

ESG transformation in the corporate sector of Central Asia: challenges and opportunities

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Introduction

In recent years, one of the major trends in both the public and private sectors has been an increased attention to the concept of ESG, which stands for environmental, social, and governance factors that an organization considers, employs, and evaluates in order to promote sustainable development (Bergman, et al. 2020). The primary forces boosting interest in the ESG agenda are the four following significant global transformations:

1. Decarbonization. The issue of global warming has gained remarkable international prominence. According to a report from the United Nations Framework Convention on Climate Change (UNFCCC), the climate policies of the nations that ratified the Paris Agreement in 2015 will lead to an increase in global temperature of about 2.5°C by the end of 2100¹. If the current dynamics of CO₂ emissions persist, the lives of a large number of people, regardless of country, will be put in peril due to climate change in the coming decades (Enerdata S.A.S 2022).

2. Demographic changes. An alarming trend that has emerged in the last 20 years is the demographic aging of the population. According to preliminary

1 Source: UNFCCC. 2022. "Climate Plans Remain Insufficient: More Ambitious Action Needed Now." Posted October 26, 2022. <https://unfccc.int/news/climate-plans-remain-insufficient-more-ambitious-action-needed-now>

projections, about 50% of the world's population will be over 60 years of age by 2100 (United Nations, Department of Economic and Social Affairs, Population Division 2022, 3). The forced migration of the population also attracts attention. Every year, about 14 million people are forced to change their place of residence due to natural or environmental disasters, extreme political events, etc.

3. Transformation of financial markets. Financial flows are redistributed in favor of businesses that are actively implementing ESG business transformation as a result of pressure from society, regulators, investors, shareholders, and creditors. The amount of assets managed by ESG-focused funds globally exceeded \$100 trillion, which is five times the annual GDP of the US economy. The Climate Bonds Initiative states that "the amount of bonds issued in 2021 with the purpose of encouraging investments in ESG projects reached a new world record, totaling over \$700 billion and nearly doubling the total of \$358 billion in 2019" (Climate Bonds Initiative 2021).

4. Technological revolution. It is important to emphasize the active digitalization of the economy, as well as the move to smart, resource-saving, and environmentally friendly technologies in the fundamental economic sectors of energy, transport, construction, and agriculture (Bobylev 2021). Low-carbon emitting technologies (LCET), alternative energy sources, green building, geo-environmental monitoring, electric transportation, AI for good, and carbon removal technologies are some examples of such green technologies. In the field of artificial intelligence alone, over fifty solutions to combat climate change have emerged in recent years.

A further reason for the relevance of the agenda is that ESG principles are founded on the moral tenets of society, and failure to uphold these tenets would result in individuals or entire corporations being subjected to public condemnation and ostracization. As an example, one can consider social norms that prohibit the funding of businesses that encourage "vice" (investing in "sin stocks" ²). Compared to the shares of traditional businesses, the shares of such companies receive less analyst coverage. Due to the public nature of their investments and

² "Sin stocks" are shares of companies that engage in activities involving alcohol, tobacco, gambling, adult entertainment, or weapons.

the influence of social norms, institutions such as pension funds, universities, religious organizations, and banks make efforts to avoid working with "unethical" companies. At the same time, "sin stocks" offer higher returns due to a higher exposure to risk, incl. the risk of legal action (Hong and Kacperczyk 2009).

In our post-industrial era, society requires from the corporate sector not only the production of goods, the provision of services and a contribution to GDP, but also the solution of the most complex environmental, political, moral, racial, gender and social problems. According to the CDP, climate-related weather events will have cost companies \$1.3 trillion by 2026 (CDP 2021). At the same time, placing the UN Sustainable Development Goals (SDGs)—the leading ESG framework for large companies—at the center of the global economic strategy could potentially open opportunities worth \$12 trillion annually, and generate 380 million jobs (Business & Sustainable Development Commission 2017).

Therefore, as indicated by UN reports, it is imperative to limit global warming by achieving carbon neutrality in order to prevent irreparable harm to the planet's ecosystem (Guterres 2020). This implies coordinated daily changes within companies: in value chains, technologies, management processes; as well as an active involvement of national governments and international organizations. So far, over 380 companies from 33 countries have become members of the Climate Pledge, a pact to achieve the goal of the Paris Agreement of reaching net zero carbon emissions 10 years earlier, i.e. by 2040³. However, many countries and organizations are just starting to join the ESG agenda. For the most part, the largest corporations in the Central Asian countries are on the way to realizing their responsibility for preserving the environment, solving socio-economic problems, improving the quality of life of local communities, respecting human rights, fighting corruption, and a few other issues socially recognized as important. However, the ESG agenda is gradually becoming a new business philosophy, in accordance with which companies focus their activities not only on making profit, but also on achieving the public good and environmental sustainability.

3 Source: Climate Pledge. n.d. "384 Signatories." Accessed January 10, 2023. <https://www.theclimatepledge.com/us/en/Signatories>

The purpose of this article is to study the practice of sustainable development and ESG in the corporate sector of Central Asian countries. For this purpose, the following objectives were set:

1. Consider and systematize the key regional problems of Central Asian countries in the field of sustainable development, draw up ESG-profiles of the countries.
2. Conduct a study of annual reports and/or reports in the field of sustainable development of the largest international companies.
3. Analyze, characterize, and compare with the best international practices the corporate ESG agenda in Central Asia, incl. in financial institutions.
4. Offer recommendations for corporate ESG transformation.

The article applies methods of analysis and synthesis, generalization, comparison and systematization of information from various sources. The methodology of the study is based on UN reports, ISO standards, materials from PwC, KPMG, the World Bank, works of C.N. Bobylev, H. Hong, M. Kacperczyk, M.J. Wolf, J.W. Emerson, D.C. Esty, etc.

ESG agenda in Central Asia

The relatively concurrent distribution of this subject in various parts of the world stands out as one of the distinctive characteristics of the ESG concept. This is due to the fact that the issues are universal in scope and require a collective global response, as well as the willingness of governments and businesses to work with foreign investors, uphold financial stability, and maintain transparency.

By creating regulations and working toward the Sustainable Development Goals, many nations are currently attempting to shape the path leading to "sustainable transformation". The Central Asian nations—Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan, and Tajikistan — do not lag in this regard.

According to the ESG index 2021 from the Global Risk Profile (GRP), which includes three sub-indexes (environment, human rights, health, and safety) and covers 179 countries and territories, Kazakhstan is ranked 51st, Kyrgyzstan—70th, Uzbekistan—75th, Turkmenistan—84th, and Tajikistan—109th (Global Risk Profile 2022). According to Sustainable Development Report 2022, Kyrgyzstan ranks 48th

out of 193 countries in the ranking of achieving the Sustainable Development Goals, Kazakhstan – 65th, Uzbekistan – 77th, Tajikistan – 78th, Turkmenistan – 99th (Sachs, et al. 2022).

The five nations of Central Asia all adhere to the global initiative to fulfill the UN SDGs, incl. through the publication of voluntary national reviews on the implementation of the 2030 Agenda. Tajikistan⁴ presented its review in 2017, followed by Kazakhstan⁵ and Turkmenistan⁶ in 2019, and Uzbekistan and Kyrgyzstan⁷ in 2020. A second review was released by Kazakhstan in July 2022⁸. It is noteworthy that during the creation of this report, voting among the populace took place during workshops to identify priority areas for the implementation of the SDGs in Kazakhstan in 17 regions. As a result, Kazakhstan's top 5 SDGs became SDG 3 "Good health and well-being," SDG 4 "Quality education," SDG 1 "Eradication of poverty," SDG 6 "Clean water and sanitation," and SDG 8 "Decent work and economic growth".

According to the ESCAP "Asia and the Pacific SDG Progress Report 2022: Widening Disparities Amid COVID-19", much progress in Central Asia's efforts to achieve the SDGs was stunted due to the COVID-19 pandemic and geopolitical issues. Forecasts indicate that the region will not have enough time to complete any of the 17 SDGs within the target time frame: "The SDGs are not anticipated to be achieved until 2065, and every year the gap widens" (ESCAP 2022).

4 Ministry of Economic Development and Trade of the Republic of Tajikistan. 2017. *Voluntary National Review "Enhancing well-being through integrating Sustainable Development Goals into national development policies in Tajikistan"*.

5 Ministry of National Economy of the Republic of Kazakhstan. 2019. *Voluntary National Review 2019 "ON THE IMPLEMENTATION OF THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT"*.

6 Turkmen State Publishing Service. *Voluntary National Review of Turkmenistan "Empowering people and ensuring inclusiveness and equality"*. Ashgabat, 2019.

7 The Government of the Kyrgyz Republic. *Voluntary National Review on the Implementation of the Sustainable Development Goals in the Kyrgyz Republic* 2020. Bishkek, 2020.

8 Ministry of National Economy of the Republic of Kazakhstan. 2022. *Voluntary National Review 2022 "on the implementation of the 2030 Agenda for Sustainable Development"*.

Let us consider the gross domestic product (GDP), one of the most significant generalizing indicators of a nation's economic development. In spite of a high level of uncertainty in the global commodity and financial markets, an analysis of GDP growth rates in Central Asian nations from 2017 to 2021 revealed that, aside from a predictable decline in 2020, the indicator is on the rise (Table 1).

Table 1. Comparative dynamics of GDP growth rates in Central Asian countries in 2017–2021 (in % to the previous year)

Year	Central Asian countries				
	Kazakhstan	Kyrgyzstan	Uzbekistan	Turkmenistan	Tajikistan
2017	104.1	104.7	104.4	106.5	107.1
2018	104.1	103.8	105.4	106.2	107.6
2019	104.5	104.6	105.7	106.3	107.4
2020	97.5	91.6	101.9	105.9	104.4
2021	104	103.6	107.4	106.2	109.2

Source: compiled by the authors based on the World Bank

Across the macroregion, there is a positive trend in the decrease in the proportion of people living on less than \$1.90 a day in total employment. Tajikistan saw a 1.9 decrease in this indicator; Uzbekistan and Turkmenistan saw a 1.4 decrease; in Kyrgyzstan the indicator remained practically unchanged; and Kazakhstan saw a regression. At the same time, the majority of people living below the international poverty line are found in Uzbekistan (Table 2).

Table 2. Poor living on less than US\$1.90 a day in full employment in 2017–2021, total 15+ years (% of total employment)

Year	Central Asian countries				
	Kazakhstan	Kyrgyzstan	Uzbekistan	Turkmenistan	Tajikistan
2017	0	0.3	9.3	0.7	2.6
2018	0	0.2	8.5	0.6	2.1
2019	0	0.2	7.5	0.5	1.9
2020	0.1	0.3	7.3	0.5	1.7
2021	0.1	0.3	6.5	0.5	1.4

Source: compiled by the authors according to (The Asia-Pacific SDG Gateway n.d.)

According to the official statistics of the Central Asian nations, there are over 2 million people who are officially unemployed in the region, with the unemployment rate ranging from 2.3% in Tajikistan to 9.3% in Uzbekistan. Additionally, expert estimates indicate that the region's unemployment situation is worsening, with a share of the unemployed reaching 60% in rural areas and about 15% in large cities (Timofeev, Mahmutov and Haspekova 2020, 335). Despite the high unemployment rate, most of the countries in the region suffer from a lack of qualified workers, which is a result of the population's low educational attainment. The shadow economy is very prevalent in Central Asia. For instance, the share of the shadow economy in GDP in Uzbekistan, which leads the macroregion in this indicator, is higher than 50% (KUN.UZ 2021). Energy supply issues, underdeveloped transportation networks, housing and community infrastructure issues are just a few of the problems that plague many of the countries under consideration. Examples include the 2018 accident at the Thermal Power Station in Bishkek and the 2007–2008 winter energy crisis in Tajikistan.

Special attention should be paid to the Dissimilarity Indexes (D-Index)⁹ ESCAP, which were compiled through surveys of indigenous farms in 27 countries across the Asia-Pacific region and measure how different groups—such as women, poorer households, or ethnic minorities—fare in terms of access to a certain opportunity. The results of the indexes for the countries of Central Asia, except for Uzbekistan (not included in the ESCAP sample), are presented in Table 3.

According to open data, Kazakhstan has the lowest inequality in terms of access to opportunities and the fewest barriers among the countries of Central Asia, with Tajikistan having the highest values, even though it should be noted that the values of the indexes are not sufficiently comparable due to differences in analysis periods. Inequality in access to higher education and the Internet are the macroregion's main areas of concern. Comparing the various nations of the Asia-Pacific region, Central Asian nations typically have the best index values. For comparison, the simple average is 0.13 for India and Indonesia; 0.15 for

⁹ The index is a weighted average of the absolute difference of most and least advantaged population groups from the average access rate in the country.

Bangladesh and Philippines; 0.22 for Afghanistan; and 0.27 for Papua New Guinea (based on readily available D-Index data).

Table 3. Central Asian D-Indexes for 15 Opportunities and Barriers, latest year ¹⁰

Sr. No.	Common Name	Scientific name	Family
1	Zebra Blue	<i>Leptotes plinius</i> (Fabricius, 1793)	Lycaenidae
2	Small Salmon Arab,	<i>Colotis amata</i> (Fabricius, 1775)	Pieridae
3	Common Emigrant	<i>Catopsilia pomona</i> (Fabricius, 1775)	Pieridae

Source: compiled by the authors based on (ESCAP 2022, 32)

The ESCAP 2022 report summarizes progress made toward the SDGs and notes that Central Asia is falling short of all of the goals, but that the region is making strides in the areas of good health and well-being (Goal 3), industry, innovation and infrastructure (Goal 9) and peace, justice and strong institutions (Goal 16). However, over the past five years, trends in responsible consumption and production (Goal 12), climate action (Goal 13), and life below water (Goal 14) have all declined (ESCAP 2022).

The Central Asian nations also perform poorly in the Environmental Performance Index, produced by the Yale Center for Environmental Law and Policy based on indicators of climate change mitigation, environmental health and ecosystem health (Figure 1).

Analysis of each indicator separately shows that the main problems for the countries of Central Asia are as follows:

- Uzbekistan, Tajikistan, Kyrgyzstan—the state of the environment, incl. air quality, waste management and the impact of heavy metals on human health.
- Kazakhstan and Turkmenistan—climate change mitigation, incl. projected greenhouse gas emissions by 2050 (Table 4).

¹⁰ A lower D-Index score indicates low inequality of opportunity and low barriers compared with other countries.

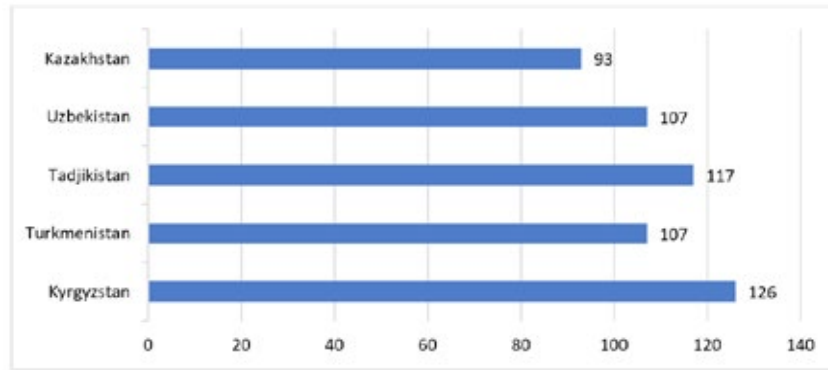


Figure 1: Ranking of Central Asian countries in the Environmental Performance Index 2022 (out of 180 analyzed countries) (Wolf, et al. 2022).

Table 4. Ranking of scores of Central Asian countries on the 2022 Environmental Performance Index indicators

Country	Rank among 180 countries		
	Climate change mitigation	Environmental health	Ecosystem vitality
Kazakhstan	113	96	72
Uzbekistan	83	132	104
Tajikistan	146	172	40
Turkmenistan	117	122	110
Kyrgyzstan	137	53	117

Source: (Wolf, et al. 2022)

Central Asian nations face the following environmental issues:

1. Desertification and land degradation. Experts estimate 40–100% of the land to be damaged, with the risk of a 25% reduction in irrigated land (Executive Committee of the Commonwealth of Independent States 2019).

2. Water scarcity. The Food and Agriculture Organization of the United Nations reports that the Central Asian countries rank among the top ten water consumers worldwide (FAO n.d.). According to Chinese researchers, 61 times more irrigation water is used in Tajikistan for the needs of poultry farms than in China, 10 times more in Uzbekistan for livestock needs, and 42 times more in Turkmenistan for growing raw cotton. If water and land resources were used wisely in the countries

of the region, 387 million people could be fed and 56% of the water could be conserved (ASIA-Plus 2021).

3. Air temperature rise. According to CABAR, over the past 45 years, the average temperature in Turkmenistan has increased by 1.6°C, in Kazakhstan and Uzbekistan by 1.4°C, in Kyrgyzstan by 1°C, and in Tajikistan by 0.7°C (CABAR 2022).

Let us also consider some governance indicators for the Central Asian countries from the World Bank's Worldwide Governance Indicators. One of these indicators is government effectiveness, which reflects "the quality of public services, civil service, policy formulation, policy implementation and credibility of a government's commitment to raise these qualities or keeping them high" (World Bank n.d.). As indicated in the table, among the Central Asian nations, the highest level of public service satisfaction is observed in Kazakhstan, while Tajikistan and Uzbekistan have made notable strides in this area (Table 5).

Table 5. Government Effectiveness score of Central Asian countries in 2017–2021 ¹¹

Year	Central Asian countries				
	Kazakhstan	Kyrgyzstan	Uzbekistan	Turkmenistan	Tajikistan
2017	0	-0.7	-0.6		-1.1
2018	0	-0.6	-0.5		-1.1
2019	0.1	-0.7	-0.5		-1.1
2020	0.1	-0.5	-0.5		-0.7
2021	0.1	-0.7	-0.2	-0.9	-0.6

Source: compiled by the authors based on (World Bank n.d.)

Another significant indicator of citizen satisfaction is regulatory quality, which captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. In Kazakhstan, regulatory quality is consistently positive, and positive trends in assessments are seen in Uzbekistan. As indicated by its

¹¹ Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.

citizens, the legal system of Turkmenistan appears to be of the lowest quality (Table 6).

Table 6. Regulatory Quality Assessment of Central Asian countries 2017–2021⁹

Sr. No.	Common name	Scientific name	Local name	Order	Family
1	Common Cuttlefish	Sepia sp.	Makul	Sepiida	Sepiidae
2	Common edible cockle	Cerastoderma edule	Khuba	Cardiida	Cardiidae
3	Indian Backwater Oyster	Crassostrea madrasensis	Kalwa	Ostreida	Ostreidae
4	Musseles	Mytilus sp.	Shipri	Mytiloidea	Mytilidae
5	Snail	Nerita sp.	Khubri	Neritopsina	Neritidae
6	Telescope snail	Telescopium telescopium	Bugli khuba	Neotaenioglossa	Potamididae
7	Mud snails	`	-	Caneogastropoda	Potamididae
8	Backwater hard clam	Meretrix sp.	Teli shiplya	Venerida	Veneridae

Source: compiled by the authors based on (World Bank n.d.)

Therefore, Central Asia appears to be a rather diverse region where socio-economic and environmental processes are concerned. In terms of living standards, economic growth rates, the state of the environment, the caliber of public services, and access to infrastructure, it seems to be undergoing rapid fragmentation. On the other hand, the area continues to be marked by a number of contradictions that pose significant obstacles to the socio-economic development of the entirety of Central Asia. These contradictions include high unemployment rates, a lack of skilled labor, a lack of infrastructure development, high population numbers, and incomes that fall below the poverty line. Also noteworthy are the region's dependence on the external geopolitical situation, its poor governance, and its minimal intra-regional integration.

Even though the macroregion is just embarking on the path of following the ESG principles and developing its ESG agenda, certain national concepts were developed back in the late 1990s (e.g., the Concept for National Sustainable Development of the Republic of Uzbekistan from 1998). A brief description of the existing strategies and initiatives of the Central Asian countries in the field of sustainable development is presented in Table 7.

The authors assembled ESG profiles of the countries in the macroregion (see Table 8) in order to conduct an extensive analysis of the evolution of the ESG agenda in Central Asia. Kazakhstan, which started pursuing a sustainable development policy in the early 2010s, has one of the most advanced ESG practices, while also being the largest emitter of greenhouse gases among the countries under consideration. Since 2013, only Kazakhstan has had a carbon market among the nations of Central Asia. One ton of greenhouse gases is sold for \$1-1.25, which is 50 times less than in the European Union and 3.6 times less than in Singapore. Between 2018 and 2020, 52 transactions totaled over 5.6 million tons of CO₂ for the price of \$5.6 million, or an average of 1.9 million tons and \$1.9 million annually (JSC "COMMODITY EXCHANGE "CASPY" n.d.).

Table 7. National Strategies and Initiatives of Central Asian countries in the Field of Sustainable Development

Country	Strategy and initiatives
Kazakhstan	The "Kazakhstan-2050" Strategy (2012) and the "Strategic development plan of the Republic of Kazakhstan until 2025" (2018) entail systemic reforms in the field of "green economy" and the environment. ¹²
	In 2021, the Environment Code introduced enhanced environmental policies, incl. increased liability for environmental crimes, the purpose of which is to encourage the reduction of greenhouse gas emissions, and the transition to alternative sources.
Kyrgyzstan	The "National Development Strategy of the Kyrgyz Republic for 2018–2040" (2018) contains a section outlining the main tenets of the nation's policy regarding environmental preservation and climate change adaptation, incl. "rational use of natural resources for socio-economic development, and conservation of unique ecosystems of the Kyrgyz Republic for future generations" (National Statistical Committee of the Kyrgyz Republic 2018).
	The "National Development Program of the Kyrgyz Republic until 2026" (2021) provides for the development and implementation of 11 projects aimed at reducing greenhouse gas emissions.
Uzbekistan	The "Strategy for the Development of New Uzbekistan in 2022–2026" (2022) sets goals to reduce emissions of harmful gases into the atmosphere by 20% through the active introduction of "green economy" technologies in all areas; as well as the prevention of existing environmental problems, the protection of ecology and the environment, the improvement of the ecological state of cities and regions, and through forest expansion (Development Strategy Centre 2021).

12 Source: Official website of the President of the Republic of Kazakhstan. n.d Strategies and programs. https://www.akorda.kz/en/official_documents/strategies_and_programs

Turkmenistan	The "National Program for the Socio-Economic Development of Turkmenistan in 2022-2052" (2022) entails the implementation of tasks in environmental diplomacy, incl. development of interstate dialogue on issues of rational water use, environment protection and improvement; adaptation to climate change; combating desertification, greening of territories; development of alternative and renewable energy production, an increase in the amount of investments made in alternative and "green" energy technologies; and continued cooperation in the processing of energy resources and the exchange of cutting-edge technologies.
Tajikistan	<p>The "National Development Strategy of the Republic of Tajikistan for the period up to 2030" (2016) provides for the diversification of energy sources and the development of technical capabilities for the use of renewable sources; the reduction of harmful effects of transportation on the environment and the human health; the improvement of agricultural resilience for food security; the promotion of "green employment"; and state support for the development of ecological entrepreneurship (Ministry of Economic Development and Trade of the Republic of Tajikistan 2016).</p> <p>The "Medium-Term Development Program of the Republic of Tajikistan for 2021-2025" (2021) considers the introduction and development of a "green economy", incl. in the context of achieving SDG 7 "Affordable and clean energy", as well as in the area of increasing the production and processing of environmentally friendly agricultural products; sets goals to improve environmental sustainability (Ministry of Economic Development and Trade of the Republic of Tajikistan 2021)..</p>

Source: compiled by the authors

There is no carbon exchange in Uzbekistan, nor has a green taxonomy been created, but these issues are being discussed at the level of ministries. The government of Uzbekistan was the first in the macroregion to issue government bonds with the purpose of raising financing for SDGs—Sovereign SDG Bonds.

In Kyrgyzstan, the ESG agenda is still in its infancy. However, the nation is working diligently to establish a green financial corporation that will enable the attraction of climate finance to the banking sector.

The guiding ESG principles are included in separate internal documents in Tajikistan and Turkmenistan, but the agenda-setting process hasn't made much progress there, either. Unlike Kazakhstan, Kyrgyzstan, and Uzbekistan, these nations have not yet declared their economies to be carbon neutral.

Therefore, the Central Asian countries currently have the following top priorities:

1. Recovery of economic growth and rebalancing.

2. Increasing infrastructure connectivity with the purpose of boosting trade and investment competitiveness (transport, energy, IT).
3. Investing in social initiatives that work to raise people's standards of living.
4. Addressing frequent ecological vulnerabilities.
5. Encouraging the establishment of institutional frameworks for the implementation of the SDGs.

For the next 15 to 20 years, it will be a strategic priority for all Central Asian nations to address the aforementioned issues. This is the key component of the "great transformation" that is currently in progress in the macroregion. One opportunity for sustainable development is to boost production efficiency through sensible use of natural resources, the application of efficient technologies, the use of renewable energy sources, etc.

Table 8. ESG profile of Central Asian countries¹³

Criterion	Central Asian countries				
	Kazakhstan	Kyrgyzstan	Uzbekistan	Turkmenistan	Tajikistan
ESG funds	No	No	No	No	No
ESG-lending (2021)	3 \$62 million loans. According to K. Tokayev, the volume of the Kazakhstan market for sustainable financing (loans + bonds) is \$250 million	N/A	There is no exact estimate. EBRD ¹⁴ provided \$35 million in loans in 2021	N/A	There have been no unique national cases. The country receives various forms of financial support from international organizations and development banks
ESG bond issuance (2021)	8 issues of ESG bonds totaling \$170 million	N/A	In August, Uzbekistan issued \$870 million in bonds to achieve the SDGs	N/A	Not issued
Carbon market	In operation since 2013	No	No	No	No

¹³ N/A - data not available.

¹⁴ EBRD - European Bank for Reconstruction and Development.

Greenhouse gas emissions (2020)	291 Mt CO ₂	12 Mt CO ₂ (99th in the world)	113 Mt CO ₂ (37th in the world)	75 Mt CO ₂ (47th in the world)	9.4 Mt CO ₂ (111th in the world)
	(20th in the world)				
CO ₂ emissions from fuel combustion (2020)	0.267 Gt CO ₂	0.011 Gt CO ₂	0.09 Gt CO ₂	N/A	0.011 Gt CO ₂
	(0.74% the world total, 26th)	(0.032% of the world total, 105th)	(0.25% the world total, 42nd)		(0.032% of the world total, 108th)
	14.2 t CO ₂ per capita (15th in the world)	1.81 t CO ₂ per capita (124th in the world)	2.71 t CO ₂ per capita (103rd in the world)		1.05 t CO ₂ per capita (151st in the world)
ESG rating agencies	ESG-rating: RAEX-Europe, ACRA.	Not developed	There are few rating agencies in the country as a whole. ESG ratings are not published by national agencies	Not developed	There are no international or major national ESG providers or ESG ratings
	Rankings: Bureau Veritas and PwC				
Year of achieving carbon neutrality	2060	2050	2050	Not set	Not set
Funding needed to achieve carbon neutrality	\$666.5 billion	No precise figure has been given. Implementing mitigation and adaptation strategies in accordance with the NDC ¹⁵ is anticipated to cost around \$10 billion	Approximately \$94 billion over 30 years	N/A	N/A

Source: compiled by the authors according to (Sberbank 2022)

ESG in the corporate sector of Central Asia

As mentioned above, the Central Asian nations are only now beginning to develop their ESG agenda. Large exporting companies are currently the most active implementers of corporate ESG transformation. Companies in Central Asia that are not reliant on imports are fundamentally left out.

¹⁵ NDC, or Nationally Determined Contribution, is a climate action plan to cut emissions and adapt to climate impacts.

More than 80% of the 98 companies that have prepared annual reports and/or sustainability reports are listed on KASE, whose requirements have a significant impact on the disclosure of ESG information, according to PwC Kazakhstan's Top 50 ESG Disclosure Companies Ranking for 2021 reports. Of the top 50 companies in terms of ESG disclosure, 70% identified important ESG factors for the business, and 52% identified strategic work areas related to sustainable development. A total of 66% of businesses disclosed their 2021 greenhouse gas emissions under Scope 1 (compared to 54% in 2020), 33% under Scope 2 (compared to 17% in 2022), and only 4% under Scope 3 (compared to 2% in 2020) (PwC 2022).

Less than half of businesses in Kazakhstan have pledged to achieve carbon neutrality and zero emissions, according to the PwC Kazakhstan CEO Survey 2022 (compared to global commitments of 26% and 22%). Reduced climate change risks, meeting investor demands, and adherence to international agreements are the main drivers of local businesses' commitment to CO₂ neutrality (Fig. 2).

Among the trends in sustainable development, it is important to note that Kazakh business leaders are significantly more concerned about the issue of social inequality than the global average (30% vs. 18%, respectively). In particular, 64% of business leaders believe that social inequality makes it difficult for businesses to adopt innovative technologies or procedures (PwC 2022). Low levels of digital literacy among the population, as well as the inability to buy any cutting-edge products, may be to blame for the shortage of qualified workers, the difficulty of accessing quality education, and the lack of qualified personnel.



Figure 2: Reasons for committing to carbon neutrality in Kazakhstan (PwC 2022, 31)

According to the authors' analysis of the annual reports and/or sustainability reports for 2018–2020, the top five largest global companies by capitalization (Apple, Saudi Aramco (Saudi Arabian Oil Company), Microsoft, Alphabet (Google), and Amazon¹⁶) are indeed more concerned about environmental issues than social ones. These businesses emphasize the responsible use of natural resources and climate change in their published materials. The corporations place a strong emphasis on the availability of water resources and the sustainable consumption of materials, from plastic packaging for transporting goods to sustainable metal for building structures. At the same time, the annual reports essentially withhold information on social support programs for workers and local communities. The top five largest global companies have prioritized the following overarching Sustainable Development Goals: SDG 9 "Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation", SDG 12 "Ensure sustainable consumption and production patterns", SDG 13 "Take urgent action to combat climate change and its impacts". In addition to joining the UN Global Compact, three out of five companies (Microsoft, Alphabet and Amazon) have approved ESG strategies. Saudi Aramco and Microsoft also have board committees that develop sustainability and ESG recommendations.

The authors also conducted a study of the annual and/or sustainability reports of the top 5 ESG companies. Companies such as Microsoft, Intel, NVIDIA, Cisco Systems, and PepsiCo were chosen for this analysis based on company ratings from independent research organizations like JUST Capital¹⁷, MSCI¹⁸, and Refinitiv¹⁹. Unlike the top 5 largest global companies by capitalization, these corporations declare assistance in achieving SDG 3 "Ensure healthy lives and promote well-being for all at all ages", SDG 5 "Achieve gender equality and empower all women and girls", and SDG 8 "Promote sustained, inclusive and sustainable economic

16 Source: "Largest Companies by Market Cap." Accessed January 18,2023. <https://companiesmarketcap.com>

17 Source: JUST Capital. "Our Methodology." Accessed January 15,2023. <https://justcapital.com/our-methodology>

18 Source: MSCI. "ESG Ratings. Measuring a company's resilience to long-term, financially relevant ESG risks." Accessed January 15,2023. <https://www.msci.com/our-solutions/esg-investing/esg-ratings>

19 Source: Refinitiv. "Exploring ESG Data." Accessed January 15,2023. <https://solutions.refinitiv.com/esgdata?elqCampaignId=4119>

growth, full and productive employment and decent work for all". The ESG strategy was developed and disclosed by four leading corporations in the field of ESG (with the exception of NVIDIA). The most detailed information about its activities in ESG is provided by PepsiCo, Inc.: sustainable development reports and tables outlining the company's contribution to the Sustainable Development Goals are available to the public; the website of the business also offers the "ESG Topics A-Z" resource, which provides an overview of a variety of issues pertaining to sustainable development²⁰. Each of the five surveyed companies has a separate committee under the board of directors that considers issues of sustainable development and ESG.

When considering companies that are at the forefront of the ESG agenda in Kazakhstan, the state company JSC NC "KazMunayGas" (KMG), as well as consortiums with the participation of leading foreign oil companies "Karachaganak Petroleum Operating B.V." (KPO), and the "North Caspian Operating Company" (NCOC), stand out. These companies occupy the first three places in the ESG rating RAEX-Europe (Rating-Agentur Expert RA 2022). All three companies adhere to the principles of the UN Global Compact, actively engage in ESG transformation, and create and publish sustainability reports, which include indicators of waste production, water use, and greenhouse gas emissions in dynamics. For instance, in 2021, KMG created a program for low-carbon development, KPO unveiled the EnVar electronic system for managing environmental issues, and NCOC displayed a record-low level of recorded injuries for the company.

The government of Kyrgyzstan is primarily concerned with enhancing the standard of living for the populace and ensuring stable economic growth; consequently, Kyrgyz businesses place a priority on creating employment opportunities, supporting educational initiatives, and undertaking social projects. For instance, a waste sorting complex started operating in one of the cities with assistance from the gold mining enterprise "Kumtor Gold Company" CJSC. In an effort to preserve the environment, the gold mining company Altynken adopted the maxim "Clean waters and green mountains are mountains of gold and silver".

20 Source: PepsiCo, Inc. "ESG Topics A-Z." Accessed January 18, 2023. <https://www.pepsico.com/our-impact/esg-topics-a-z>

Companies in Uzbekistan are interested in luring in new investors, so they are less concerned with domestic law and more concerned with international ESG standards. For instance, "Uzbekneftegaz" JSC started creating a sustainable development strategy in order to receive international ESG ratings. The business also established an ESG-center, whose main function is to organize and make public data on activities related to sustainable development ("Yangi O'zbekiston" and "Pravda Vostoka" 2022). The "Yuksalish" Nationwide Movement and the United Nations Development Program both have eco-projects that they are participating in as part of Huawei's "Green Uzbekistan" initiative, which was launched by the company's subsidiary in Uzbekistan in 2020 (Huawei Technologies Co. Ltd. 2022).

The ESG market in Turkmenistan is poorly developed, and details on business involvement in the sector are scarce. However, some businesses that work with foreign investors are also gradually starting to apply ESG principles. For instance, "Milli Hasyf", a company that specializes in agricultural production, won a silver award in the "Climate Change Resilience" category of the annual sustainable development award given out by the European Bank for Reconstruction and Development (EBRD). The society is increasing its production capacity with the use of contemporary technologies that reduce the water consumption for growing plants by at least 75% (BUSINESS TURKMENISTAN 2022).

Similarly, close to nothing is known regarding ESG agenda implementation in Tajikistan. In 2020, the telecom operator Tcell launched a line of "Eco" tariffs, wherein \$0.1 (1 somoni) from a subscriber's monthly fee would be transferred to environmental funds. In 2021, the Tajik-Chinese Mining Company invested in the construction of a road, a kindergarten, and a children's educational center (Asia-Plus 2022).

Where the financial sectors are concerned, banks, as the most significant players in the market for sustainable development, are just starting to become involved in the ESG agenda in each of the Central Asian countries under consideration. Only significant financial institutions operate in Kazakhstan using sustainable practices. Kaspi Bank, Halyk Bank of Kazakhstan, Otbasyl Bank, Jusan Bank, and Forte Bank are specifically listed by Forbes as the top 5 banks in Kazakhstan by capitalization (Forbes 2022). However, only two banks—Halyk Bank and Otbasyl Bank—publish

sustainability reports. Kaz Agro Finance and Halyk Bank of Kazakhstan are singled out by PwC Kazakhstan as the financial sector's leaders in ESG disclosure (PwC 2022, 6). By creating "green" zones in cities, these banks are actively developing social infrastructure. In addition, Halyk Bank of Kazakhstan provides interest-free loans for gasification, funds the purchase of environmentally friendly buses, and sponsors charitable events to help those in need.

In Kyrgyzstan, ESG standards and financing options for green projects are still in their infancy. An independent structural unit for sustainable and innovative financing is currently being developed by the National Bank of the Kyrgyz Republic. Dos Credo Bank launched a special DCB Green program with the goal of introducing and bringing to market eco-friendly technologies through "green" loan products. Some of the nation's microfinance institutions offer loans for purposes related to energy efficiency and gender equality.

In Uzbekistan, Asia money, a global financial publication, named Uzpromstroy bank the top ESG bank in Uzbekistan based on the results of 2022. The bank was particularly commended for its collaboration with the IFC and EBRD on transformation, developing green banking and adopting ESG principles (Asiamoney 2022).

The International Finance Corporation, a member of the World Bank, and the organization as a whole are working on numerous projects that can serve as models for banks that are just starting their ESG transformation journeys. For instance, a project in Peru funded by the World Bank that was modeled after the 911 emergency service in the United States established a helpline for female domestic abuse victims. It makes it possible for women to report instances of abuse online. Another illustration is the World Bank program "Bridging the gender gap through digital inclusion", which is putting three pilot projects into effect to increase digital literacy among African populations.

The banking sector of Tajikistan can be singled out as one of the least advanced in the field of ESG among the countries of Central Asia. Numerous banks in Tajikistan are currently working on creating an ESG concept for their company and are only able to implement one ESG initiative at a time. ESKHATA, one of the biggest banks

in terms of capital, has been the only bank to designate ESG transformation as a priority of its operations and one of its strategic objectives in 2022 (Eskhata Bank 2022). Banks Arvand, Eskhata, Humo, and IMON International take part in the GEF program of green loan distribution as regional participants. Humo Bank also participates in the program of providing preferential loans for the purchase of environmentally friendly energy systems such as solar water heaters, solar power plants, solar pumps, batteries, etc.

As a result, the level of development of the ESG agenda in the Central Asian countries can be described as emerging and actively growing. Kazakhstan is the region's pioneer in the field of sustainable development. Uzbekistan and Kyrgyzstan are actively implementing the agenda, and Turkmenistan and Tajikistan are starting to shape it. The macroregion's corporate sector and the state sector as a whole have just started down the path of ESG transformation. At the same time, businesses, incl. financial institutions, are gradually starting to finance and implement ESG projects, which are essentially meant to address social problems. The following stand out as the primary drivers of a sustainable agenda for local businesses:

1. Requirements of foreign investors. The local companies consider important the opportunities to work with international financial institutions, as well as the prospects for attracting loans with low interest rates.
2. National requirements and a rising interest in sustainable development among regulators.
3. Macro environment forces. Large companies strive to maintain their business reputation and image and strengthen their market positions by solving social and environmental problems.
4. High ESG risks, incl. aggravation of environmental challenges.
5. The potential to gain a competitive edge by cutting costs in the future through rational use of resources and the transition to new "green" technologies.

The main barriers to advancing the ESG agenda in Central Asian companies are a lack of expertise in the field, a lack of centralization and focused actions to implement the agenda, a lack of interaction with stakeholders, a lack of legal regulation, and a lack of state-sponsored incentives.

In order to successfully conduct an ESG transformation, a company must complete the following steps:

1. Form a vision for the ESG agenda. To achieve this goal, it is necessary to assess the ambitions of the company, examine international and national strategies (if applicable), and legislative initiatives in the area of ESG; take into account long-term trends and competitor practices, and understand their competitive advantages.

2. Define strategic priorities and create a list of possible ESG initiatives. Here it is imperative to emphasize work areas and their importance to the company in each ESG component. The most appropriate initiatives can be chosen with the guidance of the United Nations Sustainable Development Goals (GRI). It is crucial to determine the impact of the company's activities in order to gain an understanding of its effects on the SDGs. At this stage, it is also crucial to diagnose the current sustainability practices of the company, compile a list of current and implemented initiatives, and evaluate them to get a full picture and establish the correct strategic priorities.

3. Identify priority initiatives. It is necessary to evaluate each of the formed ESG initiatives and rank them according to the results obtained. The criteria for evaluating initiatives can be:

- Complexity, cost and duration of initiative implementation.
- The impact of initiatives on priority ESG indicators, incl. with respect to investor expectations and ESG rating criteria.
- Economic effect of initiatives (direct, indirect).

It is also important to assess the impact of ESG initiatives from a stakeholder perspective by considering all stakeholder groups.

4. Building a control system. The ESG management system should permeate the entire company: it is recommended that responsibility be allocated across all levels of management, from the board of directors and top management to functional divisions and individual employees. The management strategy may differ from company to company, but it is best practice to assign a member

of a significant (preferably the highest) governance body to oversee ESG transformation.

5. Implementation of the ESG strategy. This entails restructuring the business to achieve ESG goals, as well as creating and applying modifications to internal programs:

- Involvement of employees and other internal and external stakeholders (partners, clients, etc.).
- Development of policies, processes and concepts for ESG transformation.
- Reliance on technology and digitalization.
- Integration of the ESG strategy into the supply chain.

6. Implementation assessment. At this stage, it is important to evaluate the current ESG transformation progress of the company, get feedback, and, if necessary, modify the course of action.

7. Reporting and communication. It is crucial to effectively communicate with investors and other stakeholders, giving them a comprehensive picture of the ESG transformation. Businesses should use widely accepted sustainability reporting guidelines like GRI, CDP, AA1000, etc. Reporting on particular subjects can be developed using the UNGP Reporting Framework, CDSB.

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