment sizes were considered: KZT 50 million, 100 million, and 500 million. Based on Article 24 of Law No. 199-VIII, two scenarios were modelled: positive and negative annual investment income.

Under the positive-income scenario, the estimated maximum administrative and management expenditure is calculated as follows:

$$B_+ = 0,15yA,$$

where (B_+) is the estimated limit of administrative and managerial expenses; (A) is the conditional amount of capital; (y) is the share of the received investment income relative to the capital assumed in the model at the level of 10%.

For the scenario of a negative annual investment income indicator, the expression is used:

$$B_- = 0,005NAV$$

here B_- is the estimated cost limit in the corresponding scenario; NAV is the average net asset value of the fund, conventionally assumed to be equal to the capital under consideration.

Additionally, we assessed the possibility of covering fixed organisational costs for implementing ESG procedures. The notional cost of the corresponding package, including document preparation, analytical support, and control, is assumed to be 1.20 million tenge. The balance of the estimated administrative budget was determined as ($R=B-F$), where (B) is the corresponding estimated cost limit, and (F) is the cost of the organisational package. The values obtained characterise the financial adequacy of ESG procedures under the given assumptions and are not actual expenses or regulatory requirements for the minimum size of the fund.

To assess the preservation of the purchasing power of capital, a simplified model was used that takes into account investment returns, expenses, payments, and inflation.:

$$g = \frac{1+r-c-d}{1+\pi} - 1,$$

where (g) is the change in the real cost of capital; (r) - gross investment return; (c) - expenses; (d) - payments under targeted programs; π - inflation. All indicators are expressed in shares of the initial capital for one period. The model assumes that there are no additional contributions or other changes in the value of assets.

In the final stage, the authors conducted an analytical synthesis of the results, based on which they proposed a conceptual model of the relationship between constraints, the sequence of integrating ESG factors into investment management, and a system of control indicators. Methodological limitations are associated with the lack of a single comparable database of financial indicators and investment portfolios of Kazakhstani endowment funds. The study does not include surveys, interviews, or an econometric assessment of causal effects. Scenario calculations are illustrative and do not represent a forecast of the activities of existing funds.

Results. The analysis of Kazakhstan's regulatory framework, sustainable finance infrastructure, and endowment fund practices revealed interconnected barriers to ESG investment. Although legislation lays the foundation for responsible investment, implementation depends on the legal permissibility of financial instruments, fund resources, management quality, and access to reliable ESG information.

Three main groups of constraints were identified: regulatory, financial and economic, and organisational and managerial. Their interactions were examined through legal analysis, scenario-based ESG implementation cost assessments, and comparisons of publicly documented institutional examples.

The institutional foundations of ESG investment in Kazakhstan are shaped by two parallel developments: specialised regulation of endowment capital and expansion of sustainable finance infrastructure.

Law No. 199-VIII of June 30, 2025, established a dedicated legal framework for endowment funds. According to the Ministry of Science and Higher Education of Kazakhstan (2025), 22 endowment funds operated in the country at the time of its adoption, many relying primarily on charitable financing rather than systematic investment income generation.

Simultaneously, the Kazakhstan Stock Exchange (KASE) expanded its sustainable finance infrastructure through the ESG Data Platform and sustainable bond market, improving access to issuer information and potential ESG-compliant instruments. Table 1 summarises the key institutional developments and indicators for the period examined.

Table 1 — Institutional prerequisites for the development of ESG investment of endowment funds in Kazakhstan

Date or period	An institutional event or indicator	Importance for the development of ESG investment
June 9th, 2025	Launch of the KASE ESG Data Platform	Expanding information support for sustainable investment



June 30, 2025	22 active endowment funds according to the Ministry of Science and Higher Education of the Republic of Kazakhstan	Characteristics of the institutional scale of the sector at the date of publication
June 30, 2025	Adoption of the Law of the Republic of Kazakhstan No. 199-VIII	Creation of a special legal framework for the management of endowment capital
August 31, 2025	The enactment of the Decree of the Russian Federation No. 44	Regulation of acceptable financial instruments and asset management
2025	11 new ESG issues on KASE	Expansion of the range of sustainable financing instruments
June 1, 2026	1.3 trillion tenge of funds raised in the segment of ESG bonds	Characteristics of the scale of attracted sustainable financing
June 1, 2026	1.47 trillion tenge of total ESG bonds	An indicator of the total volume of relevant instruments
July 23, 2026	Adoption of the Law of the Republic of Kazakhstan No. 352-VIII	Formation of prerequisites for further development of joint management mechanisms
Note – compiled based on data from the Ministry of Science and Higher Education of the Republic of Kazakhstan (2025), the Russian Academy of Sciences (2025), KASE (2025, 2026) and the legislation of the Republic of Kazakhstan (2025, 2026).		

Table 1 shows the steady development of an institutional environment for responsible investment. However, the indicators cover different aspects of financial system development and cannot be treated as a single statistical series. In particular, the volume of funds raised (1.3 trillion tenge) and the total volume of ESG bonds (1.47 trillion tenge) reflect different market characteristics. Their comparison does not allow us to estimate the growth rate of investment assets of endowment funds or determine the share of endowment capital in sustainable financing.

Similarly, an increase in the number of ESG issues does not confirm that the relevant financial instruments have sufficient liquidity. For an endowment fund, the practical possibility of purchasing bonds depends not only on their availability in the organised market, but also on compliance with the investment declaration, admission conditions, credit quality, price, maturity, and expected payment schedule. Consequently, sustainable financing creates the necessary market prerequisites but does not eliminate the specific limitations of the funds' investment activities.

The gap between the institutional accessibility of ESG tools and their potential use underscores the need for more detailed consideration of national regulation. Unlike conventional investment organisations, endowment funds manage assets under a special legal regime that sets out requirements for preserving endowment capital, investment permissibility, and the management and use of income.

The comparative legal analysis established that the current regulatory framework does not provide a universal ban on using ESG criteria. However, the inclusion of relevant factors in the investment process does not exempt the fund from complying with the established requirements for financial instruments and asset management. Table 2 presents the most significant conditions and their organisational consequences.

Table 2 — Regulatory and legal conditions and organisational mechanisms for integrating ESG into endowment fund management

Regulatory condition	Content of the requirement	Proposed ESG integration mechanism
Investment Declaration (Law No. 199-VIII)	Defining investment goals and constraints	Consolidation of essential ESG factors and asset selection criteria
Professional Asset Management (ARRF, 2025)	Transfer of financial assets to the management company when exceeding the established threshold of 10,000 MCI	Inclusion of ESG analysis and reporting requirements in the management contract
Permissible financial instruments (Resolution No. 44)	Establishment of a list of tools and conditions for their admission	Verification of legal admissibility before evaluating ESG characteristics
Concentration restrictions (Resolution No. 44)	The limit is 30% of the net asset value for the specified category of instruments of one person and affiliated persons, with the specified exceptions.	Control of the concentration of investment risks and the interconnectedness of counterparties
Administrative and management expenses (Article 24 of Law No. 199-VIII)	Limiting expenses based on investment income or average net asset value	Matching the cost of ESG procedures with the financial capabilities of the fund
Audit and disclosure of information (Article 16 of Law No. 199-VIII)	Financial audit and publication of required reports	Supplementing investment reporting with verifiable information about ESG procedures
Foreign financial assets (Article 33 of Law No. 199-VIII)	The possibility of investing in compliance with the conditions established by law	Consideration of currency risks, quality of disclosure, and international ESG approaches
Note – compiled in accordance with the legislation of the Republic of Kazakhstan (2025) and the materials of the RFBR (2025).		

Table 2 highlights a key challenge of ESG integration: legal permissibility is necessary but insufficient for including financial instruments in endowment portfolios. ESG-oriented assets must also comply with national regulations and investment declaration requirements.

Credit and ESG ratings serve different purposes. Credit ratings assess issuers' ability to meet financial obligations, while ESG ratings evaluate environmental, social, and governance characteristics. These indicators are not interchangeable, and creditworthiness alone does not establish ESG compliance. Consistent with Berg et al. (2022), this distinction requires procedures for verifying legal eligibility, financial characteristics, and material ESG factors.

Effective implementation also depends on clearly allocating responsibilities between fund governing bodies and professional asset managers. Funds must define investment objectives, risk limits, ESG criteria, and reporting requirements, while management companies implement the approved policies. Without clear mandates, accountability, and monitoring procedures, ESG integration remains limited despite the availability of eligible instruments.

Financial capacity represents another significant constraint. ESG implementation

requires expenditure on data analysis, documentation, staff training, asset management coordination, and investment monitoring. Since some costs are relatively fixed, their financial burden varies with endowment size.

Scenario modelling considered three hypothetical capital levels: KZT 50 million, 100 million, and 500 million. The positive-income scenario assumed a 10% investment return and a 15% expenditure limit applied to investment income. Under negative annual investment income, the limit was calculated as 0.5% of average net asset value. The hypothetical additional ESG implementation package cost was set at KZT 1.20 million. Table 3 presents the results.

Table 3 — Scenario assessment of the dependence of the administrative budget of ESG integration on the size of the target capital, million tenge

Indicator	Scenario A	Scenario B	Scenario B
Conditional capital / average income	50,00	100,00	500,00
Received investment income (10% of capital)	5,00	10,00	50,00
Estimated cost limit (15% of income)	0,75	1,50	7,50
Estimated limit at a negative annual rate (0.5% of the average cost)	0,25	0,50	2,50
Notional cost of the ESG package	1,20	1,20	1,20
The remainder is in a positive scenario	-0,45	0,30	6,30
The remainder is in a negative scenario	-0,95	-0,70	1,30
Note – the author's calculations are based on Article 24 of the Law of the Republic of Kazakhstan No. 199-VIII. The amount of capital, investment income, and cost of the ESG package are conditional parameters of the model.			

The scenario results in Table 3 demonstrate that the financial feasibility of ESG integration depends substantially on endowment size. With capital of KZT 50 million, the administrative expenditure limit under the positive-income scenario is KZT 0.75 million, creating a shortfall of KZT 0.45 million against the assumed ESG implementation cost of KZT 1.20 million. At KZT 100 million, the limit increases to KZT 1.50 million, leaving only KZT 0.30 million for other administrative needs. For a KZT 500 million fund, the limit reaches KZT 7.50 million, with KZT 6.30 million remaining after ESG implementation.

Under the negative-income scenario, constraints become more pronounced. The expenditure limits for funds with KZT 50 million and KZT 100 million are KZT 0.25 million and KZT 0.50 million, respectively, insufficient to finance the assumed ESG package. At KZT 500 million, the limit reaches KZT 2.50 million, leaving KZT 1.30 million.

These findings illustrate potential economies of scale, as relatively fixed ESG implementation costs impose greater burdens on smaller funds. However, these results are hypothetical and do not represent empirically measured characteristics of Kazakhstan's endowment sector.

The estimated minimum capital required to cover the KZT 1.20 million ESG package is KZT 80 million under the positive-income scenario, assuming a 10% investment return, and KZT 240 million under the negative-income scenario. These thresholds are model-based estimates rather than statutory minimum capital

requirements. They exclude other administrative expenses and do not establish the legal eligibility of individual ESG expenditures.

Long-term capital preservation represents another economic constraint. Positive nominal returns may be insufficient to maintain purchasing power after inflation, investment expenses, and program distributions. Under the assumed 12% gross return, 1% investment costs, 5% program payments, and 8% inflation, nominal capital increases by 6%, while its real value declines by approximately 1.85%.

Consequently, assess ESG integration not only through implementation costs but also through its implications for long-term capital preservation, portfolio liquidity, investment risks, and funding obligations. Potential ESG-related risk reductions should be evaluated alongside these financial considerations.

Finally, regulatory compliance and sufficient financial resources alone cannot ensure effective ESG implementation. Unclear investment mandates, limited professional expertise, and insufficient ESG information may restrict adoption. Table 4 systematises the resulting organisational and managerial barriers.

Table 4 — Organisational and managerial barriers to the transition of endowment funds to ESG investment and mechanisms for overcoming them

A potential barrier	The mechanism of the restriction	Proposed coping measure
Uncertainty of the ESG mandate	Lack of agreed sustainability criteria and investment goals	Consolidation of ESG provisions in the investment declaration and management agreement
Lack of professional competencies	Limited ability to assess financial and non-financial risks	Allocation of functions, training of specialists and involvement of external experts
Incomplete ESG information	Insufficient disclosure of environmental, social and management indicators by issuers	Creating a register of sources, checking for relevance and fixing information gaps
Divergence of ESG ratings	Methodological differences between external assessment systems	Comparison of primary indicators and analysis of significant discrepancies
Conflict of interest	Possible influence of donors or related parties on investment decisions	Disclosure of interest and documentation of independent review of transactions
Limited administrative budget	High relative cost of additional procedures for small funds	Phased implementation of ESG with a preliminary cost estimate
Liquidity and currency fluctuation risks	Non-compliance of asset characteristics with the program financing schedule	Cash flow planning and scenario assessment of investment risks
Mixing charitable and investment performance	Using social outcomes of programs as evidence of portfolio sustainability	Separate reporting on charitable activities and ESG investments
Note – developed by the author based on an analytical synthesis of studies by Amel-Zadeh and Serafeim (2018), Berg et al. (2022), Aragon et al. (2025) and international approaches to responsible investing (CFA Institute et al., 2023).		

Table 4 shows that organisational barriers differ in origin and managerial controllability. Internal constraints can be addressed through clearer investment

policies, responsibility allocation, and management procedures, while external barriers depend on ESG data availability, market conditions, and the cost of specialised services.

A major challenge is the absence of a clearly defined ESG mandate. Ambiguous sustainability objectives allow asset managers to apply inconsistent assessment criteria, potentially conflicting with fund priorities and stakeholder expectations. Consequently, formal ESG policies do not necessarily ensure consistent implementation.

Limited professional expertise and analytical information represent another significant barrier. Effective ESG assessment requires interpreting financially material risks beyond external ratings. Environmental factors may influence capital expenditure and regulatory costs, social factors affect workforce stability and reputation, while governance factors determine internal control quality and investor protection. Therefore, ESG assessment should reflect industry-specific risks and the characteristics of individual financial instruments rather than relying on universal indicators.

Potential conflicts of interest involving major donors also require attention. Donation conditions should not automatically influence investment decisions favouring donor-related assets. Separating fundraising, investment management, and compliance monitoring strengthens transparency and accountability.

These barriers are mutually reinforcing. Limited ESG information increases dependence on costly external expertise, while budget constraints restrict professional recruitment and data verification. Unclear governance responsibilities further amplify these difficulties, weakening investment decision quality.

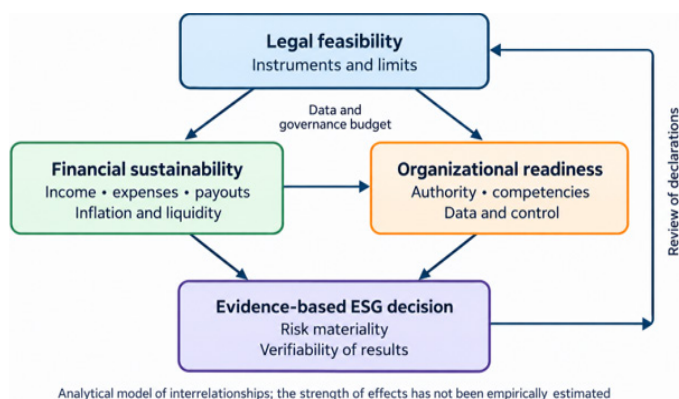


Figure 1 — Conceptual interrelation of regulatory, financial, economic, organisational, and managerial constraints of ESG investment of endowment funds

Note – developed by the author. The conceptual framework reflects the intended relationships between the groups of constraints; no quantitative assessment of the causal effects has been conducted.

Figure 1 presents a conceptual model of ESG investment implementation based on three interconnected conditions: regulatory requirements that define permissible investments, financial resources that enable ESG procedures, and organisational mechanisms that translate sustainability objectives into investment decisions.

The model emphasises that these constraints are interdependent. Access to sustainable financial instruments does not ensure ESG adoption without adequate expertise and resources, while effective governance cannot overcome legal restrictions or insufficient asset liquidity.

To assess institutional differences, we examined publicly available information on endowment funds in Almaty, Astana, and the Karaganda region. These examples reflect different organisational stages and approaches to endowment management.

In Almaty, KBTU Endowment supports educational, scientific, and social initiatives. In Astana, MNU Endowment focuses on education, research, inclusion, and student support. In the Karaganda region, Abylkas Saginov Karaganda Technical University has undertaken preparations to register the STU Endowment Fund and develop management competencies. Table 5 compares their institutional characteristics.

Table 5 — Comparative characteristics of the institutional conditions of the ESG transition:
Almaty, Astana and Karaganda region

Territory	A publicly presented institutional example	The potential task of the ESG transition	Priority of management improvement
Almaty	KBTU Endowment: support for education, science, culture and environmental initiatives	Alignment of the fund's public goals with the criteria for selecting investment assets	Development of the ESG mandate and disclosure of investment management principles
Astana	MNU Endowment: Research grants, inclusive programs, and student support	Distinguishing between the social performance of programs and the ESG characteristics of an investment portfolio	Formation of separate indicators of charitable and investment reporting
Karaganda region	STU Endowment Fund: information about the preparation, registration and training of a specialist published on May 8, 2026	Inclusion of investment and ESG procedures at the stage of institutional formation	Preliminary development of the declaration, allocation of powers and budget planning
Note – compiled according to the official materials of KBTU Endowment (b. G.), Maqсут Narikbayev University (b. G.) and Karaganda Technical University named after Abylkas Saginov (2026).			

Table 5 reveals differences in organisational priorities for ESG integration. For established endowments, the main challenge is aligning charitable objectives with investment policies. However, financing educational and social programs does not necessarily indicate the application of ESG criteria to investment portfolios.

For KBTU Endowment, a priority is incorporating financially material ESG factors into the investment declaration and establishing assessment procedures.

Evaluating actual implementation requires additional information on portfolio composition, asset management responsibilities, and investment criteria.

For MNU Endowment, distinguishing the social outcomes of funded programs from ESG investment practices is essential. Separate reporting on program impacts and investment management procedures could improve transparency without confusing charitable activities with responsible investment.

The STU Endowment Fund initiative in the Karaganda region illustrates opportunities to incorporate ESG requirements during institutional formation, including governance responsibilities, asset manager selection, and administrative cost planning. However, publicly available information on registration preparations does not establish that registration was completed or investment operations commenced.

Thus, regional differences reflect organisational conditions rather than actual ESG performance. The absence of comparable data on net asset values, returns, portfolio structures, and ESG indicators prevents quantitative rankings. Moreover, a fund's location does not determine its investment geography. ESG risk assessments should therefore focus on issuer characteristics, portfolio composition, and investment strategy rather than regional affiliation.

The findings demonstrate the need for clearly allocated management responsibilities, control procedures, and indicators measuring actual ESG implementation. Accordingly, this paper proposes a phased integration model. First, investment instruments undergo legal eligibility checks and ESG mandate approval. Second, their financial characteristics and material ESG risks are assessed. Third, investment decisions are made within established authority. Finally, continuous portfolio monitoring, compliance verification, and periodic information updates ensure consistent implementation.

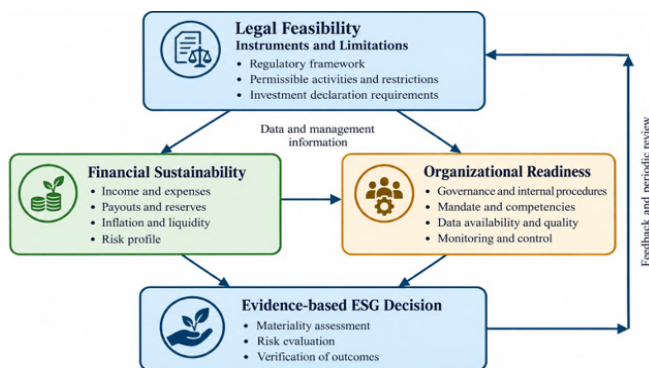


Figure 2 — Proposed organisational mechanism for integrating ESG factors into endowment fund investment asset management

Note – developed by the author. The scheme reflects the proposed distribution of functions of investment analysis, decision-making and control. The specific powers of the participants are established by the legislation, internal documents of the foundation and the management agreement.

The proposed scheme, shown in Figure 2, provides for a functional differentiation of strategic management, professional investment analysis and control. The fund's management bodies set investment goals and limits, a professional manager conducts analysis and operations within the mandate, and control mechanisms ensure the established conditions are met. Information about changes in the financial and ESG characteristics of assets should be used to review relevant investment assumptions.

One advantage of the proposed approach is the ability to implement ESG procedures consistently without simultaneously creating a complex system of non-financial reporting. At the initial stage, the fund may limit itself to a small list of financially significant factors and a minimum set of supporting documents. As competencies develop and the scale of investment activity increases, the list of analysed indicators may expand.

To assess implementation of the ESG mandate, a benchmark system has been proposed, covering the quality of information support, documentation of investment decisions, administrative costs, financial stability, and verification of the characteristics of sustainable financial instruments. The corresponding indicators are presented in Table 6.

Table 6 — Proposed system of indicators for monitoring ESG investment of endowment funds in Kazakhstan

Indicator	Calculation or verification method	Analytical purpose
Covering the investment portfolio with ESG data	The value of assets with up-to-date ESG data / the value of assets in the established perimeter $\times 100\%$	Assessment of the availability and completeness of information
Documenting investment decisions	Number of decisions with justification of significant ESG factors / total number of decisions to be verified $\times 100\%$	Monitoring the application of ESG procedures
Compliance with the investment mandate	The number of identified deviations, their nature and the timing of elimination	Assessment of compliance with established restrictions
The cost of ESG procedures	Total expenses for analytical support, data and control	Assessment of financial adequacy of implementation
Change in the real cost of capital.	Capital changes after expenses and payments, adjusted for inflation and separate accounting for new income	Monitoring the long-term preservation of purchasing power
Liquidity provision	Available funds and expected receipts regarding upcoming obligations	Assessment of the ability to finance targeted programs
Verification of stable financial instruments	Availability and relevance of reports on the use of funds, target results and external verification	Confirmation of the characteristics of ESG tools
<i>Note – developed by the author taking into account the IFRS Foundation (2023), ICMA (2025) and CFA Institute et al. (2023).</i>		

The indicator system in Table 6 aims to improve ESG investment transparency and prevent formal compliance. Unlike approaches relying on aggregate ESG

ratings, it evaluates investment procedures and their consistency with the fund's financial capacity.

Particular importance is attached to ESG data coverage and investment decision documentation. These indicators distinguish between insufficient information and its ineffective application in investment management. Financial indicators should be assessed separately from ESG characteristics, since sustainable investments do not necessarily improve liquidity, reduce costs, or preserve real capital value. Accordingly, ESG implementation requires evaluating both management quality and long-term financial sustainability. Verification of green, social, and other ESG bonds should consider the use of proceeds, supporting documentation, disclosure practices, and external assessments. However, sustainability verification does not replace conventional financial analysis or eliminate credit, currency, and market risks.

Overall, the findings demonstrate that ESG integration in Kazakhstan's endowment funds depends on three interconnected conditions: regulatory compliance, financial capacity, and organisational readiness. The proposed analytical model explains their interaction and identifies mechanisms for overcoming implementation barriers.

Scenario modelling illustrates potential economies of scale in ESG implementation costs, institutional comparisons reveal differences in management priorities, and the proposed indicators establish a framework for monitoring investment procedures.

Nevertheless, these findings do not quantify ESG adoption across Kazakhstan's endowment sector. Empirical verification requires comparable data on fund assets, portfolio composition, investment returns, administrative expenses, and ESG practices. Thus, the study establishes a methodological foundation for further empirical research.

Discussion. The findings demonstrate that ESG integration in Kazakhstan's endowment funds is a complex institutional process requiring more than regulatory frameworks and sustainable financial instruments. Effective implementation depends on the coordination of legal requirements, financial capacity, and organisational readiness. Thus, formal institutional development does not necessarily ensure practical adoption of responsible investment strategies.

These findings align with Hart and Zingales (2017), who emphasise investor preferences beyond financial returns, and Amel-Zadeh and Serafeim (2018), who identify diverse motivations for using ESG information. For Kazakhstan's endowments, responsible investment must reconcile capital preservation, institutional objectives, stakeholder interests, and donor-related obligations.

Regulatory analysis indicates that the primary challenge lies in translating existing legal requirements into investment selection criteria, risk controls, and governance procedures rather than obtaining specific ESG investment permissions. This corresponds with PRI and UNEP FI (2019), which consider financially material ESG factors essential to long-term risk management. However, international

principles must be adapted to Kazakhstan's legislation and institutional governance structures.

The economic findings complement Friede et al. (2015), who identified predominantly positive or neutral relationships between ESG characteristics and financial performance, and Pástor et al. (2021), who demonstrated that sustainable investment preferences influence asset valuations and expected returns. Consequently, ESG instruments should be assessed against conventional financial criteria rather than presumed superior performance.

Aragon et al. (2025) found that responsible investment policies in university endowments may attract donations and stakeholder interest but increase management costs and return volatility. The present study extends this discussion by illustrating potential economies of scale in ESG implementation. Under the model assumptions, KZT 50 million in capital provides insufficient administrative resources for the proposed ESG package, while KZT 500 million allows greater financial flexibility. These findings represent hypothetical relationships rather than observed sector-wide costs.

Long-term capital preservation constitutes another essential consideration. Scenario modelling demonstrates that positive nominal returns may coexist with declining real capital value after inflation, expenses, and program distributions. Consistent with Arnold et al. (2024), this highlights the need to evaluate ESG characteristics alongside portfolio profitability, liquidity, currency exposure, and long-term funding obligations.

ESG information reliability remains a major organisational constraint. Berg et al. (2022) and OECD (2025) documented substantial methodological differences among ESG ratings. Dependence on external asset managers and data providers further reinforces the importance of verifying information sources, assessing financially material issuer characteristics, and documenting investment decisions.

Effective ESG governance also requires separating the responsibilities of fund governing bodies and professional asset managers. While external management provides specialised expertise, funds must independently establish investment objectives, acceptable risks, sustainability criteria, and reporting requirements. Clear mandates and internal controls are necessary to ensure consistent implementation.

Institutional comparisons involving Almaty, Astana, and the Karaganda region revealed differences in management priorities across organisational development stages. Established endowments must distinguish charitable program outcomes from ESG investment practices, while emerging funds should prioritise investment declarations, governance responsibilities, and cost planning. However, the selected examples are not representative and cannot establish regional differences in ESG effectiveness.

The proposed monitoring framework integrates ESG data coverage, investment decision documentation, mandate compliance, administrative costs, and real capital preservation. Consistent with IFRS Foundation (2023), investment procedures,

financial performance, and social outcomes should be assessed separately to avoid confusing charitable impact with portfolio sustainability.

The study's scientific contribution is an integrated analytical model linking regulatory, financial, and organisational constraints on ESG adoption. Unlike approaches focused primarily on sustainable asset returns, the model explains implementation through the interaction of legal eligibility, resource availability, and governance capacity.

Practical recommendations should reflect endowment size and institutional maturity. Smaller funds may gradually introduce financially material ESG criteria, standardised verification procedures, and simplified reporting. Larger endowments can adopt specialised monitoring, sector-specific analysis, and enhanced asset manager requirements.

The main limitations concern the absence of comparable sector-wide data on assets, investment returns, portfolio composition, and ESG practices. Scenario calculations are hypothetical, while institutional comparisons rely on publicly available information. Further research should examine internal investment documents, interview fund managers, and empirically assess relationships between ESG implementation costs, governance quality, and financial sustainability.

Overall, ESG integration in Kazakhstan's endowment funds should be approached as a coordinated institutional and investment transformation that ensures regulatory compliance, financial sustainability, and transparent decision-making.

Conclusion. The study identified and systematised the regulatory, financial, economic, organisational, and managerial barriers to ESG investment in Kazakhstan's endowment funds. The findings demonstrate that legislative development and sustainable finance infrastructure create necessary institutional conditions but do not guarantee ESG implementation, which requires coordinated regulation, financial resources, and effective governance.

The regulatory analysis conducted as of October 1, 2026, revealed no general prohibition on applying ESG criteria to endowment investments. However, their integration must comply with requirements concerning eligible instruments, diversification, professional management, administrative expenses, and disclosure. Incorporating financially material ESG factors into investment declarations and decision-making procedures is therefore essential.

Scenario modelling demonstrated the importance of endowment size. Assuming ESG implementation costs of KZT 1.20 million and investment income equal to 10% of capital, the estimated minimum capital required to cover these costs is KZT 80 million. Under the negative-income scenario, the corresponding threshold reaches KZT 240 million. These hypothetical estimates illustrate potential economies of scale but do not represent statutory capital requirements or actual sector-wide expenses.

The results also highlight the importance of preserving real capital value. Positive nominal returns may be insufficient after inflation, investment costs, and

program distributions, requiring ESG integration to be coordinated with portfolio profitability, liquidity, and risk management.

Institutional comparisons involving Almaty, Astana, and the Karaganda region revealed different organisational priorities. Established endowments should distinguish charitable outcomes from portfolio ESG characteristics, while emerging funds should prioritise investment mandates, governance responsibilities, and administrative planning. Limited comparable data prevent conclusions about regional ESG performance.

The study's scientific contribution is an integrated analytical model linking investment eligibility, financial capacity, and organisational readiness. Its practical application includes improving investment declarations, establishing asset manager requirements, planning ESG assessment costs, documenting decisions, and monitoring financial sustainability.

The main limitations arise from insufficient comparable data on endowment assets, investment returns, administrative expenses, and ESG practices. Scenario estimates and publicly documented institutional examples require further empirical validation through primary data collection, portfolio analysis, and examination of management practices.

Overall, effective ESG integration requires more than formal sustainability commitments. It demands a coherent investment management system ensuring regulatory compliance, capital preservation, transparent decision-making, and sustainable long-term financing of socially significant programs.

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