



# Climate Change Education Ambition in Central Asia



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# Abbreviations

ACE	Action for Climate Empowerment
ADB	Asian Development Bank
CAREC	Central Asia Regional Economic Cooperation Program
CCE	Climate Change Education
CEP	Committee for Environmental Protection (Tajikistan)
COP	Conference of the Parties
EI	Education International
ESD	Education for Sustainable Development
EU	European Union
GEP	Greening Education Partnership
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation)
GPE	Global Partnership for Education
HEI	Higher Education Institutions
IMF	International Monetary Fund
OSCE	Organization for Security and Cooperation in Europe
NCCLS	National Climate Change Learning Strategies
NDCs	Nationally Declared Contributions
RIPK	Republican Institute for Advanced Training of Teaching Personnel
SDGs	Sustainable Development Goals
TsAKO	Central Asian Climate Education Alliance
UNDP	United Nations Development Programme
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNITAR	United Nations Institute for Training and Research
WEFE	Water-Energy-Food-Ecosystems
WSSD	World Summit on Sustainable Development

# Executive Summary



This report reviews the ambitions for Climate Change Education (CCE) in four Central Asian countries: Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. It provides a brief overview of climate change in Central Asia focusing on nascent issues and challenges in each country. It also synthesizes a regional perspective on current cooperation around climate change, areas of synergy, emerging trends and potential areas for joint action. Profiles for each country include national-level analysis in terms of status of action on CCE and national policy trends. They also provide a summary of the national commitments and strategies that guide responses to climate change and CCE, an overview of national planning, financing and assessments of CCE, and a review of noteworthy CCE practices in each country. The review concludes with a summary of key messages and recommendations that emerged from the analysis.

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## *Climate Change Concerns in Central Asia*



Glacial Melt



Heatwaves



Landslides



Desertification



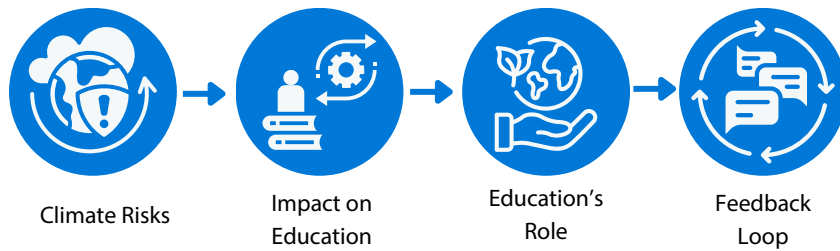
Air Pollution

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Overall readiness to address climate risks varies considerably across Central Asia and each country in the review. Glacial melt is among the most pronounced and complex challenges facing the region with rising temperatures driving this melt and leading to reduced availability of freshwater resources and loss of biodiversity. It has also increased the risk of natural hazards such as floods, landslides, heatwaves and accelerating desertification. The transboundary nature of these climate risks introduces complex security and regional coordination concerns, especially in relation to shared water resources, energy and food policies in addition to ecological and economic interdependencies. As a result, there is a pressing need for effective national strategies and greater regional cooperation. The strengthening of institutional capacities to tackle these problems requires developing technologies for resilience – across the water, energy, food and ecology sectors. This must be supported by a transformation across the education sector that builds knowledge and capabilities to sustain innovation for change into the future.

Education is exposed to risks presented by climate extremes and variability. But it serves, simultaneously, as an important site for transformative climate action. Education planners and policy-makers, as well as educators and youth, remain overlooked as key players in acting on climate change. Insufficiencies in school curricula and teacher preparation practices across a wide range of countries make responding to these gaps a complex and systems-wide challenge.

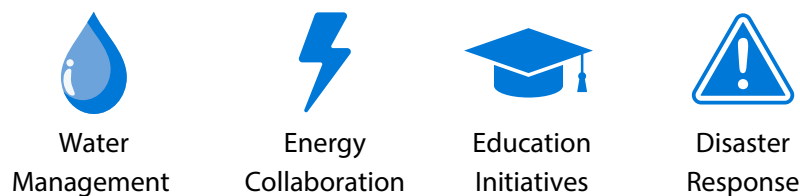
#### *Climate Change Impact on Education*



National ambitions for CCE certainly need to be ambitious given the urgency for strengthening linkages between education, climate resilience and climate action. This is particularly important in the water, energy, food and ecology sectors – both at local and regional governance levels. CCE outcomes should be central to national development strategies as well as clearly stated within the Nationally Declared Contributions (NDCs) of each country to the Conference of Parties (COP) process.

Central Asian countries set out national commitments to reduce Co2 emissions under the COP21 Paris Agreement in 2015. Meeting ambitious targets for emissions reductions is dependent on financial and technical support from the international community. It is also likely to involve significant transformations in key sectors, generating demands for green skills and competencies. The task of strengthening climate resilience of systems and infrastructure, while building new skills to live well in a climate-transformed future has major implications for education systems across Central Asia.

#### *Regional Cooperation and Synergy Opportunities*



The country profiles are structured within a Revised Framework for Assessing CCE Ambition that was specifically developed for the review. The Revised Framework integrates and advances Education International's (EI) Climate Change Education Ambition Report Card with the Global Partnership for Education's (GPE) Seven Dimensions of a Climate-Smart Education System Framework. The revised framework allows for a deeper analysis than EI's necessarily concise CCE Ambition Report Card and offers a more reflective account of current international best practices. It is designed to animate further discussion and be of practical value to advocate for CCE at national and regional levels.

## Core trends and challenges:

- **Limited adoption of CCE as a concept and central issue in educational practice:**

Despite there being a reference to CCE in national policy in all four countries. Current curricula and teaching practice tend to focus on mostly ecological or environmental education (e.g. Kyrgyzstan), disaster preparedness education (e.g. Tajikistan), or other related concepts.

- **CCE lacks coordinated national efforts that engage relevant sectors and stakeholders.**

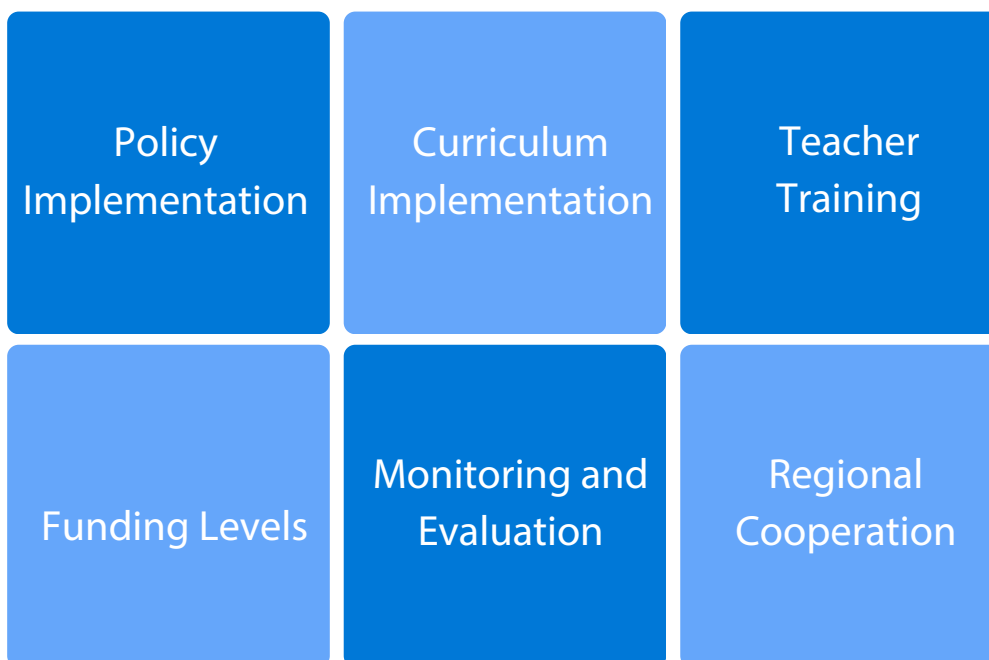
For example, not one of the three major national standards and guidelines for teacher development in Kazakhstan feature climate change. This leads to CCE being overlooked in the education budgeting process, under-financed and not comprehensively developed. A robust monitoring and evaluation framework for CCE is also absent in each of the four countries, which results in a lack of accountability for and effectiveness in tracking CCE progress and impacts.

- **Major gaps between stated policy ambition on climate change, links to education and the implementation of CCE:**

Major gaps between stated policy ambition on climate change, links to education and the implementation of CCE: Kyrgyzstan's first NDCs to COP26 (Glasgow, 2021) aim to build public awareness and understanding of climate threats, integrate environmental education into schools starting from kindergarten, and develop national guides for incorporating sustainability and climate change issues into educational programmes. To date, these objectives have not yet been realized.

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## Dimensions of CCE Readiness





## Key messages:

1. **Policy commitments** on CCE must be extended to embrace compulsory CCE and translated into concrete actions towards transforming educational practice.
2. CCE provides a natural focal point for enhanced **regional coordination**.
3. A more robust **regional picture** of climate change will strengthen CCE.
4. **Higher education** should make significant contributions to developing local CCE capacity.
5. **CCE learning** needs to be more engaging and localized.
6. **Coordination** among CCE partners should be strengthened.
7. **Equity and inclusion** must be central in CCE.

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### *Key Priorities for CCE in Central Asia*



Policy  
Commitment



Regional  
Coordination



Comprehensive  
Overview



Higher  
Education



Engaging  
Learning

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## Governments

- Create a National Forum for Inter-Ministerial Coordination on CCE for government agencies that have a stake in education, climate change, natural resources, disaster prevention, gender, disability and related areas.
- Upskill civil servants to better understand and advance CCE policies, fostering leadership to leverage resources and maximize the impact of CCE grassroots initiatives.
- Ensure specific and sustained funding for CCE.

## Higher Education Institutions (HEIs)

- Integrate CCE into the curricula for all teacher training programmes and teacher professional development provision.
- Take on 'train the trainer' roles to share course outlines, resources, and provide capacity building to faculty at other universities in the region.
- Serve as open hubs for innovative solutions to climate change and collaborate with NGOs to extend educational content to wider audiences, especially those in remote areas.

## Schools

- Support teachers in CCE through professional development, communities of practice and information sharing.
- Adopt eco-friendly and climate resilient infrastructure and practices.
- Build connections with local NGOs, youth groups and other local organizations working on climate issues by bringing them into schools to talk with students, co-develop school climate initiatives and encourage students to participate in non-formal CCE activities.

## Youth

- Include youth in formal representation in dialogues on CCE through the formation of youth-led Local Youth Councils.
- Establish a funding mechanism to provide resources for Local Youth Councils to implement local projects and to meet on a national basis to share good practices.
- Set up a Central Asian Regional Congress of Youth Councils to amplify youth voices, action and leadership on climate change and environmental issues.

## NGOs

- Ensure NGOs are active participants in multi-level consultations and decision-making on CCE at national and regional levels.
- Grant responsibility and resources to NGOs dedicated to CCE for improving public awareness raising on local and national climate issues, while supporting the development of public advocacy.

## International organizations

- Facilitate a Central Asian Regional CCE Platform to share knowledge, information, resources and experiences. This platform would bring together governments, international and local NGOs, universities, schools, youth groups and other stakeholders in the realm of CCE.
- Provide funding and technical assistance to scientists and researchers to develop locally relevant innovations that support the development of CCE. Research should support increased capacity in the research and innovation sector, advance hands-on solutions to current climate problems and cover all scientific domains.
- Support the development of comprehensive and contextually relevant monitoring and evaluation frameworks that are guided by national priorities and contexts, developed in consultation with local NGOs and HEIs, and that set clear objectives, indicators and targets for CCE.

# 1 Introduction



Climate change is now widely recognized as a threat to national development trajectories. The sixth assessment report of the Intergovernmental Panel on Climate Change has reiterated that slow action to mitigate and adapt to climate change will have particularly adverse impacts on overall levels of well-being in low- and middle-income countries, particularly for communities that already face higher levels of vulnerability or marginalization (IPCC, 2023). As a sector, education is simultaneously exposed to the risks presented by climate extremes and variability, and serves as an important site for transformative climate action. A recent global review of climate impacts on educational outcomes finds that climate change stressors such as heatwaves, floods and wildfires are already harming children’s education attainment in many regions by “undermining cognitive performance, disrupting school access and impairing cognitive development” (Prentice et al. 2024, p. 214).

While these risks are gradually being recognized as countries develop strategies to respond to climate change, evidence also suggests that educational planners and decision-makers, as well as youth themselves, remain overlooked as key players in acting on climate change (Hayward, 2020). Recent research by UNESCO has highlighted youth demands for better Climate Change Education (CCE) to be taught across all subjects in school (2022), but also found that most governments still lack the ambition to commit to implementing CCE (UNESCO, 2021). Furthermore, insufficiencies in school curricula and teacher preparation practices across a wide range of countries make responding to these gaps a complex and system-wide challenge (Kwauk, 2022).

Within the international community, there have been growing calls for strengthened education systems that can equip all learners with the relevant knowledge, skills, values and attitudes to become agents of change in line with Target 4.7 of the UN Sustainable Development Goals (SDGs) [1] and the entire 2030 Agenda. Three global initiatives dedicated to this aim warrant mention in the framing of this study:

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[1] Target 4.7: By 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture’s contribution to sustainable development.

- UNESCO has launched a new global framework entitled “Education for Sustainable Development: towards achieving the Sustainable Development Goals” – also known as ESD for 2030, which focuses on enhancing the contribution of Education for Sustainable Development (ESD) to reaching the 17 Sustainable Development Goals (SDGs) through five priority action areas: policy, learning institutions, capacity-building of educators, youth mobilization and local action (UNESCO, 2020).
- The Action for Climate Empowerment (ACE) agenda initiated through the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement calls on governments to undertake education, awareness-raising and training activities that empower all members of society to engage in climate action. Of particular importance are efforts to promote deeper engagement of youth and young professionals in the international climate change policy process, such as the annual Conference of the Parties to the UNFCCC.
- Finally, the Greening Education Partnership (GEP) was launched in by UNESCO in 2022 as a global initiative to deliver strong, coordinated and comprehensive action that supports countries to prepare every learner to tackle climate change and promote sustainable development. The GEP focuses on four action areas: Greening Schools, Greening Curriculum, Greening Teacher Training and Education Systems’ Capacities and Greening Communities.

Building on this momentum, UNESCO has initiated a project focused on the Greening Schools pillar of the GEP. This will develop a UNESCO Green School Quality Standard for a whole-school approach to ESD to support Member States in making all schools climate-ready by 2030. Under the Greening Curriculum pillar, UNESCO is also developing the UNESCO Greening Curriculum Guidance that defines how CCE and other sustainability challenges can be reflected in the curriculum.

The trends and initiatives described in this introductory chapter are global in nature, but they are also well-documented in Central Asia, as will be explored in this report. Central Asian countries struggle to effectively address education for climate change. This is evidenced in the Climate Education Ambition Report Card (Kwauk, 2022), which evaluates the Nationally Determined Contributions (NDCs) and National Climate Change Learning Strategies (NCCLSs) of 166 countries. In this assessment Kyrgyzstan and Tajikistan are ranked 40th for climate education ambition, while Uzbekistan is 83rd, and data for Kazakhstan is unavailable. This underscores the urgent need for enhanced climate education policies in the region to better equip future generations to tackle environmental challenges. This adds urgency to the call by the Central Asian Climate Education Alliance (known as TsAKO for its Russian language acronym) for governments in the region to commit to making CCE compulsory. TsAKO is seen as crucial for advancing climate education in the region, aiming at securing national commitments and beginning essential preparations to implement compulsory climate change education in Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan by COP 30 in 2025.

Given the urgency of strengthening linkages between education, climate resilience and climate action, understanding how global ambitions are then interpreted and taken up at national and sub-national scales is essential. Understanding how different national contexts create unique conditions for taking up action on climate change and CCE is equally important. This includes ensuring effective local implementation and resilience-building, particularly for developing countries with high levels of vulnerability to the impacts of climate change and extreme weather events. In the context of Central Asia, TsAKO aims to tailor global goals to the specific needs and

challenges of the region's countries. Doing so requires the capacity to understand climate change as a nexus issue that will have a profound influence on interconnected sectors like water, energy, food and ecosystems – the so-called WEF E Nexus – as well as on key socio-political objectives like peace, well-being and human security (TsAKO, N.d.).

## 1.1 Report objectives

With this context in mind, this report reviews and reports on the status of CCE ambition in four Central Asian countries: Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. It offers both a regional analysis of trends across the four countries and a comprehensive review of each country's international engagements, national policies and programmes, financing and sub-national programming on climate change and education for sustainable development. Recommendations on investments and actions that help to scale up ambition at national and regional levels are provided with a view to informing the planning processes of national governments, intergovernmental agencies, local authorities and educational institutions including schools and Higher Education Institutions (HEIs). At a time when major global and regional initiatives (such as TsAKO) are aiming to kickstart more ambitious action on climate education, this guidance may offer a way to prioritize areas for investing precious human, financial and political resources.

## 1.2 Methodological and analytical approach

To undertake this analysis, the team drew upon three main sources of information. First, an analysis of national policy documents related to climate change, education and CCE from each of the four countries under study. Second, a review of relevant academic and grey literature related to these themes from the region. Third, a series of interviews with key stakeholder groups from each of the countries. Interviewees included national government policy-makers, educational leaders, international organizations and civil society representatives. Data was collected between January and April 2024.

The report integrates two important frameworks for assessing ambition and progress on CCE – the CCE Ambition Report Card by Education International (Kwauk, 2022) and the 7-dimension framework for action by the Global Partnership for Education (GPE, 2023). As the name suggests, the Education International report card rates countries' level of ambition and prioritization of climate education. On the other hand, the GPE framework innovatively connects the dimensions of data and evidence, policy and planning, coordination, finance, infrastructure, teaching and learning, and schools and communities together for a system-wide approach to CCE. Gender equality cuts across all dimensions. By integrating these two frameworks into a common analytical tool, it is possible to gain a comprehensive and system-wide appraisal of the state of CCE in each of the countries, while leaving some flexibility to account for the different stages that each of the countries are at on their CCE journeys. The framework is also able to account for activities happening at national, sub-national, local and cross-cutting scales. This Revised Framework for Assessing CCE Ambition (see Annex I) can also be used for ongoing monitoring of progress and ambition in the future.

### 1.3 Report structure

This report is structured into four main chapters. This first chapter has provided an overview of the focus and approach taken in designing and undertaking the analysis. Chapter 2 begins with a brief overview of the climate context of Central Asia with a focus on the four countries of this study. It offers a regional perspective on cooperation on climate change, areas of synergy, regional trends, and areas for possible joint action. Chapter 3 is a national-level analysis with profiles of each country detailing the status of action on CCE and key national trends. Each country profile provides an overview of the global commitments and national strategies that provide high-level guidance on climate change and CCE, an overview of the national planning, financing and assessment of CCE, and a review of noteworthy CCE practices in each country. Finally, Chapter 4 summarizes the key messages and recommendations emerging from this analysis.

## 2 Regional Analysis



This chapter discusses the climate context of the Central Asia region, outlining the regional climate risks, vulnerabilities and adaptation priorities followed by Co2 emissions trajectories and mitigation targets. The chapter then reviews existing regional cooperation on climate change and CCE. It sets the context for the subsequent national analysis, which focuses on country specific issues relating not only to climate change but specifically to CCE.

*Figure 1. Map of Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan*



*Source: Adapted from Mapchart (Nd)*

### 2.1 Central Asia climate context

#### 2.1.1 Regional climate risks, vulnerabilities and adaptation priorities

Central Asia faces significant challenges due to the negative impacts of climate change, which manifest in higher temperatures and increased likelihood of extreme weather events, as well as their detrimental effects on vital economic areas like water resources, energy and farming. The transboundary nature of these climate risks also introduces complex security and regional coordination concerns (Shaw et al., 2022).

Overall readiness to address climate risks varies considerably across the region, broadly in line with other national development indices. The Notre Dame Global Adaptation Initiative, which assesses 185 countries' vulnerability and readiness to address climate change, ranks the four countries' readiness as follows globally: Kazakhstan 36th, Kyrgyzstan 65th, Uzbekistan 72nd and Tajikistan 98th (ND-GAIN, 2023).

Recent analysis has highlighted the current and future impacts linked to glacial melt as being among the most pronounced and complex challenges facing the region. The rising temperatures driving this melt can be linked to the reduced availability of freshwater resources, loss of biodiversity, increased risk of natural hazards such as floods, landslides and heatwaves, as well as increased desertification in semi-arid zones of the region (Asian Development Bank, 2023; Shaw et al. 2022). The World Bank estimates that Central Asia could incur economic losses amounting to as much as 1.3 per cent of its GDP annually due to droughts and floods. Furthermore, agricultural production could suffer a reduction of 30 per cent by the year 2050 (World Bank, N.d.) This could potentially lead to the displacement of approximately 5.1 million people within the region, driven in part by climate-related factors (World Bank, N.d.; Shaw et al., 2022).





In light of these projections and the impacts already being experienced, it is clear that climate-related challenges will affect all major sectors in Central Asia and may lead to disputes related to shared water resources, energy policies and economic ties. As a result, there is a pressing need for effective national strategies, greater regional cooperation and a strengthening of institutional capacities to tackle these problems. Nationally, each country has taken some early steps towards incorporating climate priorities into their legal systems and policy frameworks. Of the four countries, however, only Tajikistan has published a National Adaptation Plan or strategy, while Uzbekistan's National Adaptation Plan is currently listed as "under preparation" (CAREC and ADB, 2023). Tajikistan's adaptation strategy takes a multi-sectoral approach with a particular emphasis on agriculture. Meanwhile, The Third National Communications to the UNFCCC from Kyrgyzstan and Uzbekistan have highlighted the important adaptation priorities in the water, agriculture, health, disaster preparedness health and energy, in line with the regional trends outlined above.

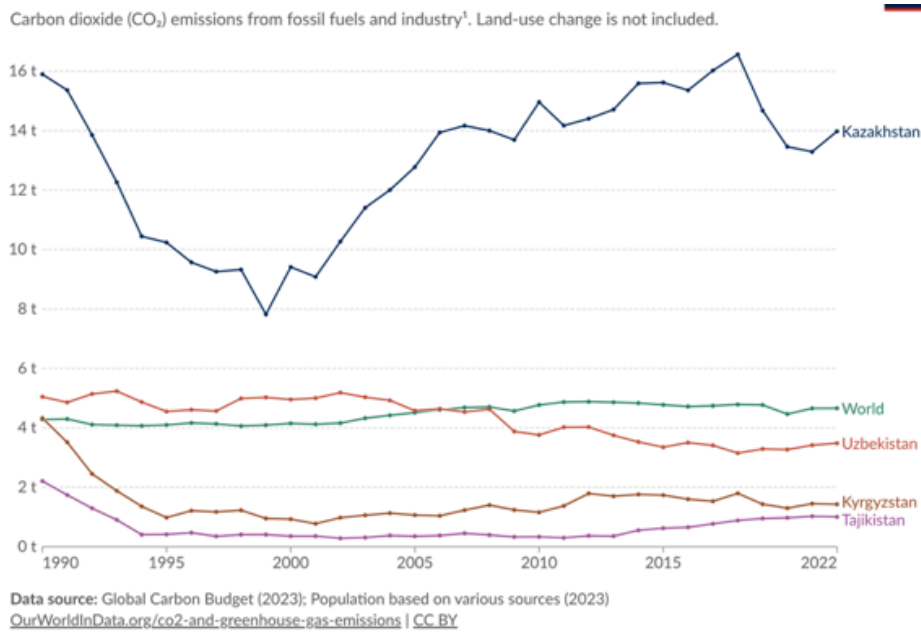
Research, capacity building and education are highlighted as keys for effective action on climate change, but the region faces challenges related to limited climate change awareness, insufficient data and lack of financial resources – all of which hinder effective adaptation (Shaw et al. 2022). A study by Vakulchuk et al. (2022) has found that research on climate change remains scarce in Central Asian scholarship, accounting for only 0.24 per cent of articles (33 articles in total) in key English-language journals on Central Asia research for the period 1991–2021. Social science research publications on climate change in the region are virtually non-existent.

Education, capacity building and public awareness raising have been identified as critical enablers of effective climate action in the region but are currently under-used as means of building resilience to climate change (Shaw, 2022). Research confirms that investments into education strategies and resources for building awareness and adaptive capacity on climate change need to be tailored and localized to the specific contexts, including through the integration of Indigenous and local knowledge. Gender inequalities in educational access and attainment in some parts of the region intersect with other forms of vulnerability in ways that further undermine women and girls' engagement in climate change adaptation.

### 2.1.1 Co2 emissions and mitigation targets for Central Asia

While Central Asian countries have historically contributed very little to global Co2 emissions, as signatories to the UNFCCC's Paris Agreement, they have made commitments to reducing their overall GHG emissions. Per capita Co2 emissions in the region vary greatly from country to country with Kazakhstan's emissions exceeding the global per capita average while Uzbekistan, Kyrgyzstan and Tajikistan's emissions are considerably lower and below the global average (Figure 2).

Figure 2. Per capita CO<sub>2</sub> emissions, Central Asia and world average, 1990–2022



All four countries have committed to reducing Co<sub>2</sub> emissions by formulating NDCs as part of the Paris Agreement, which are updated every five years. Kazakhstan aims for a 15 per cent reduction from 1990 levels by 2030 (25 per cent with aid), despite current levels exceeding those of 1990. The nation also targets carbon neutrality by 2060. Kyrgyzstan plans to cut emissions by 15.97 per cent by 2030, or 43.62 per cent with aid, moving towards carbon neutrality by 2050. Tajikistan’s initial goals involve reducing emissions to 80–90 per cent of the 1990 levels without conditions, and 65–75 per cent with conditions. Uzbekistan aims for a 35 per cent reduction in emissions intensity of GDP by 2030 compared to 2010, up from a previous 10 per cent goal. However, reaching these targets is dependent on securing significant levels of international climate finance and technical assistance (CAREC and ADB, 2023).



Meeting ambitious emissions reductions targets is likely to involve significant transformations to key sectors like energy and transport, which will generate demands for new skills and competencies – often referred to as green skills. A critical challenge is understanding how regional and national circumstances influence which skills are needed, for which sectors, and to address which dimensions of the climate challenge. Here again, nexus approaches such as the WEF framework can offer a valuable analytical tool for identifying high-priority skills that can have the most significant impact.

## 2.2 Regional cooperation on climate change and education

The regional context around climate change described above makes clear that countries in Central Asia share similar challenges and needs for which regional cooperation will be essential. The need for cooperation relates both to the management of transboundary climate risks for key sectors like water and energy, as well as more specifically to environmental and sustainability education, or CCE. Despite this need, efforts towards practical regional collaboration are widely seen to be falling short at present. This makes efforts for the compulsory inclusion of CCE in the curriculum (TsAKO's am) particularly challenging, but all the more important.

Environmental concerns in Central Asia are linked to global and local socio-economic issues, with shared paths despite each country's unique characteristics (CAREC, 2007). Historically, state policy in environmental education in the Central Asian region was promoted and adapted between 1990 and 2000 as part of the initiatives undertaken by the Interstate Environmental Council (CAREC, 2002). One of the enablers in unifying the region in climate change discussions was the single term "ecological education" used to address CCE. This terminology was reflected in regulations and educational programmes at the state level of these countries, emphasising all levels of education, from preschool to higher education.

Non-Governmental Organizations (NGO) play a significant role in promoting ecological education in the Central Asian region. Given the nature of their work, NGOs have had far more access to global expertise in this field than representatives of the state education system. Access to international expertise through the support of organizations such as UNESCO, the World Bank, the European Union, the Global Climate Fund and others, has enabled them to become a channel for bringing new conceptual ideas and successful practices to the countries of the region. Consequently, they have evolved into platforms for nurturing local capacity and fostering development.

One of the challenges in promoting ecological education is differing interpretations of the concept between representatives of government and NGOs. While the state education system has often linked the term "environmental education" with the scientific field of "ecology", NGOs tend to interpret this concept more expansively as "environmental education" or education with a focus on the environment (CAREC, 2002). Notably, each country had set its own approach to developing and implementing its environmental education policy, considering the dynamics of the local context.

In 2003, CAREC launched the Central Asia Programme on ESD to support the World Summit on Sustainable Development (WSSD), UNESCO, and the United Nations Economic Commission for Europe (UNECE) ESD Initiatives. Since 2003, the concept and philosophy of ESD has progressed and gained acceptance in Central Asian countries, with numerous enthusiasts at the sub-regional, national and local levels contributing to this process (CAREC, 2018). However, UNESCO (2019) identified a number of key issues for integrating ESD into education systems in Central Asia: ESD lacks representation in national policy and legal frameworks.

- Curricula in Central Asian countries often prioritize academic content over ESD concepts and competencies.
- Teachers in the region lack knowledge of transversal competencies and ESD-friendly pedagogical approaches of which CCE is an integral part, (all areas that TsAKO is working to address).

Today, under the umbrella of sustainable development, TsAKO recognizes the urgent need for regional cooperation, despite contextual differences. Most importantly, leveraging existing regional platforms and initiatives can increase the impact and reach of CCE in Central Asia. National and international platforms and initiatives throughout the Central Asian region, such as CAREC, Climate Box, Eco-schools, Young Farmer, Everyone Can Be a Bird, Green University, Recycle Birge and many others, offer significant potential for knowledge exchange, collaboration, and networking on challenges related to CCE. By embedding the CCE concept into existing regional initiatives, Central Asian countries can maximize synergies, resources and collective action to address climate change.

In Central Asia, youth engagement in climate change issues reflects a dynamic landscape of collaboration and activism, where young individuals actively participate in various initiatives addressing socio-economic and environmental issues. Through partnerships with international organizations like the UN and local NGOs, youth-led projects aim to build capacity, raise awareness and foster inclusivity, particularly concerning gender equality and the intersectionality of topics such as social development and mental health. These initiatives often center on local problem-solving, with a focus on empowering youth to address specific challenges within their communities.

# 3 National Analysis



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Following the Revised Framework for Assessing CCE Ambition (see Annex I) created for this study, this chapter provides a national analysis of each of the four Central Asian countries. The analysis is based on a review of national policies and literature, as well as the findings of interviews conducted for this study (see Annex II). For compatibility, the country profiles follow the same structure:

- Analysing key global commitments and national strategies on climate change.
- CCE in national planning including education plans, financing, monitoring and evaluation, and equity and inclusion.
- CCE in practice in the context of education infrastructure, teaching and learning, awareness raising and capacity building and partnerships.

## 3.1 The Republic of Kazakhstan



### • Global commitment and national strategies

- Kazakhstan's national commitments include undertaking a transition to a "Green Economy" by 2030, focusing on energy and efficiency, forming an "ecological culture", and reaching carbon neutrality by 2060.
- The Ministry of Ecology and Natural Resources coordinates climate change policy since 2019, aiming to mainstream adaptation policies across sectors.
- Inclusive participation is emphasized, with policies promoting empowerment of vulnerable groups, including women and youth, though systematic measures for addressing their specific needs are lacking.

### • CCE in national planning

- CCE in Kazakhstan is mainly integrated into basic science subjects or promoted through non-formal education, lacking standalone courses and interdisciplinary approaches due to a subject-based curriculum structure.
- Government support for financing CCE is insufficient, with a general lack of consideration for climate and SDG criteria in the budgetary process, leading to risks of under-financing and ineffective investment.

- Efforts are made to establish a National Data Bank for environmental information, but there lacks a specific mention of data for climate impacts and measures to monitor and evaluate CCE effectiveness.
- **CCE in practice**
  - Challenges in formal education include content overload in the curriculum, limited teacher involvement, and a reliance on private educational organizations for innovative approaches. Non-formal education is seen as more effective due to its practical understanding and flexibility.
  - Teacher professional development lacks specific focus on CCE, requiring comprehensive training across all levels and specialties.
  - Capacity-building and awareness-raising initiatives are mainly driven by non-formal organizations from international agencies or civil society.
  - Grassroots initiatives and young leaders play a critical role in addressing climate change challenges, highlighting the importance of comprehensive support to sustain their participation.



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### 3.1.1 Global commitment and national strategies

As a signatory to the Paris Agreement, The Republic of Kazakhstan aims to achieve carbon neutrality by 2060 and also takes into account the constraints imposed by the principles of equity, sustainable development and poverty eradication (Government of the Republic of Kazakhstan, 2023b). The nation has set ambitious goals to transition to a “Green Economy” by 2030, with energy efficiency and the formation of an “ecological culture” as priorities of this endeavor, as outlined in The Action Plan for 2021–2030 (Government of the Republic of Kazakhstan, 2020). According to a government interviewee, the 2030 agenda provides an important incentive to develop CCE and the political will to bring about change exists in the country. Kazakhstan is also motivated by broader national goals such as joining the OECD.

Since 2019, the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan has been responsible for developing and coordinating climate change policy. The government has also outlined plans to establish a permanent coordination mechanism for mainstreaming adaptation policies and measures into sectoral and territorial policies, linking other Ministries of National Planning, Finance and Development, Agriculture, Forestry, Energy, Health and Education with the Ministry of Ecology and Natural Resources (Government of the Republic of Kazakhstan, 2023b).

To ensure the preparedness of the population and inclusive participation in addressing climate impacts, the government aspires to empower all people, especially the most vulnerable, with knowledge and skills to equally contribute to the sustainable development of the country (United Nations Kazakhstan, 2020). Several policies on inclusion and gender equality were also identified in the country, such as youth involvement in environmental issues (Government of the Republic of Kazakhstan, 2022), and women’s participation in the decision-making processes of climate change (Government of the Republic of Kazakhstan, 2023b).

While the government has expressed intentions to empower all citizens to contribute to sustainable development – particularly the most vulnerable – effective measures and resolutions to address the specific needs of vulnerable groups have not been developed systematically (Yelubayeva et al., 2023). Interviews with a parliament representative and a local teacher from the Karaganda region further highlighted the challenges in fostering inclusive participation and addressing climate impacts. The parliament representative acknowledged the growing recognition of inclusion as a priority in sustainable development but noted the difficulty of effectively mainstreaming inclusive policies and practices without a foundational understanding of climate education. The teacher’s perspective underscored the disconnect between the country’s commitment to addressing climate change and the localized, nuanced challenges faced by schools and in particular by children with special needs. These insights emphasize the importance of integrating inclusive principles within the holistic framework of CCE that both cater to diverse needs within the community and respond to broader sustainability priorities.



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### *Innovative practice: Inclusive educational programming*

The “Everyone can be a bird!” programme, provides access to educational opportunities on environmental and climate change for children with learning disabilities. With the aim of popularizing environmental and nature conservation and increasing the visibility of persons with disabilities, this programme has proven effective in counteracting stereotypes and empowering more children to participate in addressing climate-related risks.

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### **3.1.2 CCE in national planning**

Education is intended to play a pivotal role in Kazakhstan’s transition to a green economy, according to the country’s Concept for Transition to Green Economy (2013) and Action Plan for 2021–2030 (2020). The integration of environmental consciousness into business, education and communities is a fundamental aspect of achieving the country’s objective of mainstreaming

adaptation policies and transitioning to a green economy. Therefore, the Government of Kazakhstan emphasizes the importance of incorporating sustainable development and environmental aspects into formal education systems and fostering an eco-oriented information space in the country (Government of the Republic of Kazakhstan, 2020). This includes improving the national curriculum, teacher development and financial support for education at all levels. However, at present these initiatives remain largely conceptual, with limited evidence of clear strategies for implementation.

Currently, there are no stand-alone courses on climate change in the country. Knowledge of climate education is mainly integrated as a cross-cutting topic into basic science (such as natural science, geography, biology, physics and chemistry) or promoted through non-formal education (Government of the Republic of Kazakhstan, 2023a). Kazakhstan's curriculum is built upon a subject-based structure, which hinders the adoption of an integrated or interdisciplinary approach and the development of critical competencies, such as socio-cultural understanding (Zhilbaev et al., 2022). As noted by interview respondents, the term "climate change education" was mostly used at the policy level as a response to frameworks such as the SDGs and climate action, while at the school level, issues around climate change and sustainable development are primarily categorized under "environmental education." This compartmentalizes climate learning into segmented subject knowledge and negatively impacts the coherence of CCE efforts.

Although the Environmental Code of the Republic of Kazakhstan (2021) highlights the need for government support in financing environmental education in educational institutions (including methodological research, awareness-building and professional development), there is still a general lack of consideration of climate criteria and criteria of SDG Targets in the budgetary process for education, according to the country's updated National Determined Contribution (2023b). This leads to risks of under-financing and ineffective investment for the comprehensive development of CCE in the country (Government of the Republic of Kazakhstan, 2023b). As pointed out by the respondent from the parliament, coordinated efforts from the Ministry of Finance and the Ministry of National Economy, together with a common implementation mechanism are crucial for budgetary and strategic planning. Overall, achieving effective implementation of CCE financing requires a collective understanding of its importance and a collaborative approach among all stakeholders.

The government has also made efforts to establish a National Data Bank as a comprehensive, transparent and accessible data system for environmental information (Government of the Republic of Kazakhstan, 2021). The parliament representative noted that the monitoring of training programmes has been conducted at the National Academy of Education and this includes tracking their alignment with the SDGs, particularly in addressing climate change. This comprehensive approach extends to the state level, where a Parliamentary Group commission oversees the monitoring of national SDG achievements, reflecting a commitment towards holistic progress tracking and accountability. Yet there is no specific mention of data for climate impacts on children, communities and schools or measures to monitor and evaluate CCE.



### 3.1.3 CCE in practice

The government's Eighth National Communication (2023a) outlines a plan to promote a lifelong learning system for environmental education and CCE in three phases: 1) Development of regulatory frameworks and a lifelong learning model (2021–2022), 2) Implementation of the credit system and recognition of non-formal education (2023–2024), and 3) Institutionalization of a lifelong learning mechanism at national level (2025).

In formal education, to ensure a supportive and secure learning environment in secondary education settings, the country implemented the Pilot National Project in Education “Comfort School” for 2023–2025, which takes into consideration the climatic and seismic conditions of the respective regions and energy-saving systems in school infrastructure and curriculum. However, unequal access to inclusive education infrastructure still persists and is further amplified in rural regions (Yelubayeva et al., 2023). The teacher interviewed in this study shared more detailed challenges in implementing national initiatives, for example, teachers' workload constraints, limited time for extracurricular activities, and disengagement from problem-solving processes. While formal education touches upon climate change and sustainable development, the curriculum is seen to contain too much information and to be provided in an overly formal approach, which is deemed overwhelming and disconnected from students' understanding. In this regard, non-formal education is seen as more effective because it can provide more practical understanding and offer greater flexibility. As pointed out by the parliament representative, private schools have well-developed climate education policies and programmes, suggesting a dependence on such institutions for innovative approaches to CCE. This raises concerns about the exacerbation of existing disparities in terms of access to quality public education and the perpetuation of inequalities in environmental awareness and action.

For teachers' professional development, none of the three major national standards and guidelines for teacher development address issues of CCE specifically, namely the Rules for organizing and conducting teacher professional development courses as well as post-course support for teachers' activities (2016), Law on the Status of the Teacher (2019), and Professional Standard – “Teacher” (2022). This gap represents a critical barrier to realizing the plans set out in the government's Eighth National Communication, as described above.



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#### *Innovative Practice: Professional Development for Teachers*

Orleu is the national center for professional development, which provides courses on ESD and teaching materials for teachers in secondary education settings. It is implemented by the UNESCO Almaty Regional Office and National Centre for Professional Excellence, aiming to empower teachers to integrate ESD into classrooms by providing them with relevant teaching materials, assessment tools and extracurricular activity design ideas for optimal educational outcomes.

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Some educators find the teaching of sustainable development too challenging due to a lack of systematic planning and coordination and inadequate support for teaching (Yelubayeva et al., 2023). One interviewee noted that teacher involvement in CCE is low even though the topic crosses many subjects. Climate change is presented to students as a compilation of basic information that they have to memorize for exams, which does not stimulate their interest or concern. Addressing this challenge requires comprehensive training at all levels and across specialties to ensure effective CCE delivery.

Capacity-building and awareness-raising campaigns in Kazakhstan are mainly initiated by NGOs ranging from international agencies to civil society. The parliament representative interviewed for this study expressed their concern regarding the lack of awareness of the SDGs at the highest level. Therefore, SDG commitments are often perceived as externally imposed among the population. However, grassroots initiatives and young leaders play a critical role in addressing climate change challenges. The First Youth Conference on Climate Change in Kazakhstan in 2023 showed that young people in Central Asia are actively involved in the climate agenda as volunteers and workers in NGOs and academia, especially in the water sector. Still, comprehensive support is needed to sustain their participation (Abibulloeva and Amanbaiuly, 2024). The local teacher interviewed for this study also described student-led initiatives which actively engage in the monitoring of air pollution and biodiversity in their local areas, exemplifying grassroots efforts to address environmental concerns and empower youth in community stewardship.

### 3.2 The Kyrgyz Republic



- **Global Commitment and national strategies**
  - The Kyrgyz Republic prioritizes a competitive digital economy for green growth, emphasizing sustainable development and green economic principles.
  - The establishment of the Coordinating Council on Climate Change, Environment and Sustainable Development in 2020 reflects a governmental focus on cohesive decision-making regarding climate-related policies, though inconsistent strategies and plans in addressing climate change hinder effectiveness.
  - Gender equality, Indigenous knowledge and community safety are seen as vital to climate adaptation policies, but clearer measures are needed for women's participation and local inclusion.
  - Challenges persist in improving infrastructure for students with physical mobility restrictions, underscoring the need for broader equity and inclusivity considerations.
- **CCE in national planning**
  - Kyrgyzstan prioritizes CCE in national planning since 2005, in line with the UNECE Strategy for Education for Sustainable Development.
  - CCE goals and strategies outlined in the First Nationally Determined Contribution (2021), aim to raise public awareness and integrate environmental education into schools.
  - Key challenges to the integration of CCE into planning include unclear division of responsibilities, inadequate cooperation mechanisms, insufficient resources and access to financing, and the absence of sustainability topics in the curriculum.

- Data collection on climate change and education lacks a comprehensive monitoring system, posing challenges for reporting and achieving the SDGs.
- **CCE in practice**
  - Kyrgyzstan has made strides in improving education infrastructure for CCE, focusing on safety assessments, energy efficiency and accessibility for students with disabilities.
  - Efforts are underway to integrate climate change topics into all curricula and enhance teaching methods, but challenges persist due to inadequate materials, disparities in teacher expertise and limited resources.
  - Public awareness campaigns on climate change are embedded in national policies, yet media coverage is still limited.
  - Collaboration with NGOs and international partners and youth groups is vital for advancing CCE initiatives, given the limited capacity within government structures.



### 3.2.1 Global commitment and national strategies

The Kyrgyz Republic demonstrates a commitment to addressing climate change through its participation in international initiatives and adherence to global frameworks. The country ratified the Paris Agreement and accessed the United Nations Framework Convention on Climate Change (UNFCCC) in 2000 as a Non-Annex I (non-industrialized) country. According to interviewees, Kyrgyzstan's obligations to the international community such as its participation in COP negotiations influence the country's increased actions and interest in climate issues. In 2020, the Coordinating Council on Climate Change, Environment and Sustainable Development was established to facilitate discussions and achieve cohesive decisions regarding the development and implementation of policies related to climate change, environment and sustainable development (UNESCO, 2023). This council is composed of representatives of all ministries and agencies in the country, including the Ministry of Education and Science of the Kyrgyz Republic.

As indicated in its National Development Strategy for 2018–2040 (Government of the Kyrgyz Republic 2021d), the focus of the country's development is creating a competitive digital economy for green growth. To achieve this, sustainable development and green economic principles are prioritized nationally across policy frameworks, along with developing climate change adaptation strategies to enhance resilience and reduce vulnerability. However, it is acknowledged in the country's Updated Nationally Determined Contribution that there is generally a lack of consistency among different strategies, plans and funding opportunities currently available in the country (Government of the Kyrgyz Republic, 2021b), which adversely affects the effectiveness of addressing the prevailing challenges. This concern is confirmed by interviewees from a leading ecological NGO in Kyrgyzstan. While there are ongoing efforts to adjust national adaptation plans to evolving climate change issues, the integration of concrete climate policies and their implementation remains a challenge. The lack of a clear direction towards climate education in national policies was also noted.

Gender equality, Indigenous knowledge and institutional mechanisms for the safety of local communities are considered integral parts of climate adaptation policies (Government of the Kyrgyz Republic, 2021c, 2021a). Yet, there is no clear explanation of what measures have been taken to ensure the meaningful participation of women and the inclusion of local voices in the decision-making process. National standards, programmes and textbooks now undergo gender examination before approval, showing increased attention to gender considerations, as discussed in the interview with the ecological NGO. However, there is a need to broaden the understanding of gender beyond vulnerability and inequality to also recognize and involve vulnerable groups such as people with disabilities, especially in rural schools, as well as develop nationwide comprehensive solutions. Some schools have been able to improve their infrastructure to better support students with physical mobility restrictions, for example by installing ramps for wheelchairs, but respondents at the ecological NGO noted continuing challenges with the quality of the ramps and access to higher floors in schools. The respondent at the Ministry of Natural Resources also indicated that, while important, equity issues are seen as the responsibility of the Ministry of Education. This underscores the necessity for a more expanded understanding of equity and inclusivity as cutting across the mandate of all government agencies.

### 3.2.2 CCE in national planning

Since 2005, Kyrgyzstan has officially committed to implementing the UNECE Strategy for Education for Sustainable Development, indicating its recognition of the importance of education in addressing sustainability challenges. Within its national policies, laws and strategies, CCE is not explicitly emphasized but included as part of “environmental education” or “education for sustainable development” (Government of the Kyrgyz Republic, 2017, 2019, 2021b). In 2021, Kyrgyzstan outlined specific goals and strategies for CCE in its First Nationally Determined Contribution (2021c), aiming to build public awareness and understanding of climate threats, integrate environmental education into schools starting from kindergarten, and develop national guides for incorporating sustainability and climate change issues into educational programmes. This is an important policy commitment, however, it has not yet been followed through sufficiently.

The country has stated that climate change is the first priority to be incorporated into national planning across all education levels (Government of the Kyrgyz Republic, 2021a). In pre-primary, primary and secondary education, there is no explicit reference to CCE, but it is covered within the curriculum of Geography and Natural Science since 2014 (Government of the Kyrgyz Republic, 2017). In higher education, while some universities offer Master's programmes in sustainable development, climate change is not yet fully integrated into university policies and strategies (Government of the Kyrgyz Republic, 2021a). There is also a growing recognition of incorporating climate change concerns in teacher training programmes in the country. For instance, the State Educational Standard for Higher Professional Education (2013) requires teachers' basic understanding of sustainability principles and global environmental issues, while the Comprehensive Action Plan for Climate Change Education stresses the need for advanced training of teachers "for the development and testing of new educational and methodological materials" on climate change issues (Government of the Kyrgyz Republic 2021a, p.31).

However, constraints still exist, including the lack of concrete timeframes, unclear responsibilities, and ineffective mechanisms for cooperation (Ibid). NGO representatives pointed out that despite the recognition of the importance of CCE and sustainable development in government documents, the process of integrating CCE into the education system is ongoing. A government respondent at the Ministry of Education noted a link with a resolution of Cabinet of Ministers on energy saving which requires that starting from pre-school and primary education, there are efforts to use publications, illustrations, and stories to teach children about energy and its importance to humanity. While there is no dedicated subject on this topic, the introduction of this material is underway. All interviewees in Kyrgyzstan noted the need to transform the previously widely used notion of "environmental education" into a more comprehensive understanding of education for sustainable development. Based on their work in this field, they identified resource shortages, marginalization of sustainability topics within the curriculum, and inadequate representation of climate change concepts as major hindrances to advancing CCE in the country.

Furthermore, financing for CCE remains a concern: with a need for further financial assistance to reach the country's adaptation and mitigation goals (Government of the Kyrgyz Republic, 2021c), it is unclear how much of the budget will be allocated for the purpose of climate education. Kyrgyzstan has a Nature Development Fund and a Centre for Climate Finance, both of which are currently assigned to the Cabinet Office rather than the Ministry of Natural Resources. This makes financing arrangements more complicated, according to interviewees. As highlighted by interviewees, this has hindered institutional capacity to develop CCE and resulted in continued reliance on external funding from international agencies such as the World Bank and the European Union.

The country's Third National Communication notes that data collection regarding climate change and education is conducted by multiple governmental agencies and stakeholders using different methodologies. Furthermore, the absence of "a vertically-integrated monitoring system" (Government of the Kyrgyz Republic, 2017, p.26) has jeopardized the country's efforts to achieve sustainable development goals. The lack of a comprehensive monitoring system poses a significant challenge, as noted by the respondent from the Ministry of Natural Resources, especially in preparation for reporting requirements to bodies like the United Nations Economic Commission for Europe (UNECE) on SDGs by 2025.

### 3.2.3 CCE in practice

Kyrgyzstan has taken some actions to enhance the education infrastructure to support CCE, including assessing the safety of school buildings and preschool educational institutions and drafting standards for energy-efficient and climate-resilient school buildings (Programme of the Government of the Kyrgyz Republic "Safe schools and preschools in the Kyrgyz Republic, 2015–2024", 2015), as well as providing a safe educational environment with consideration of the needs of children with disabilities (Education Development Programme for the Kyrgyz Republic, 2021–2040, 2021). International funds have supported some schools in the country to implement projects that have made their infrastructure more sustainable (e.g. renovating a greenhouse). For example, one interviewee discussed the Global Search for Sustainable Schools (2021) initiative, which funded 12 projects in four schools between 2019–2021. However, NGO representatives report that rural schools have been left out in this process. Students with physical mobility challenges still struggle with access to safe buildings, which requires more attention and action.

Moreover, the country aims to mainstream climate change into all curricula, create more educational materials to address climate change in the classroom and focus more on the emotional component of CCE through positive experiences (Government of the Kyrgyz Republic, 2021a). A 2021 study showed that the implementation of ESD in Kyrgyz elementary schools falls short due to inadequate materials and methods that fail to instill the necessary values, knowledge and skills in students for making sustainable decisions (Rozhdestvenskaya and Korotenko, 2021). This echoes the interview findings that the shortage of effective teaching methods and materials, disparities in teacher expertise between urban and rural areas, and limited resources have added more challenges to CCE. However, interviewees mentioned that considerable progress has been made in teachers' professional development, notably through a new training programme at the Republican Institute for Advanced Training of Teaching Personnel (RIPK) that enhances teachers' green skills and understanding of climate-related aspects, incorporating innovative approaches to reduce resources dependency. Additionally, the interviewee from the Ministry of Education and Science noted that CCE is not a standalone subject in the current state education standards but is integrated into primary school lessons under "Me and the World." It is also integrated into subjects like geography, biology and chemistry at secondary levels.

The respondent from the Ministry of Natural Resources further expressed concern about the lack of continuity in educational initiatives, with the development of educational and methodological manuals being one-off activities and lacking systematic follow-up. The challenge of fully integrating climate learning materials into textbooks for formal education was also noted, indicating a reliance on non-formal education opportunities. Hence, more evidence-based research is needed to examine the implementation and outcomes of the country's ambition in CCE.

Public awareness-raising for climate change is addressed in eleven relevant national policies in Kyrgyzstan (UNECE and Government of the Kyrgyz Republic, 2018). These cover issues including disaster risk reduction and effectiveness of public policy (National Council for Sustainable Development of the Kyrgyz Republic, 2013), gender-sensitive adaptation measures and traditional knowledge (Government of the Kyrgyz Republic, 2021a), and inclusive capacity-building

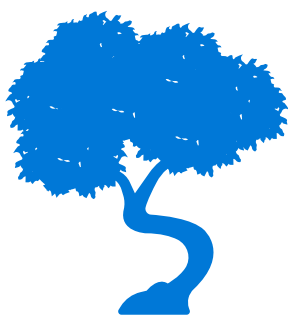
and awareness-raising measures for all sectors of society (Government of the Kyrgyz Republic, 2021c). However, critics have pointed out that climate change topics are only discussed on the websites of government bodies or NGOs and receive limited coverage in the media (Government of the Kyrgyz Republic, 2017). Interviewees from the ecological NGO underscored the importance of pilot initiatives highlighting successful practices in awareness-raising and capacity-building, and sharing valuable information resources to the public.

In addition to the need to enhance public awareness around climate change in general and CCE in particular, the government respondent also pointed out the pressing need to enhance the capacity of policy-makers in Kyrgyzstan. Currently, the level of competence in climate change is needed not only within the education system but also at higher levels of government where decision-making is limited.

Given that capacity-building and awareness-raising are mainly pursued by campaigns and programmes from NGOs in Kyrgyzstan, there is a need for better collaboration with civil society and international partners to support CCE initiatives (MECCE case study—Kyrgyzstan, N.d.). However, ‘foreign agents’ legislation implemented in 2024 looks set to significantly limit the activities of NGOs receiving funding from international sources in Kyrgyzstan and may in turn restrict the role that civil society is able to play in advocating for CCE (Imanaliyeva, 2024). Interviewees listed international development partners that have played a catalytic role in promoting the climate change agenda, such as the European Union, the OSCE Centre, UNESCO, UNDP and UNITAR. Interviewees also emphasized that public organizations and civil society in the country are pivotal in maintaining the agenda's visibility and advocating for government action. Furthermore, transparent collaboration with academic institutions can contribute to the effective implementation of development programmes and a diverse and non-discrimination agenda of social sustainability, which, in the context of promoting CCE, can foster interdisciplinary approaches and ensure diversity and inclusion.

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### *Innovative Practice: An International Project for Local Contexts*



The “Climate Box” Initiative, introduced by UNDP in Kyrgyzstan in 2016, aims to enhance awareness of climate change across all schools in the country. The Climate Box is a collection of educational resources for climate education. It is designed for teachers of natural science and students from Grades 2 to 12. Its objectives include fostering environmental awareness, disseminating climate-related knowledge, advocating for nature protection, and assisting teachers in developing and implementing climate change lessons.

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Interviewees confirmed that many young people in Kyrgyzstan are increasingly concerned about climate change in the region. According to an interview with a representative from a regional youth initiative network, youth activists demonstrate strong interests in climate-related topics and advocate for inclusive education and policy development to drive meaningful change. They actively discuss and advocate for these issues, along with concerns about waste management and air quality. They enthusiastically support initiatives addressing these concerns, prioritizing education, training and participation in scientific and climate efforts. Events like the Local Conference of Youth in Kyrgyzstan offer platforms for young people to voice their concerns and engage in dialogue about climate solutions and actions, empowering the youth of Kyrgyzstan to become leaders at local, regional and global levels.

### 3.3 The Republic of Tajikistan



- **Global Commitment and national strategies**
  - National strategies in Tajikistan prioritize climate change adaptation in sectors like energy, water, agriculture and transportation.
  - The Committee for Environmental Protection guides adaptation efforts, with energy, water resources, transportation and agriculture as adaptation priorities.
  - While there are measures designed to address gender concerns, limited attention has been paid to ethnic minority groups or the LGBTQIA+ community.
  - Concerns persist about data accessibility and transparency in social support systems, highlighting gaps in addressing climate-related poverty.
- **CCE in national planning**
  - Climate change issues are mainly integrated into disaster risk management and agriculture policies. Explicit mention of CCE in policy papers is rare.
  - Challenges persist in effectively incorporating CCE into formal education systems. National strategies stress the need for climate-focused curricula in secondary and higher education.
  - A consolidated system for monitoring and evaluating CCE initiatives is lacking, hindering the effective delivery of climate change topics in formal curricula and multi-stakeholder coordination.
- **CCE in national planning**
  - Tajikistan is actively engaged in capacity-building and awareness-raising efforts related to environmental education and climate change, although public participation in decision-making processes remains limited.
  - Public educational institutions aim to foster environmental education, but specific mention of climate change in the curriculum is lacking.
  - International agencies and development donors play a crucial role in enhancing the country's resilience to climate impacts and financing CCE.
  - Challenges include centralized governance structures limiting civil sector engagement and the need for coordinated efforts across ministries and stakeholders.





### 3.3.1 Global commitment and national strategies

Tajikistan has demonstrated its commitment to addressing climate change through its participation in global frameworks such as the Paris Agreement. At an international level, Tajikistan has led an initiative at the UN to declare 2025 as the International Year of Glacier Preservation. The country faces significant climate-related challenges, including heightened risks of natural disasters and acute power shortages (MECCE Project, N.d.). In response, Tajikistan has outlined its national strategies to mitigate and adapt to climate change, aligning its efforts with international goals for emission reduction and sustainable development (Government of the Republic of Tajikistan, 2019). While the 2022 Green Economy Development Strategy includes explicit provisions for climate change capacity building, its implementation remains limited without direct support. This underscores the need for more concerted efforts to translate policy objectives into tangible activities on the ground.

With a focus on disaster risk reduction, the government identifies key sectors for adaptation measures, such as energy, water resources, agriculture and transportation (Government of the Republic of Tajikistan, 2021c). Within the governmental coordinating bodies, the Committee for Environmental Protection (CEP) plays a crucial role in guiding climate change adaptation efforts. Four sectors, namely energy, water resources, transportation and agriculture, have been identified as adaptation priorities, while education is integrated across seven cross-cutting areas (Government of the Republic of Tajikistan, 2019). According to respondents from the Asian Development Bank (ADB) in Tajikistan, the country positions itself as a global leader in water diplomacy and prioritizes national strategies in energy, food security, human development and industrialization. This necessitates a better understanding of climate change issues and a robust monitoring system.

Tajikistan has adopted several normative legal documents on gender issues in social and economic life (Government of the Republic of Tajikistan, 2021b), as well as gender-responsive measures to climate adaptation (Government of the Republic of Tajikistan, 2021c, 2022). The government's current approach to inclusivity and vulnerability primarily revolves around women, youth and rural populations, with limited attention to marginalized groups such as ethnic minorities and the LGBTQIA+ community, according to ADB respondents. There are also concerns about the accessibility and availability of information about social assistance, particularly in remote areas. There is a gap between the database tracking the most vulnerable population to natural disasters and the database for social protection (which is outdated), highlighting issues of climate-related poverty and the disconnect between disaster management and social support systems. The intersection of climate change and equity was recognized by the environmental NGO respondent, who pointed out a recent training they organized on persons with disabilities and climate change.

### 3.3.2 CCE in national planning

The value of CCE in Tajikistan is more often integrated into its national policies and strategies on disaster risk management and agriculture (Government of the Republic of Tajikistan, 2019). According to the government respondent, there is a need to develop ecological education to support the country's strategy for responding to climate change. With a greater emphasis placed on environmental education and disaster preparedness campaigns in schools, the notion

of CCE is rarely mentioned explicitly in policy papers. Therefore, most of the population remains unfamiliar or even skeptical about the concept of “climate change”, according to the environmental NGO respondent. The perfunctory connection between environmental education and climate education has resulted in the creation of laws that are superficial, not just in the field of education.

In regard to the challenges that persist in effectively integrating CCE into formal education systems and ensuring equitable access to quality education for all (MECCE Project, N.d.), the National Strategy for Adaptation to Climate Change (2019) and the Medium-Term Development Program (2021a) emphasize the importance of developing curricula addressing climate change mitigation, adaptation and disaster preparedness for secondary and HEIs. Respondents from ADB highlighted the importance of ensuring that the education sector keeps pace with efforts from other sectors, such as energy, transport and urban development in addressing climate change challenges.

The Funding for CCE initiatives comes from various sources, including allocations from both national and local budgets, funds from charitable activities and grants obtained from international organizations (MECCE Project, N.d.). For example, ADB has assisted in the development of the finance plan for Tajikistan’s NDCs, outlining sector-wise costs for a comprehensive roadmap of climate financing. ADB has also provided budget support to introduce Gender Responsive Budgeting and Climate Change Responsive Budgeting, signaling a commitment from the Ministry of Finance to track resources allocated to sustainable development and climate initiatives. The NGO respondent further emphasized that the opportunity to access international funding is pushing the state to reassess its stance, prompting the formulation of strategies and laws that meet international standards and take concrete actions.

The government respondent noted that the 2011 Concept on inclusive education for children with disabilities is currently being updated. The updated version will reflect issues and concerns related to climate change. A consolidated system for monitoring and evaluating CCE initiatives in education, capacity building and communication is still lacking, hindering the effective delivery of climate change topics in formal curricula and multi-stakeholder coordination (Government of the Republic of Tajikistan, 2021c). These challenges underscore the need for concerted efforts to develop comprehensive educational planning for CCE, ensuring equitable access to quality climate education while fostering collaboration between sectors for effective implementation.

### 3.3.3 CCE in practice

In practice, Tajikistan is actively engaged in capacity-building and awareness-raising efforts related to environmental education and climate change (Government of the Republic of Tajikistan, 2022). Some notable advancements have been made, such as the University of Central Asia's pioneering degree in earth and environmental sciences at its Tajikistan campus. Furthermore, the emergence of faculties dedicated to renewable energy in national universities signals a positive shift, catalyzed by government initiatives aimed at cultivating a pool of qualified professionals in relevant fields. Meanwhile, universities are teaming up with development partners to foster green innovations and facilitate student engagement in competitions and hackathons centered on sustainable business solutions.

While public education institutions in Tajikistan aim to foster engagement in environmental education through subjects such as ecology, botany, general biology and so on, specific mention of climate change within the curriculum is lacking (State Complex Programme for the Development of Environmental Education of the Population of the Republic of Tajikistan to 2020, 2015). There is also a Law on Environmental Education (2010), which, as explained by the government respondent, gives public organizations and citizens the right to prepare proposals for the improvement and implementation of state policy in the field of environmental education.

The 2015–2020 State Comprehensive Program for the Development of Environmental Education (State Complex Programme for the Development of Environmental Education of the Population of the Republic of Tajikistan to 2020, 2015) outlines plans for teacher training in environmental education, including increasing communication and discussion opportunities among teachers at all educational levels and enriching the curricula of pedagogical universities with environmental disciplines and didactical methods. However, there is a lack of clarity from the state regarding the implementation status of these initiatives at different education levels. The NGO respondent shed light on the formidable obstacles encountered in rural environmental education, citing the scarcity of specialized teachers and the use of outdated textbooks even in well-resourced Russian-language schools. They also noted the need for greater investment, potentially by the private sector, in scientific research to advance education projects in coping with climate change issues.

Efforts have been made by the government and NGOs to address the low level of public awareness of climate change (Government of the Republic of Tajikistan, 2019). Progress has been seen in increased mass media coverage and public awareness on climate change-related topics (Government of the Republic of Tajikistan, 2022). However, public participation in the decision-making process of climate-related programmes and projects is currently limited (MECCE Project, N.d.). The discrepancy between decision-makers' perceptions of environmental issues and the urgent need for comprehensive climate education was highlighted by one interviewee. Along these lines, interviewees emphasized that CCE must encompass awareness-raising efforts targeting a wide range of stakeholders, including government officials, students and communities. The inadequacy of current educational initiatives was stressed as these often consist of one-off events rather than ongoing, updated programmes. At the same time, the importance of extending CCE beyond schools to include relevant agencies and institutions was emphasized. While acknowledging the talent of Tajikistani youth, the NGO respondent also stressed the need for more comprehensive preparation for future challenges.

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### *Innovative practice: Youth-Centered Initiative*



The Youth Ecological Centre of Tajikistan is a public organization established by teachers, scientists and students in 1997. The objective of the center is to advocate for the ecological rights of citizens, increase environmental awareness and nurture a generation of youth leaders in sustainable development.

With a focus on experiential learning, capacity building and advocacy, the center empowers young people with a sense of environmental responsibility and leadership skills to participate in climate change efforts.

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International agencies and development donors play an important part in enhancing the country's resilience to climate impacts, particularly in vulnerable communities and sectors (Government of the Republic of Tajikistan, 2021c). The government respondent noted that these efforts have often focused on developing environmental awareness among the population. As such, there could be more input into CCE specifically as well as scope for more joined up initiatives. For instance, one NGO represented proposed that the Ministry of Education leverage existing expertise and materials from NGOs and international organizations to enhance CCE initiatives. They advocated for an effective platform under the Ministry's auspice to organize data of knowledge and information. To realize this goal, legislative support is crucial, especially in remote areas where teacher resources are limited. While cooperation with organizations has been beneficial, greater engagement from decision-makers is needed in order to facilitate meaningful collaboration.

On the other hand, ADB respondents emphasized the importance of a structured, government-driven agenda to integrate environmental, social and governance criteria into a holistic approach to education and sustainable development. They also called for an improved collaboration mechanism among regional and international agencies, stressing the need for Ministry of Education leadership to coordinate efforts effectively. The formation of a working group on climate change within the Development Coordination Council offers a promising avenue for addressing cross-cutting issues. The government respondent underlined this, noting that addressing climate challenges requires the joint efforts of government agencies, NGOs and citizens throughout the region.

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### *Innovative practice: NGO Network on Climate Change*

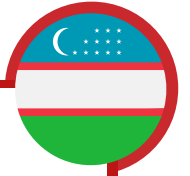


The Tajik NGO Network on Climate Change (TajCN) is an informal association for free exchange of information and dialogue on environmental protection, climate change and energy issues. It seeks to raise public awareness of Central Asia by actively involving all stakeholders in the cooperation of implementing national and regional climate change priorities and policies.

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The interviews also reveal the challenges facing civil society in the country, where a centralized governance structure leads to strict restrictions on activism, a lack of interest in civil engagement, and voices of NGOs and youth going unheard. To realize the country's potential for the systematic development of climate education, coordinated efforts involving development partners, civil society and improved coordination across all ministries are needed.

### 3.4 The Republic of Uzbekistan



- **Global Commitment and national strategies**
  - Uzhydromet serves as the national coordinator for climate change initiatives in collaboration with various government ministries.
  - Environmental and climate education is emphasized among national development goals, including in work towards implementing the SDGs.
  - The government prioritizes equity and inclusion, with efforts to accommodate children with special needs and foster social tolerance in schools.
  - There are some parallels between inclusive education and climate issues in political decision-making processes, though clarity and contextual specificity are lacking.
- **CCE in national planning**
  - CCE is integrated into environmental education, overseen by the Ministry of Education and the State Committee on Nature Protection.
  - There is an absence of specific policies for CCE within national strategies, raising concerns about its prioritization, and the limited levels of financing mobilized.
  - Monitoring of environmental conditions is primarily overseen by the Ministry of Ecology, Environmental Protection and Climate Change of the Republic of Uzbekistan, with limited involvement from the Ministry of Education.
  - The lack of CCE-specific indicators for monitoring and evaluation indicates a gap in its integration into holistic national climate adaptation efforts.
- **CCE in practice**
  - Notable progress has been made in integrating CCE into secondary school and university curricula, with 48 universities offering courses related to environmental safety and sustainability. The Green University stands out as a notable example in Uzbekistan and Central Asia.
  - Lack of availability of informative materials, particularly in the state language, poses a barrier to effective teaching and learning and public awareness-raising.
  - Compulsory coverage of climate change in teacher education programmes for primary education highlights a focus on teacher training, but inadequacies remain across all education levels.
  - More emphasis on equity and inclusion is needed in CCE practices to ensure all population groups have access to education and awareness-raising campaigns.
  - Collaboration between universities, regional cooperation and government initiatives are emphasized as crucial for effectively addressing environmental challenges.



### 3.4.1 Global commitment and national strategies

Uzbekistan has demonstrated its commitment to addressing climate change by signing and ratifying the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol (Government of the Republic of Uzbekistan, 2016). Uzhydromet serves as the national coordinator for the UNFCCC and the Paris Agreement, in collaboration with different ministries in the government, to support the country's transition to a low-carbon and green economy (Government of the Republic of Uzbekistan, 2021b).

The nation's commitment to sustainable development is emphasized through government regulations on environmental education. There have also been national consultation meetings led by the President. The government respondent described one meeting on the long-term climate situation in which over 50,000 people participated, including representatives of government agencies and NGOs. They explained that their department has set itself 16 goals, of which five are related to development of environmental and climate education. In 2020, with support from UNDP, they started creating the "Climate Box" programme in English, Russian and Karakalpak.

Furthermore, the government highlights equity and inclusion as guiding principles, with a focus on addressing the specific needs of vulnerable groups, such as women, children, youth, and marginalized communities (Government of the Republic of Uzbekistan, 2016). Resolution Number 638 by the Cabinet of Ministers (Approval of normative and legal acts on the education of children with special educational needs, 2021) on the education of children with special educational needs has seen the creation of inclusive schools and classes. To date, according to the government respondent, 419 classes have been put into operation, accommodating 778 children with special needs, primarily in primary education. According to the interviewee, this initiative not only fosters social tolerance but also creates a conducive learning environment for all students. Inclusion extends beyond academic performance to encompass efforts to bring all children up to par with their peers, reflecting a comprehensive understanding of inclusivity. The university leader interviewed for the study noted that policy-makers have recognized inclusive education (and in particular, the role of women) as related to climate issues.

### 3.4.2 CCE in national planning

In Uzbekistan, education and science are envisaged as critical strategies for the transition to a green economy (Government of the Republic of Uzbekistan, 2021b). CCE in the country is seen as a component of environmental education or ecological education, coordinated by the Ministry of Education and State committee on nature protection Goskompiroda (Government of the Republic of Uzbekistan, 2016). According to the government interviewee, the approval of the strategy for the conservation of biodiversity mandates integrating environmental and climate education across all education levels, from preschool to higher education. This effort involves creating regulatory documents and highlights interdisciplinary education. Recent measures like Cabinet Resolution No. 157 (Measures to Improve the Procedure for the Development and Implementation of State Educational Standards and State Educational Requirements, 2024) recognize the importance of enhancing students' skills in environmental conservation and the efficient utilization of alternative energy sources.

Critiques have pointed out that while the country recognizes the need to equip its workforce with foundational skills to thrive in a green economy and underscores a people-centered approach to climate change mitigation and adaptation (World Bank, 2023), the absence of specific policies dedicated to CCE within national strategies raises concerns about the prioritization of education in Uzbekistan's climate resilience plans (OECD, 2024).

Financing for CCE is another significant challenge. With limited resources allocated for the implementation of CCE, educational initiatives are facing barriers to sustaining or scaling up their programmes (World Bank, 2023). Moreover, the monitoring of environmental conditions and quality is primarily overseen by ministries and agencies focused on environmental conservation and resource management, particularly the Ministry of Ecology and affiliated research institutes, as noted by the government interviewee. Notably absent from this list is the Ministry of Education, indicating a lack of direct involvement of educational authorities in monitoring CCE initiatives (Government of the Republic of Uzbekistan, 2021a). The absence of CCE-specific indicators shows an evident gap in the integration of CCE into holistic national climate adaptation efforts.

### 3.4.3 CCE in practice

In Uzbekistan, efforts to promote CCE are shown in the establishment of educational centers dedicated to sustainable development within the National University of Uzbekistan (Government of the Republic of Uzbekistan, 2016). Moreover, the inclusion of disciplines such as ecology, climatology, and environmental sciences in educational plans at ten higher educational institutes (Government of the Republic of Uzbekistan, 2016) demonstrates a commitment to fostering a comprehensive understanding of climate change across different education levels.

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#### *Innovative practice: The Green University*



The Central Asian University of Environmental Studies and Climate Change, known as the Green University, was founded by Presidential decree in 2023 and its campus opened in 2024. It aims at training and upgrading specialists capable of addressing environmental, socio-economic, and scientific-technical challenges in Uzbekistan and the Central Asian region, as well as providing interdisciplinary research to support innovative systems in ecology, environmental protection and sustainable development.

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Progress has also been made to integrate CCE into secondary school and university curricula (Government of the Republic of Uzbekistan, 2021b), with 48 universities and institutes in the country offering courses related to environmental safety, sustainability and various aspects of the green economy. For example, the Green University will act as a center for environmental education and provide services to other research institutes, schools and universities that are interested in integrating components of environmental education. However, there are still notable shortcomings in the availability of informative materials at all educational levels, particularly in the state language, which poses a barrier to effective teaching and learning in this field (Government of the Republic of Uzbekistan, 2019b). The university respondent noted that ecology will soon become a compulsory subject in schools.

The Green University has decided to provide its education in the medium of English, in part because it is considered that the main sources and experts operate in English. While adaptation into Russian and Uzbek is planned for the future, it is not currently a priority due to the time and resources needed for this process. Moreover, the fragmentation among experts and specialists from different disciplines also reveals the need for cohesive approaches to promote CCE.

Coverage of climate change is compulsory in teacher education programmes for primary education in Uzbekistan (Government of the Republic of Uzbekistan, 2019a), yet the training and retraining of teachers in climate change issues across all educational levels remains inadequate (Government of the Republic of Uzbekistan, 2019b). As noted by the government respondent, not all teachers can adequately address climate change issues due to the complexities of this issue and certain difficulties in teacher competence.

Coordination of activities related to raising public awareness of climate change issues is entrusted to Uzhydromet (Government of the Republic of Uzbekistan, 2016). According to the interview with the university representative, the public is increasingly concerned about issues such as biodiversity loss and effective environmental protection measures. Solid waste management problems have also emerged as a pressing agenda for discussion. Collaborative projects with local, regional and international organizations are underway to integrate sustainable development and environmental standards into educational programmes, as introduced by the university respondent. However, the fact that educational and informative materials are predominantly online, limits their accessibility, potentially hindering awareness-raising efforts, especially among certain population groups (Government of the Republic of Uzbekistan, 2016). Both interview respondents mentioned the value of collaboration and noted that it would be beneficial to increase the number of joint events, forums and initiatives where experts, professionals and young people can discuss climate-related topics.

While Uzbekistan has taken steps to integrate CCE across various education levels, there remains a need for greater equity and inclusion in CCE practices, ensuring that all population groups have access to education and awareness-raising campaigns related to climate change (Government of the Republic of Uzbekistan, 2021b). Both interviewees pointed out the role of the government in catalyzing environmental initiatives, ensuring the presence of scientifically equipped personnel, and prioritizing timely climate education. The university respondent further highlighted the importance of universities and regional cooperation. While universities play a dual role in cultivating interest in environmental issues among students and providing the scientific framework for studying these issues, regional cooperation can involve collaborative research efforts among universities and policy-makers, leading to informed policy decisions. This collaborative approach is crucial for addressing environmental challenges effectively and urgently, given the irreversible nature of many processes.



# 4 Key Messages and Recommendations



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The country case studies illustrate the actions taking place in Central Asia, although levels of progress vary. This final chapter summarizes the key messages from the report, which in turn lead to recommendations for building on the current momentum and turning CCE ambition into concrete actions in Central Asia.

## 4.1 Key messages

### ***Policy commitments on CCE must be translated into concrete actions towards transforming educational practice:***

While Central Asian countries have produced a number of policies and initiatives relating to climate change and education, there are few policies expressly focussed on CCE. More significantly, we see major gaps between the ambitions set out in these policies and action to implement change. Barriers relate to variable levels of financial capacity, political will and organizational and capacity issues.

### ***CCE provides a natural focal point for enhanced regional coordination:***

The transboundary nature of climate impacts such as drought, access to water and related issues at the Water, Energy, Food, Ecology (WEFE) nexus are likely to amplify the need for regional coordination, which has already been flagged as lacking. The nature of these risks is similar (though not identical) across the countries under study, creating opportunities for joined up planning and action. Failure to advance regional coordination and cooperation risks undermining national efforts and commitments.

### ***A more robust regional picture of climate change will strengthen CCE:***

Data, information and resource gaps across the region reflect a lack of emphasis on climate change as an issue for analysis. This lack of emphasis may help to explain why CCE is not yet widely used as a term in Central Asia, with “environmental education” and related terms such as ESD more typically employed. The lack of a detailed understanding of what climate change will likely mean for the region, particularly in terms of the social dimensions of climate, will hinder the development of a locally-grounded and regionally contextualized CCE curriculum.

***Higher education should make significant contributions to developing local CCE capacity:***

Many HEIs in the region are already working to adapt curricula to topics related to CCE such as the green economy and ESD. A number of pedagogical HEIs have updated teacher training to support the development of teachers' green skills and understanding of climate-related aspects. At the institutional level, the new Green University in Uzbekistan, Nazarbayev University in Kazakhstan, and the regional University of Central Asia are examples of HEIs offering innovative teaching on CCE. Drawing on these regional resources is a crucial way of contextualizing and providing sustainability to CCE ambitions in the region.

***CCE learning needs to be more engaging and localized:***

The integration of CCE into formal education systems and policy frameworks remains limited. While there are many examples of international expertise being successfully harnessed, such as the adaptation of the UNDP Climate Box, the interviews also highlighted the need for CCE to be nationally tailored and grounded in local contexts. The interviews also showed the critical role played by local NGOs in supporting non-formal learning and awareness raising on CCE. Youth-led initiatives, for example, are often undertaken at small and local scales and over short timeframes but provide valuable opportunities for building networks among young people.

***Coordination among CCE partners should be strengthened:***

Interviewees repeatedly highlighted the work that multilateral and bilateral partners are doing regionally, as well as some references to multinational firms and management consultancies, and to a lesser extent to initiatives within national or regional governments or organizations. Interview respondents also suggested that some of the multilateral agencies have a tendency to take on responsibility only for particular dimensions of CCE/ESD – for instance one agency leading on curriculum and another agency leading on textbook development. Without strong ownership and leadership from governments, this can result in gaps and disconnection between the different mandates that agencies have set for themselves.

***Equity and inclusion must be central in CCE:***

The effectiveness of CCE in helping learners to be resilient, and even thrive in the face of climate impacts depends on the levels of educational access and attainment among those who are most vulnerable to climate-related threats. Across the region, concerns have been raised that groups including women and girls, as well as minority communities, may be doubly exposed to climate risks due to their limited access to education and lifelong learning opportunities. Recognizing the need for an intersectional approach to CCE was also highlighted as a priority by youth through the interviews.



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## Recommendations

In response to the key messages emerging from this report, the recommendations below offer concrete actions that can be taken in the Central Asia region and adapted to local contexts. While the recommendations are organized by the primary stakeholders to whom they pertain, all stakeholders (including many not listed here) should be encouraged to consider the role they can play in driving forward CCE in Central Asia. Fostering meaningful collaboration can support equity and inclusion through the involvement of diverse groups in planning around CCE, promote a range of perspectives across different population segments (e.g. local, youth, etc.), and support longer term planning and vision.

### 4.2.1 Governments

- Create a National Forum for **Inter-Ministerial Coordination on CCE**. This may be led by the Ministry of Education and/or Ministry of Natural Resources (or locally named equivalent) and should involve all government agencies that have a stake in education, climate change, natural resources, disaster prevention, gender, disability and related areas. Such a forum could adopt a more comprehensive approach to ensure equal access to climate-resilient educational infrastructure and quality CCE. This includes taking a broader understanding of vulnerability and inclusivity, especially considering the intersections of inequities for disadvantaged groups in remote and rural areas, or from marginalized groups.
- In conjunction with NGOs and HEIs, **upskill civil servants** to better understand and advance CCE policies, including building awareness for climate change and relevant equity issues, promoting an understanding of international frameworks and targets related to CCE/ESD, fostering leadership in leveraging resources and maximizing the impact of CCE grassroots initiatives.
- Ensure specific and sustained **funding for CCE**, with joint efforts from international organizations that provide financial support, NGOs that advocate and mobilize CCE resources and investment from the private sector.

## 4.2.2 Higher Education Institutions

- CCE should be integrated into the curricula for all **teacher training** programmes and teacher professional development provision.
- Universities in the region that are already taking innovative, interdisciplinary and novel approaches to teaching CCE could take on a “train the trainer” role to share course outlines, resources, and provide **capacity building** to faculty at other universities in the region.
- Universities can serve as **open hubs for innovative solutions** to climate change and collaborate with NGOs to extend the educational content to wider audiences, especially those in remote areas.

## 4.2.3 Schools

- Teachers should be supported through professional development, communities of practice, information sharing, and in their allocation of responsibilities to teach topics related to CCE by using **engaging and localized pedagogical practices** to attract and retain students’ interest.
- Schools can promote environmental stewardship by adopting **eco-friendly and climate resilient infrastructure and practices**. Funding to support efforts to build climate resilience should be allocated to help address pressing climate risks such as heatwaves, flooding and other key hazards.
- Build connections with local NGOs, youth groups, and other local organizations working on climate issues and **bring organizations into schools** to talk with students, co-develop school climate initiatives and encourage students to participate in non-formal CCE activities.

## 4.2.4 Youth

- Youth should have more **formal representation** in dialogues on CCE. This could be through the formation of youth-led Local Youth Councils which regularly bring together youth to discuss climate change issues affecting their locality and the role that education can play. A funding mechanism could be put in place to provide resources for Local Youth Councils to implement local projects and to meet on a national basis at least once a year in a National Conference of Youth Councils to share good practices. There could also be a Central Asian Regional Congress of Youth Councils. Youth-led organizations and initiatives can continue to amplify their voices, mobilize peers and collaborate with other stakeholders to influence policies and practices related to CCE. Support for these practices can foster the development of the next generation of environmental leaders.

## 4.2.5 NGOs

- NGOs should be **active participants** in multi-level consultations and decision-making on CCE at national and regional level. NGOs play an important role as regional centres of expertise and in translating research on CCE into practice. As pillars of the knowledge infrastructure, NGOs can help governments perform their CCE mandates.
- NGOs dedicated to CCE can be granted responsibility and resources for **improving public awareness** raising on local/national climate issues and supporting the development of civil advocacy.

#### 4.2.6 International organizations

- Facilitate a **Central Asian Regional Platform for CCE** to share knowledge, information, resources and experiences. This platform would bring together governments, international and local NGOs, universities, schools, youth groups and other stakeholders in the realm of CCE.
- Provide **funding and technical assistance** to scientists and researchers to develop locally relevant innovations that support the development of CCE. Research should be blue-skies (to support increased capacity in the research and innovation sector), applied (to advance hands-on solutions to current climate problems) and cover all scientific domains.
- Support the development of comprehensive and contextually **relevant monitoring and evaluation frameworks** that set clear objectives, indicators and targets for CCE, guided by national defined priorities and contexts, and in consultation with local NGOs and HEIs.

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# Annex I: Revised Framework for Assessing CCE Ambition

This framework is developed based on the integration of two major frameworks, GPE's Toward Climate-smart Education Systems: A 7-dimension Framework for Action (GPE, 2023) and Climate Change Education Ambition Report Card (Kwauk, 2022), as well as the other guiding documents such as UNESCO's Guide for Getting Every School Climate-Ready (UNESCO and Gibb, 2016) and UNFCCC Action for Climate Empowerment (UNESCO and UNFCCC, 2016).

Key dimensions of indicators from these frameworks are summarized below:

Toward Climate-smart Education Systems: A 7-dimension Framework for Action	<ol style="list-style-type: none"> <li>1. Data and Evidence</li> <li>2. Policy and Planning</li> <li>3. Coordination</li> <li>4. Finance</li> <li>5. Infrastructure</li> <li>6. Teaching and Learning</li> <li>7. Schools and Communities</li> </ol>
Climate Change Education Ambition Report Card	<ol style="list-style-type: none"> <li>1. Policy Ambition</li> <li>2. Pervasiveness (extent of integration)</li> <li>3. Inclusion (of key and relevant stakeholders)</li> <li>4. Quality of Climate Change Education</li> <li>5. Climate Justice</li> <li>6. System Strengthening</li> </ol>
UNESCO's Guide for Getting Every School Climate-Ready UNFCCC Action for Climate Empowerment	<ol style="list-style-type: none"> <li>1. Values and Priorities</li> <li>2. Institutional Capacity</li> <li>3. Governance and Management</li> <li>4. Teaching and Learning</li> <li>5. Partnership and Collaboration</li> <li>6. Monitoring and Evaluation</li> </ol>

To support a stronger analytical component for the present study, the metrics/indicators/action points in these frameworks have been merged (where the meaning and/or intention are identical) and/or rephrased to combine similar objectives. By integrating these frameworks and identifying areas of convergence and identifying critical aspects for the evaluation of climate change education from national, sub-national, school and cross-levels, this revised framework is more reflective of current international best practices. It enables a deeper analysis that, at the same time, is concise and usable, designed to spark further decisions and to be of practical value.

Level	Aspect	Indicator
Climate Change Education Ambition Report Card	Policy commitment to CCE	<p>Which global strategies/frameworks relating to CCE have these countries committed to?</p> <p>Which national policies/visions/strategies (henceforth: "policies") discuss CCE?</p> <p>Which goals/objectives/measurable targets on CCE are included in the national policies?</p> <p>To what extent is education a priority sector for national climate change efforts?</p> <p>How do the national policies connect to the following CCE approaches: gender-responsive, intersectional, based on science, engaging students, fostering specific, generic, and transformative capacities/civic engagement/climate action/awareness of climate justice, future careers in a green economy?</p> <p>Do national policies protect children's right to education, especially in the context of climate-related disasters and disruptions?</p> <p>Is CCE compulsory or optional?</p> <p>At which levels of education is CCE provided?</p> <p>What is the role and contribution of the Ministry of Education and education sector in national policies?</p> <p>How do education policies integrate climate change, disaster risk, environmental considerations and goals?</p>

Level	Aspect	Indicator
National Level	CCE financing	<p>Do climate budgets have a clear definition of climate-related financing in education budgets and education-related financing?</p> <p>What domestic financial mechanisms are mobilized (currently or planned) in support of efforts to make the education system more climate change responsive?</p> <p>How are financial resources for CCE allocated between different levels of education and training (K-12, higher education, TVET, adult learning)?</p> <p>What equity-based financing mechanisms are included in CCE financing?</p> <p>What plans exist to draw in international climate funding to the education sector and make greater use of disaster risk financing in the sector?</p>
	National planning, monitoring and evaluation	<p>Which climate change–related data/evidence (qualitative and quantitative) is needed to inform planning, implementation and monitoring a) CCE and b) the impacts of climate change on children, communities and schools? How will this data be collected?</p> <p>Which data system(s) would be used to manage this data? How will the data be analysed? In which user-friendly and accessible ways will the data be disseminated?</p> <p>How is CCE monitored and evaluated at national level?</p> <p>How can civil society support the monitoring of policy implementation, service delivery and threats to local natural environments?</p>

Level	Aspect	Indicator
National Level	Inter-sectoral coordination	<p>What communication and coordination mechanisms exist between education authorities, authorities responsible for climate change, environment and disaster management as well as other relevant ministries and agencies?</p> <p>Does the ministry of education actively engage in high-level multi-sectoral platforms on climate, disaster risk and environmental action?</p> <p>What collaboration exists between the ministry of education, relevant line ministries and humanitarian and development partners for the gathering, sharing, analyzing and disseminating of climate change, environmental and disaster-related data concerning children and schools?</p> <p>What involvement do different ministries (ministry of education as well as other government ministries, departments and agencies responsible for the natural environment, climate change and disaster management coordination) and teachers have in the CCE curriculum development process?</p> <p>How do education institutions involve different stakeholders, including students and members of the local community—including Indigenous and religious leaders, in the co-production of knowledge for CCE, climate action plan development/implementation/revision?</p>
Sub-national Level	Education infrastructure	<p>What provisions are included in national policy for greening/safe, climate-proof and climate-resilient education infrastructure? How are gender-responsive and disability-inclusive guidelines taken into account?</p> <p>When new schools are being built, what steps are taken to ensure they are safe from natural hazards and protect the environment? How are gender-responsive and disability-inclusive guidelines taken into account?</p>



Level	Aspect	Indicator
Sub-national Level	Education infrastructure	<p>In building or refurbishing schools, is priority given to sustainably produced or locally sourced materials, ensuring that the extraction of the materials does not contribute to the deterioration of local ecosystems?</p> <p>What steps are being taken to use renewable and clean energy (for example, solar) solutions in education infrastructure?</p> <p>How do schools engage with school and community stakeholders regarding school infrastructure development?</p> <p>What CCE learning opportunities are in place that use the built school environment (for example, food gardens)?</p>
	Teaching and learning	<p>What capacity building opportunities, resources and mutual learning opportunities are available for CCE in relation to teacher training/professional development/professional autonomy and academic freedom?</p> <p>What mechanisms are in place to ensure that teachers are well-supported to teach climate change in an inclusive and just manner?</p> <p>What knowledge, skills, values and attitudes exist in different subjects and through the grades integrating climate change, sustainability, disaster risk reduction and environmental conservation through a gender equality lens?</p> <p>How do these approaches match the priorities identified in the national policies?</p> <p>What interdisciplinary or transdisciplinary learning approaches are employed?</p> <p>To what extent are active, participatory, action-oriented and experiential forms of pedagogy deployed?</p>

Level	Aspect	Indicator
School Level	School level planning and coordination	<p>Is there a school disaster management or contingency plan with a focus on localized climate change threats?</p> <p>What steps do schools take to conduct climate change risk assessment and wider consultations with students, school staff and community members?</p> <p>How do schools engage in processes/consultations/partnerships with families, other schools, local businesses, community centers, and other stakeholders regarding CCE, climate change, disaster risk and environmental action?</p> <p>How are gender-specific concerns taken into account during school level planning and coordination efforts? What steps can schools take to ensure that gender-specific concerns and proposals are fully expressed and considered?</p>
Cross-level	Equity and inclusion	<p>How do national policies on CCE envisage the role of/needs of a) education unions and student organizations, b) vulnerable populations of students, including Indigenous groups, out-of-school girls and boys, poor communities, people with disabilities, people of colour, women, girls and children?</p> <p>To what extent do national policies recognize the disproportionate impacts of climate-driven crises on the most vulnerable, including girls, as well as include processes that are responsive to these impacts and give a voice to both girls and boys, women, Indigenous and minority communities and those with special needs?</p> <p>How are specific groups differently impacted by climate change?</p>

Level	Aspect	Indicator
Cross-level	Equity and inclusion	<p>How do national policies promote diversity, equity and inclusion of cultures, knowledge, epistemologies and other ways of knowing and being?</p> <p>How does CCE address the specific needs of diverse geographic and demographic contexts? What processes exist to involve students and youth in decision-making processes related to climate change actions?</p> <p>Are data disaggregated according to age, sex, disabilities, location and other relevant demographic and socio-economic characteristics to enable targeted interventions that better address specific needs and climate-related vulnerabilities?</p> <p>How are gender and gender norms integrated in climate change-related curricular content and learning outcomes?</p>

# Annex II: Documents reviewed

## 1. Kazakhstan

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# Annex III: People consulted

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Kazakhstan	Aida Akhmetzhanova	National Coordinator for ESD in Kazakhstan and Vice President of National Academy of Education (currently Senate Deputy Director of the Analytical Unit)
	Yelena Varganova	Teacher, Temirtau School
Kyrgyzstan	Zhyldyz Duishenova	Chief specialist of the Atmospheric Air Protection Department of the Ministry of Natural Resources, Ecology and Technical Supervision of the Kyrgyz Republic
	Olga Bryzgalova	Senior Specialist, Department of School, Extracurricular and Additional Education, Ministry of Education and Science of the Kyrgyz Republic
	Vladimir Korotenko	Chair, BIOM
	Anna Kirilenko	Executive Director, BIOM
	Alfiya Nasyrova	Project Coordinator, BIOM
Tajikistan	Farrukh Khudoidodzoda	Head of Department for International Relations, Ministry of Education and Science of the Republic of Tajikistan
		Project Coordinator, 'Little Earth' NGO
	Natalya Idrisova	Principal Social Sector Specialist, Asian Development Bank (Tajikistan)
	Xin Long	
	Ganjina Fazilova	Associate Project Officer, Asian Development Bank (Tajikistan)
	Zebo Jalilovant	Social Safeguard Officer, Asian Development Bank (Tajikistan)



Country	Name	Organization
Uzbekistan	Jasur Salikhov	Acting Rector, Central Asian Green University
	Mekhriniso Paradaeva	Head of the Department on Teacher Policies and Curriculum Standards at the Republican Education Scientific Methodological Center under the President's Administration
Regional	Nikita Durnev	UN Sustainable Development Solutions Network - Youth Initiative GSPP, Nazarbayev University

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