



CENTRAL ASIA REGIONAL ECONOMIC COOPERATION PROGRAM (CAREC) CLIMATE CHANGE ACTION PLAN

2025–2027

FOR ENDORSEMENT
23rd Ministerial Conference
Central Asia Regional Economic Cooperation Program
8 November 2024, Astana

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Acknowledgments

The Climate Change Action Plan was developed on behalf of the Central Asia Regional Economic Cooperation (CAREC) Secretariat and the Asian Development Bank (ADB) under the technical assistance, Supporting Regional Actions to Address Climate Change under the CAREC Program. The team would like to thank Yevgeniy Zhukov, Director General, Central and West Asia Department (CWRD); Xiaohong Yang, Deputy Director General, CWRC; Lyaziza Sabyrova, Regional Head, Regional Cooperation and Integration Unit, CWRD; Johannes Linn, Non-Resident Senior Fellow, The Brookings Institution, ADB consultant; Irene de Roma, Senior Programs Officer, CWRD; and Jennifer Lapis, Projects and Events Coordinator, ADB consultant for the invaluable support and guidance.

The development of the CAREC Climate Change Action Plan (CCAP) has been a collaborative effort involving numerous stakeholders dedicated to addressing the pressing challenges posed by climate change in the CAREC region. The team extends its heartfelt gratitude to the Working Group on Climate Change (WGCC) for their dedication and active participation in identifying key action areas and strategies that reflect the needs and priorities of member countries, while ensuring alignment with regional and global climate goals.

The team would like to thank CAREC sectors and clusters' focal points for their engagement and valuable feedback. The team also appreciates the regional cooperation coordinators and national focal points' advisors in all CAREC countries for their assistance in organizing and hosting in-person meetings and virtual consultations. The team would also like to thank senior officials in CAREC countries and development partners for their input, feedback, and contributions.

Together, these contributions have laid the groundwork for a comprehensive approach to climate adaptation and mitigation in the CAREC region, fostering a shared vision for a sustainable and resilient future.

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Executive Summary

The Central Asia Regional Economic Cooperation (CAREC) region is highly vulnerable to climate impacts, including rising temperatures, extreme weather events, and natural hazards, threatening energy and water availability, food security, and overall economic stability.

To combat these risks, significant regional investments are required to enhance resilience, develop climate-adaptive infrastructure, and support the transition towards low-carbon economic pathways, which not only align with global climate targets but also promote economic efficiency and job creation.

The CAREC Climate Change Action Plan

The CAREC Climate Change Action Plan (CCAP) builds upon the regional [Climate Change Scoping Study](#), and the [Regional Action on Climate Change: a Vision for CAREC](#), endorsed at the 22nd CAREC Ministerial Conference in November 2023 in Tbilisi, Georgia. The CCAP provides a comprehensive framework to address climate change challenges and advance regional climate actions through enhanced coordination among the various CAREC sector committees and working groups.

The CCAP is a rolling three-year plan, initially for 2025–2027, seeking to identify gaps in regional climate actions, prioritize and attract financing for regional climate adaptation and mitigation projects, and strengthen collaboration among development partners.

The CCAP was developed in close consultation with the CAREC's Working Group on Climate Change (WGCC), comprising representatives from member countries and development partners. It focuses on achieving "A Climate Resilient and Low Carbon CAREC Region" through four thematic action areas: climate risk, preparedness, and health; water-energy-food security nexus; low-carbon growth; and the establishment of a CAREC Climate Platform for regional cooperation and knowledge sharing.

The CCAP emphasizes gender equality and environmental sustainability, ensuring that climate actions consider the vulnerabilities faced by women and integrate safeguards to protect ecological resources. It also aligns with broader regional and national strategies and plans, enhancing cooperation among CAREC countries to address climate impacts effectively.

Action Plan Areas

The first action area, "Climate Risk, Preparedness, and Health", focuses on increasing the resilience of regional assets and enhancing countries' capacity to prepare for and respond to climate and disaster risks. Initiatives include regional climate risk assessments and resilient infrastructure planning; regional multi-hazard early warning systems; health and climate change; and regional risk transfer solutions for the CAREC region.

The second action area, "Water-Energy-Food Security Nexus", aims at increasing countries' resilience to climate shocks across the water, agriculture, and energy sectors. Initiatives include regional glacier risk assessment, water forecasting, and climate adaptation in mountainous areas in collaboration with the Glaciers-to-Farms (G2F) regional program and irrigation, reservoir restoration, and river basin monitoring in Central Asia in coordination with CAREC water pillar working group.

The third action area, "Low-Carbon Growth", focuses on mitigation actions and creating the enabling conditions to shift to a low-carbon economy. Areas of support will include decarbonization of trade and transport corridors, grid readiness and renewable energy integration, emissions reduction in urban areas, and carbon market development.

Lastly, the fourth action area, "CAREC Climate Platform," aims to conceptualize climate institutions for cooperation, facilitate capacity development, and propose financing sources for climate actions. Under

this action area, support will be provided on capacity development, knowledge generation and dissemination, climate finance, and preparation of bankable regional climate projects.

Implementation, Financing, and Monitoring

The implementation of the CCAP relies on an institutional framework involving multiple levels of governance. The CAREC Ministerial Conference will provide strategic guidance for the CCAP, meeting annually to discuss policies of regional relevance. At the same time, the CAREC Senior Officials' Meeting will monitor progress to ensure alignment with ministerial decisions and discuss regional climate adaptation and mitigation projects. The CAREC WGCC, with its country and development partner representatives, will facilitate CCAP implementation, including integrating climate change across CAREC clusters in coordination with sectoral committees and working groups and promoting regional initiatives aligned with national climate strategies. The CAREC Secretariat will provide organizational support and coordinate efforts among member countries and development partners. The CAREC Climate Change Vision also anticipates the establishment of the CAREC Climate Change Steering Committee to oversee climate actions and align strategies across sectors, comprising CAREC National Focal Points and high-level officials from relevant ministries and agencies.

The practical implementation of the CCAP will require significant financial resources, as climate adaptation and mitigation have historically received limited investment in past CAREC projects. The CCAP will seek to mobilize resources through various approaches, including scaling up financial support from CAREC development partners and international climate funds, and developing innovative solutions to attract further investments from the private sector, including international reinsurance and capital markets for regional risk transfer solutions. Critical partners like the Asian Development Bank, the World Bank, the Green Climate Fund, and others are well-positioned to lead financing efforts and support the implementation of the CCAP. Additionally, establishing the CAREC Climate and Sustainability Project Preparation Fund (CSPPF) will assist CAREC countries in developing bankable regional climate projects aligned with their commitments under the Paris Agreement.

List of Abbreviations

| | | |
|-----------|---|--|
| ADB | – | Asian Development Bank |
| AP | – | Action Plan |
| ABEC | – | Almaty-Bishkek Economic Corridor |
| AIIB | – | Asian Infrastructure Investment Bank |
| CAP | – | climate action plan |
| CAREC | – | Central Asia Regional Economic Cooperation |
| CAREC Eco | – | Regional Environmental Centre for Central Asia |
| CCAP | – | Climate Change Action Plan |
| CCS | – | Carbon Capture and Storage |
| CPMM | – | CAREC Performance Monitoring and Measurement |
| CSPPF | – | Climate and Sustainability Project Preparation Fund |
| CWRD | – | ADB Central and West Asia Regional Department |
| DMC | – | developing member country |
| DP | – | development partner |
| DRM | – | disaster risk management |
| EBRD | – | European Bank for Reconstruction and Development |
| ESCC | – | CAREC Energy Sector Coordinating Committee |
| EU | – | European Union |
| ETM | – | Energy Transition Mechanism |
| ETS | – | emissions trading system |
| EWS | – | Early Warnings for All Initiative |
| G2F | – | ADB Glacier to Farm concept project |
| GCF | – | Green Climate Fund |
| GFDRR | – | Global Facility for Disaster Reduction and Recovery |
| GHG | – | greenhouse gas |
| GIZ | – | Deutsche Gesellschaft für Internationale Zusammenarbeit |
| GLOF | – | glacial lake outburst flood |
| GOST | – | gosudarstvennyy standard (state standard) |
| IsDB | – | Islamic Development bank |
| MDB | – | multilateral development bank |
| LDC | – | least developed countries |
| LMIC | – | low- and middle-income countries |
| MC | – | Ministerial Conference of CAREC |
| MHEWS | – | multi-hazard early warning systems |
| NAP | – | national adaptation plan |
| NBS | – | nature-based solutions |
| NDCs | – | Nationally Determined Contributions |
| ND-GAIN | – | Notre Dame Global Adaptation Initiative |
| NWP | – | numerical weather prediction |
| SIDS | – | small independent island states |
| SOM | – | Senior Officials' Meeting of CAREC |
| SOFF | – | Systematic Observations Financing Facility |
| SNIPs | – | construction rules and regulations |
| UNGA | – | United Nations General Assembly |
| UNFCCC | – | United Nations Framework Convention on Climate Change |
| UNDP | – | United Nations Development Programme |

| | | |
|-------|---|---|
| UNDRR | – | United Nations Office for Disaster Risk Reduction |
| UNEP | – | United Nations Environment Programme |
| WB | – | World Bank |
| WGCC | – | Working Group on Climate Change of CAREC |
| WMO | – | World Meteorological Organization |

Glossary

- Adaptation – In human systems, adaptation refers to the process of adjustment to actual or expected climate and its effects, to moderate harm or exploit beneficial opportunities. In natural systems, adaptation refers to the adjustment process to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects.
- Climate change – Long-term temperature shifts and weather patterns due to natural processes and human activities.
- Disaster – Severe disruption of the functioning of a community or a society is triggered by geophysical or extreme weather hazard events leading to human, material, economic, or environmental losses and impacts. Disasters occur when hazard events and extreme weather hazard events interact with the exposure of vulnerable people and assets to those events.
- National adaptation plans or NAPs – The objectives of NAPs are to (i) reduce vulnerability to the impacts of climate change by building adaptive capacity and resilience and (ii) Integrate adaptation into new and existing national, sectoral, and sub-national policies and programs, especially development strategies, plans, and budgets.
- Nationally determined contributions or NDCs – The efforts that countries around the world pledge to reduce their GHG emissions and adapt to the impacts of climate change. NDCs are at the heart of the Paris Agreement and the achievement of its long-term goals. NDCs embody efforts by each country to reduce national emissions and adapt to the impacts of climate change. The Paris Agreement (Article 4, paragraph 2) requires each Party to prepare, communicate, and maintain successive NDCs that it intends to achieve. Parties shall pursue domestic mitigation measures to achieve the objectives of such contributions.
- Nature-based solutions – Actions to protect, sustainably manage, or restore natural ecosystems that address societal challenges such as climate change, human health, food and water security, and disaster risk reduction effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.
- Natural climate solutions – Solutions that apply specifically to climate mitigation and include energy efficiency, integration of renewable energy, sustainable transport and buildings, forest management, and sustainable agriculture. Nature-based solutions and nature climate solutions are sometimes used interchangeably depending on practitioners and areas of interventions.
- Paris Agreement – A legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in 2015. Its overarching goal is to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels” and pursue efforts “to limit the temperature increase to 1.5°C above pre-industrial levels”.

- Resilience
- The capacity of interconnected social, economic, and ecological systems to cope with a hazardous event, trend, or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure. Resilience is a positive attribute when it maintains the capacity for adaptation, learning, and transformation.

Source: ADB, UNFCCC, Oxford Research Encyclopaedia for Climate Change

I. Background

1. The Central Asia Regional Economic Cooperation (CAREC) Program is a partnership of eleven countries¹ and development partners cooperating for mutual benefit and greater regional prosperity. CAREC countries are highly vulnerable to climate change impacts and natural hazards², which are set to increase in the future.³ Climate change projections show that, on average, the CAREC region is set to become considerably warmer,⁴ leading to a shift in climatic patterns, extreme rainfall events, heatwaves, droughts, and glacial retreats. These climate impacts will have compounding effects on energy and water availability, food security, and the people and economies of the region.

2. Climate impacts cause fatalities and displacement, disrupt essential services, and damage infrastructure and the built environment, with repercussions on critical sectors such as transport, energy, water, transport, and health, among others. Between 2000–2024, floods, the most prominent natural hazards in the region⁵, have caused more than \$1 trillion in losses. Although statistically less significant, droughts are proportionally more damaging and have caused \$370 billion in losses.⁶

3. In March-April 2024, northern Kazakhstan was hit by the worst floods in 80 years, affecting 18,000 households, causing the displacement of 118,200 people, and leading the Kazakh Government to declare a state of emergency in ten of the country's 17 regions.⁷ In August 2022, Pakistan experienced catastrophic floods triggered by heavy rain following a severe heatwave and drought. Due to the compounding climate shocks, the floods killed 1,739 people and affected a total of 2.3 million people, with an overall estimated \$14.9 billion of economic losses.⁸ During the winter of 2023–2024, Mongolia faced the second most severe *dzud*⁹ since 1945 for the fourth consecutive time in a decade. The associated impacts resulted in the loss of 7.8 million livestock (13% of the country's total), with an estimated economic value of 2.5 trillion MNT (approximately \$733.5 million). In 2024, according to the Ministry of Emergency Management, floods affected 26.4 million people across China, with 328 either dead or missing, 76.9 billion yuan (\$10.1 billion) in economic losses, and 2.42 million hectares of cropland affected.¹⁰

¹ CAREC countries include Afghanistan, Azerbaijan, the People's Republic of China, Georgia, Kazakhstan, the Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan. ADB has placed its regular assistance to Afghanistan on hold, effective 15 August 2021.

² ADB. 2023. [CAREC 2030: Supporting Regional Actions to Address Climate Change - A Scoping Study](#). Manila.

³ Most CAREC countries ranked with high or very high vulnerability to climate change and natural hazards according to the ND-GAIN index assessing countries' vulnerability to climate change and other global challenges in combination with their readiness to improve resilience to climate change. Data source: Notre Dame Global Adaptation Initiative, See <https://gain.nd.edu/>

⁴ Projections show that the region will be 2°C warmer by the 2050s and more than 3°C warmer by the 2090s according to conservative emission scenarios, while the high emissions scenarios project an average increase in excess of 5°C by the 2090s. [World Bank Climate Knowledge Portal](#).

⁵ 66% of natural hazards in the region are caused by floods. Source: EM DAT International Disasters Database: <https://www.emdat.be/>, Data retrieved July 2024.

⁶ Ibid.

⁷ Reliefweb: <https://reliefweb.int/disaster/fl-2024-000039-kaz>

⁸ [Pakistan Floods 2022 Post Disaster Needs Assessment](#)

⁹ A compound hazard occurring in Mongolia due to a cold dry climate, and encompassing drought, heavy snowfall, extreme cold, and windstorms. It impacts Mongolia's social and economic sectors as well as many other key development issues such as public health, migration, urbanization, unemployment, and livelihoods.

¹⁰ <https://www.reuters.com/world/china/chinas-rains-floods-led-near-doubling-natural-disaster-losses-july-2024-08-09/>.

Historically, the 1998 floods in the People's Republic of China (PRC) affected 223 million people, claimed the lives of 4,150 people, and caused direct economic losses of \$35 billion (in 2018 values). GFDRR, World Bank, [Natural Disaster Challenges in China: Key Trends and Insights](#).

4. Mountainous areas are among the most vulnerable in the CAREC region because that is where climate impacts such as temperature increases and extreme and unseasonal weather events are felt the strongest.¹¹ Mountainous areas are increasingly experiencing glacial retreat, flash floods, glacial lake outburst floods (GLOFs), landslide, and associated natural hazards, with wider repercussions on downstream water availability, energy production, food security, and livelihoods of local communities, increased disaster risk, and human mobility.¹²

5. Heat stress and extremely high temperatures are also increasing throughout the region, particularly in the lowlands, posing challenges to energy, water, and transport infrastructure.¹³ Extreme heat is among the leading causes of death from cardiovascular and respiratory diseases, especially among the most vulnerable, such as children, women, and the elderly. A study found that, between 2000–2019, approximately 489,000 heat-related deaths occurred each year globally, with 45% of these in Asia and 36% in Europe.¹⁴

6. Significant regional investments are required to overcome these challenges to increase the CAREC region's resilience to climate shocks and ensure that energy, water, and transport infrastructure is climate resilient. Investments in climate adaptation measures will be needed to increase the preparedness and readiness of countries and to reduce future damage and losses, shifting to early warning and pre-emptive disaster risk management while also leveraging resources to finance adaptation projects, including risk insurance instruments as part of a comprehensive disaster risk financing strategy.

7. CAREC countries have opportunities to continue shifting to low-carbon economic pathways. This would contribute to national and global climate targets and hold warming to well below 2°C but would also improve economic efficiency of energy use and reduce environmental damage, especially pollution. Moreover, it would generate new jobs and economic opportunities via decarbonization of CAREC sectors, integration of renewable energy into the regional grid, and integration of innovative climate-smart solutions in trade and agriculture, among others.

8. Climate mitigation and adaptation actions should be pursued at the regional scale since climate change impacts are, by their own nature, regional and transboundary. For example, glacier melt affects the availability of water and energy resources in the region, expanded reliance on renewable energy requires strengthening the regional energy grid (including energy storage and hydropower integration), natural hazards such as droughts and floods may have region-wide impacts, and need a regionally coordinated weather and climate prediction and early warning actions. Regional transport networks are best decarbonized in a coordinated manner (electrification, public transport integration), and technology, knowledge, and best practices can be effectively shared on a regional basis.¹⁵

¹¹ University of Central Asia. 2019. [Climate Vulnerability & Adaptive Capacity of Mountain Societies in Central Asia](#). Almaty.

¹² Saidaliyeva, Zarina & Muccione, Veruska & Shahgedanova, M. & Bigler, Sophie & Adler, Carolina & Yapiyev, Vadim. (2024). Adaptation to climate change in the mountain regions of Central Asia: A systematic literature review. *Wiley Interdisciplinary Reviews: Climate Change*. 10.1002/wcc.891.

¹³ Future climate projections are based on the Coupled Model Intercomparison Project Phase 6 (CMIP6) models, which are utilized within the Sixth Assessment Report (AR6) of the Intergovernmental Panel on Climate Change (IPCC), providing estimates of future temperatures and precipitation. Future scenarios are based on different assumed levels of greenhouse gas emissions.

¹⁴ Zhao et al, 2021. [Global, regional, and national burden of mortality associated with non-optimal ambient temperatures from 2000 to 2019: a three-stage modelling study](#).

¹⁵ Footnote 2.

9. The CAREC 2030 Strategy,¹⁶ approved in 2017, provides the long-term strategic framework for the CAREC Program leading to 2030. The Strategy refers to climate change as a regional challenge but does not explicitly include climate action as a cross-cutting focal area. Despite this, CAREC has rapidly adapted and taken several steps to respond to the countries' changing needs and priorities. CAREC is committed to addressing the pressing challenges of climate change and has been focusing on strengthening the resilience of its operations and activities to climate impacts while also contributing to the global efforts to mitigate greenhouse gas emissions and achieve the goals of the Paris Agreement.¹⁷

10. In 2023, the CAREC Secretariat conducted a detailed regional [Climate Change Scoping Study](#)¹⁸, highlighting the urgent need to support its member countries in reinforcing, modifying, and implementing existing national strategies on climate change mitigation and adaptation and in developing a range of regional actions in response to climate change impacts and required solutions. Among identified actions, the scoping study recommended preparing a CAREC Climate Change strategy for CAREC Ministers' adoption and a road map for climate mitigation and adaptation projects to be designed, implemented, and financed under the CAREC Program.

11. Building on the CAREC climate change scoping study, the [Regional Action on Climate Change: a Vision for CAREC](#)¹⁹ (CAREC Climate Change Vision) was endorsed at the 22nd CAREC Ministerial Conference in November 2023 in Tbilisi, Georgia. The Vision has three broad goals: climate adaptation, mitigation, and regional transboundary cooperation on climate change. It is based on five principles: (i) aligning with national adaptation strategies and with the Paris Agreement; (ii) deepening regional cooperation on climate change; (iii) expanding coordination with all development partners on regional climate action; (iv) integrating the role of the private sector and civil society into the regional climate dialogue; and (v) building an open and inclusive regional institutional platform on climate change.

II. The CAREC Climate Change Action Plan

12. The CAREC Climate Change Action Plan (CCAP)²⁰ implements key steps and recommendations identified by the CAREC Climate Change Vision. The Action Plan is a rolling three-year plan, initially for 2025–2027, seeking to coordinate regional climate actions in the CAREC clusters and working groups, help prioritize regional climate adaptation and mitigation projects and initiatives across CAREC sectors, and strengthen coordination among development partners to increase and optimize resources in support to regional climate actions. The CCAP aims to identify gaps in regional climate actions and attract financing to develop and implement regional investment projects.

13. The CCAP has been developed in close consultation and coordination with CAREC's Working Group on Climate Change (WGCC) members through a participatory planning process where CAREC member countries and development partners identified action plan areas and potential activities.²¹ The

¹⁶ ADB. 2018. [CAREC 2030 Connecting the Region for Shared and Sustainable Development](#). Manila.

¹⁷ The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP21 in Paris on 12 December 2015 and entered into force on 4 November 2016. For details on the Paris Agreement's goals see <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement/key-aspects-of-the-paris-agreement>

¹⁸ Footnote 2.

¹⁹ ADB. 2024. [Regional Action on Climate Change - A Vision for the Central Asia Regional Economic Cooperation Program](#). Manila.

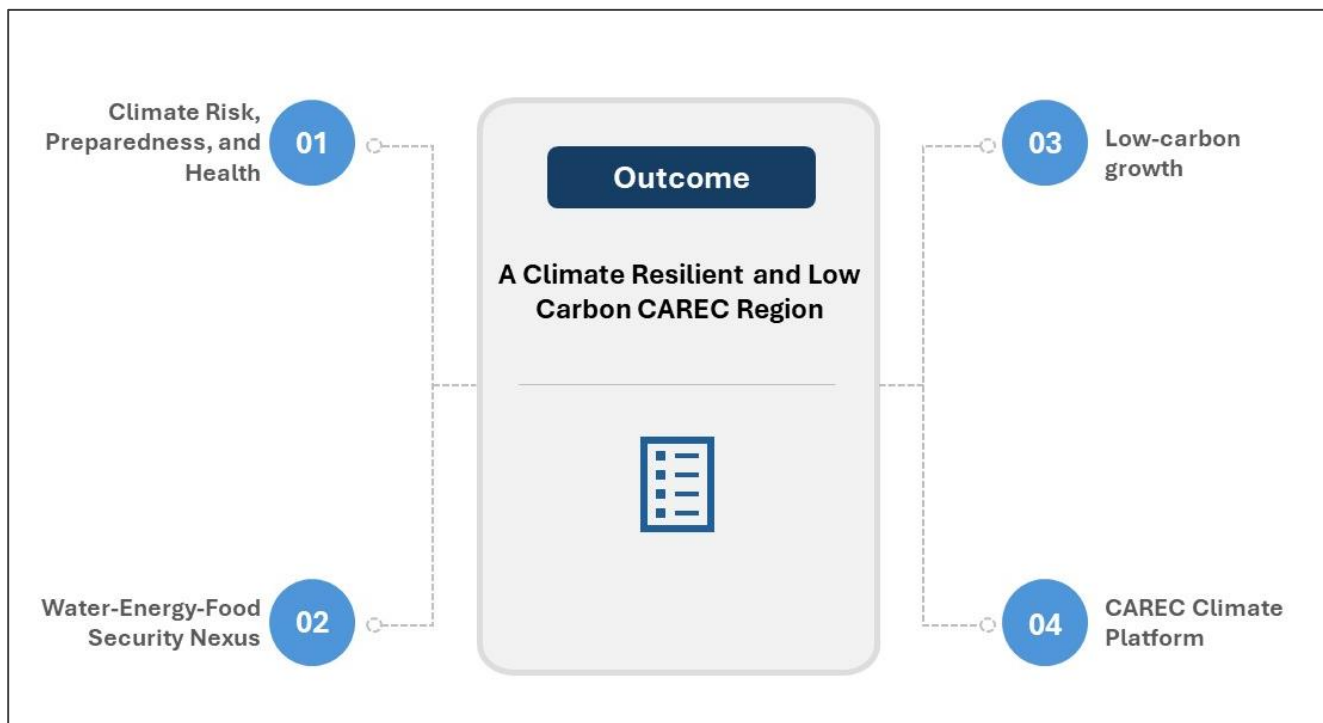
²⁰ The CCAP development is supported by the regional technical assistance (TA) project "[Supporting Regional Actions to Address Climate Change under the CAREC Program](#)".

²¹ The summary of the first meeting of the CAREC Working Group on Climate Change can be found here: https://www.carecprogram.org/uploads/Summary-First-Meeting-of-the-CAREC-CC-WG-29-05-24_UPD.pdf

formulation of the Action Plan is also coordinated with the various sector committees, working groups, and focal points across CAREC clusters. It is informed by CAREC’s project portfolio and countries’ national adaptation priorities²² and Nationally Determined Contributions (NDCs) targets.²³

14. The expected outcome of the CCAP is “**A Climate Resilient and Low Carbon CAREC Region**”. The CCAP focuses on four thematic action plan areas (Figure 1). Details on the action plan areas and related activities can be found in section III.

Figure 1 – CAREC Climate Change Action Plan Summary



15. The first Action Area, **Climate Risk, Preparedness, and Health**, focuses on safeguarding communities, economies, and infrastructure by increasing the resilience of regional assets and enhancing countries’ capacity to prepare for and respond to climate and disaster risk. The Action Area includes regional climate risk assessments and resilient infrastructure planning, regional multi-hazard early warning system, health and climate change, and regional risk transfer solutions for the CAREC Region.

16. The second Action Area, **Water-Energy-Food Security Nexus**, is focused on regional water forecasting and water projects, the resilience of mountainous regions, and climate-smart agriculture. The initiatives in this Action Area are regional glacier risk assessment and water forecasting (preparatory assessments and supporting actions in collaboration with G2F); irrigation, reservoir restoration, and river basin monitoring in Central Asia (coordination with CAREC Water Pillar); and climate adaptation in mountainous areas (in collaboration with the G2F program).

²² Concrete proposals for regional adaptation projects were raised by member countries during the CCAP consultative process according to their respective resilience and adaptation needs, taking into consideration that most CAREC countries are still in the process of developing their NAPs. The status of NAP submission can be found at UNFCCC’s NAP central: <https://napcentral.org/submitted-NAPs>

²³ An analysis of NDCs areas of intervention, targets, key priority actions, and means of implementation was conducted in relation to CCAP outcomes, outputs and identified regional initiatives across the four AP areas.

17. The third Action Area, **Low-Carbon Growth**, is on mitigation actions focusing on decarbonizing trade and transport corridors, increasing grid readiness, and reducing emissions in urban areas. Low carbon growth will be achieved through low emissions zones; carbon market development; decarbonization of CAREC transport and trade corridors; and grid readiness and renewable energy integration.

18. The fourth Action Area, **CAREC Climate Platform**, conceptualizes climate institutions for cooperation, facilitates capacity development, and proposes financing sources for climate actions. This Action Area has the following subcategories: capacity development on regional climate action; a regional platform for knowledge generation and dissemination; and climate finance and development of bankable regional climate projects.

19. The CCAP reflects **gender** aspects in formulating and implementing climate activities, considering the CAREC Gender Strategy 2030.²⁴ Climate change affects women and girls disproportionately and further increases gender inequality. Research also indicates that women, especially in developing countries, are disproportionately affected by heat waves.²⁵ When formulating and implementing climate change policies, strategies, and actions, it is essential to fully consider the specific needs of women and girls and ensure women's full and equal participation. **Gender equality concerns** will be integrated across AP areas, regional initiatives, and projects. This will ensure that gender disparities are considered in developing and implementing resilience measures and in low carbon just transition activities to help reduce the vulnerability of women and girls to climate shocks and ensure equitable benefits.

20. The CCAP also integrates **environmental sustainability** across AP areas and regional initiatives to ensure that adaptation and resilience measures include the required environmental safeguards to limit harmful and unintended impacts on environmental receptors while implementing activities and projects.

21. There are also solid linkages and synergies between the CCAP and other regional climate strategies. This includes ADB's Climate Change Roadmap in Central and West Asia (2024–2030)²⁶, which identifies climate priorities for ADB's regional operations in alignment with ADB's Climate Change Action Plan.²⁷ The Strategy puts forward recommendations and strategic directions aimed at raising climate actions, investments, and finance in the region, noting the role of the CAREC platform in helping advance potential regional climate projects and cooperation initiatives identified in the Strategy.

22. In addition, there are linkages with the Regional Climate Change Adaptation Strategy in Central Asia (2023–2030) that was developed and approved by Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan under the "*Green Central Asia: transboundary dialogue on climate, environment and security in Central Asia*".²⁸ The overall goal of this regional strategy is to develop a mechanism for cooperation between Central Asian countries to overcome climate impacts and implement adaptation measures, presenting synergies with the CCAP.

²⁴ ADB. 2021. [CAREC Gender Strategy 2030: Inclusion, Empowerment, and Resilience for All](#). Manila.

²⁵ [Triple threat: The health, social, and economic impacts of heat waves on women](#).

²⁶ ADB's Climate Change Roadmap in Central and West Asia covers ten countries: Afghanistan, Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan and Uzbekistan.

²⁷ ADB. 2023. [Climate Change Action Plan, 2023–2030](#). Manila.

²⁸ Supported by the Germany's development agency GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) with the Regional Environmental Centre for Central Asia (CAREC Eco). The Strategy was presented at COP28, for details see: <https://carececo.org/en/main/news/ks-28-rkik-oon-strany-tsentrallyy-azii-prinyali-regionalnyy-strategiyu-po-adaptatsii-k-izmeneniyu-k/>

III. Action Plan Areas

23. The action plan areas of intervention build upon the strategic recommendations of the CAREC climate change vision, with a primary focus on adaptation as proposed by the WGCC during the formulation process. In addition, implementing the CCAP adaptation and mitigation activities under the first three action plan areas is supported by establishing the CAREC climate platform (action plan area 4) to allow for the required transboundary cooperation, coordination, and knowledge sharing on climate actions.

24. **The CCAP aims to integrate climate change into CAREC sectors, clusters, and investments.** To reduce overlap and maximize available climate finance resources, the CCAP will not seek to implement all the activities identified by the WGCC directly and included in the Action Plan Areas. Instead, the CCAP builds upon existing and planned activities, some of which are being and/or will be implemented by CAREC sectoral working groups and development partners. The value added by the CCAP, in line with CAREC’s overall mandate, is to provide the required regional coordination and knowledge exchange via the WGCC and the CAREC Climate Platform on several aspects of climate action. The proposed regional activities will be implemented in close coordination with CAREC sector committees and working groups and integrated into their respective strategies and work plans as applicable.

25. The CCAP endeavors to prioritize and sequence potential regional climate actions that could be implemented and/or initiated during 2025–2027. However, not all proposed interventions and actions will be completed during the three years. The implementation progress of the CCAP will be reviewed annually by the WGCC, and follow-up action plans will be developed (over three-year cycles), considering the main results achieved and lessons learned from the CCAP implementation, as well as changing needs and priorities from member countries.

1. Climate Risk, Preparedness, and Health

1.1. Overview

Table 1 – Climate Risk, Preparedness, and Health

| ACTION PLAN AREA 1 - CLIMATE RISK, PREPAREDNESS, AND HEALTH | | |
|--|----------------------------------|-------------------------|
| Objective: To increase resilience of regional infrastructure and communities, and countries' capacities to prepare for and respond to climate and disaster risk. | | |
| Regional Initiatives and Projects | Coordinating Countries* | Indicative Start Date** |
| Regional climate risk assessments and resilient infrastructure planning | Pakistan, Kazakhstan | 2024 |
| Regional risk transfer solutions for the CAREC region | Kyrgyz Republic, Tajikistan | 2025 |
| Health and Climate Change | Pakistan, PRC | 2025 |
| Regional Multi-Hazard Early Warning System (MHEWS) | Azerbaijan, Mongolia, Uzbekistan | 2026 |

* Responsible for coordinating the implementation of the regional initiatives and projects, and reporting on progress during working group meetings and to the CAREC Climate Change Steering Committee once established.

** 2024 is the preparatory phase of the CCAP, including the initiation of some pilot actions in various AP areas.

26. This action plan area focuses on safeguarding communities, economies, and infrastructure by increasing the resilience of regional assets and enhancing countries' capacity to prepare for and respond to climate and disaster risks. This involves comprehensive regional climate risk assessments, which are vital for understanding the potential impacts of climate change, identifying the most vulnerable sectors, communities, and assets, and allowing climate finance to be targeted effectively towards the most urgent and high-impact regional interventions.

1.2. Regional Climate Risk Assessments and Resilient Infrastructure Planning

27. This regional initiative involves conducting a comprehensive assessment of present and projected climate risks facing the CAREC region, focusing on critical regional assets to identify hotspot areas and sectors most vulnerable to floods, landslides, mudflows, and extreme heat. Historical climate trends and future climate projections for the CAREC region will be analyzed based on the latest climate science and models (IPCC, CMPI6²⁹, etc.). A climate vulnerability map of regional CAREC assets could be developed. Potentially vulnerable CAREC assets include transport corridors (road, railways, border crossing points), water, energy, and irrigation infrastructure such as dams and hydropower plants, water storage basins and reservoirs, and irrigation canals.³⁰

28. These assessments will identify opportunities and priority areas for adaptation actions and investment projects to increase the resilience of regional assets. This may include, for example, updating road construction standards to increase resilience and reduce vulnerability of critical assets based on a regional review of GOST and SNIPs standards and regulations.

29. Under this initiative, CAREC will support technical and institutional capacity building to conduct regional climate risk assessments and exchange knowledge, best practices, and innovative climate solutions among countries. Collaboration with CAREC sector committees and working groups will be strengthened to conduct climate risk assessments and to integrate the findings into regional strategies and sectoral adaptation plans.

1.3. Regional Multi-Hazard Early Warning System

30. This regional initiative aims to establish a Regional Multi-Hazard Early Warning System (MHEWS) to strengthen disaster resilience in the CAREC region and provide a coordinated and harmonized approach to climate change risk monitoring, data sharing, and early action. The main objective of the MHEWS is to strengthen regional cooperation and information sharing on climate risks and hazards by developing a shared transboundary data platform and knowledge management system.

31. This initiative will support the development of common guidelines and early warning protocols for coordinated action and post-disaster recovery efforts, considering the existing national EWS systems and resources. Support will include capacity building for hydrometeorological services. It will also be provided to modernize, integrate, and harmonize climate and disaster risk monitoring infrastructure, including early warning equipment, communication networks, and forecasting, considering health risks.

32. The natural hazards that will be monitored will depend on the scope of the MHEWS, which CAREC members will jointly define during the formulation of this initiative. In addition to potentially covering floods and hydrogeological hazards, the MHEWS will seek to integrate other hazards, such as

²⁹ CMIP6 is the Coupled Model Intercomparison Project Phase 6, 2016–2021 of the Intergovernmental Panel for Climate Change (IPCC) Sixth Assessment Report (AR6) (2021) that uses climate scenarios such as the Shared Socioeconomic Pathways, or SSPs, to allow climate change practitioners to develop projected socioeconomic global changes according to projected conservative, moderate and high emissions levels.

³⁰ A checklist and Terms of Reference for the climate risk assessment is already developed based on standard climate risk and vulnerability assessment practice, including a desk review of available data, field assessment, interviews and discussions with relevant stakeholders.

heatwaves and droughts. Further cooperation among CAREC member countries will be considered, considering existing initiatives by CAREC development partners, such as UNDP and the World Bank.³¹

33. The MHEWS will enhance CAREC countries' capacities for risk assessment, early warning, and emergency response planning, ensuring the engagement of local communities and including gender aspects in the design of relevant components to ensure that the MHEWS is relevant and accessible in national and local contexts while promoting public awareness and education on disaster risk reduction and appropriate response actions.³² Capacity building and technical assistance on EWS management and integration to disaster management and hydrometeorological agencies will be provided while building synergies with ongoing regional EWS initiatives.

1.4. Health and Climate Change

34. This initiative integrates heat risks in the regional MHEWS to respond to increasing heat risk and its impact on health, particularly on the most vulnerable groups. Under conservative and high emissions scenarios, the annual probability of heatwaves could increase significantly by 2050 and more markedly by 2090, particularly in the region's lowlands.³³ Exposure to extremely high temperatures and heat stress are among the leading causes of death, particularly among the most vulnerable, and can exacerbate underlying conditions such as cardiovascular and respiratory diseases³⁴ and cause stillbirths and miscarriages.

35. Preparedness for extreme temperatures, including heatwaves and cold waves, is an emerging area, both in the region and globally, with considerable gaps in awareness and response. Technical support will be provided to support the integration of heat risk in the MHEWS to strengthen the climate capacities of health authorities for heatwave forecasting, alerts, preparedness, and appropriate responses with a focus on critical geographic areas and vulnerable groups. This could include capacity-building activities to raise climate risk awareness and heatwave preparedness of medical staff and health facility managers (including addressing the reproductive health needs of women, such as antenatal and postnatal care), as part of an integrated disaster preparedness approach.

36. Other potential activities could include building climate-resilient health systems and upgrading health facilities in border areas via climate resilient energy efficient measures, including knowledge sharing on green building standards, leading to greenhouse gas (GHG) savings and mitigation actions aligned with the Paris Agreement goals and national NDC targets.³⁵ The CAREC climate platform will provide the required venue for regional training, exchange of experiences, and best practices on heat risk and health, including cross-sectoral activities in collaboration with the CAREC health working group.³⁶

³¹ Hosting of the MHEWS is subject to discussion with member countries. Azerbaijan and Uzbekistan have initially expressed interest in hosting the MHEWS. UNDP is implementing a project for [Enhancing Multi-Hazard Early Warning System to Increase Resilience of Uzbekistan Communities to Climate Change Induced Hazards](#) on which CAREC can build upon. The World Bank has the [Central Asia Hydromet Modernization \(CAHMP\)](#) initiative to strengthen hydromet services and foster regional coordination and knowledge exchange in the region. Both provide opportunities for coordination and collaboration, as highlighted in the linkages and synergies of this section.

³² Integration and data exchange with other sectors such as health could be considered to increase monitoring of climate-sensitive diseases and prepare timely responses for the health sector to mitigate adverse health outcomes.

³³ World Bank Climate Change Knowledge Portal, accessed December 2023

³⁴ <https://www.who.int/health-topics/heatwaves>

³⁵ ADB's experience in the region include technical assistance for the climate risk assessment of maternal and child health facilities in Tajikistan, aimed at identifying resilient and energy efficient measures to be integrated in the design of these hospital facilities. Tajikistan: [Maternal and Child Health Integrated Care Project](#).

³⁶ The [Regional Investment Framework on Health 2022-2027](#) has been updated to include actions on climate and health.

1.5. Regional Risk Transfer Solutions for the CAREC Region

37. This initiative aims to improve countries' capacity for disaster risk financing and enhance their public sector budget resilience against disaster events through regional collaboration, leveraging the international insurance and capital markets. The proposed regional project will build on the ADB-funded technical assistance project on Developing a Regional Risk Transfer Facility for the CAREC region³⁷ and ongoing disaster risk management and financing initiatives. It also responds to the Joint Statement³⁸ endorsed at the 22nd CAREC Ministerial Conference in November 2023, in which CAREC countries requested support to further advance the implementation of regional risk transfer solutions.

38. This regional initiative will support further development of the long-term ambition to establish a CAREC risk transfer facility³⁹ based on experiences from existing regional risk pools in Africa, the Caribbean and Central America, the Pacific islands, and Southeast Asia. A CAREC risk transfer facility will complement national disaster risk management initiatives while providing additional benefits such as broader risk diversification, lower operational costs, greater access to international insurance and capital markets, and a coordinated risk analysis and modeling approach. The proposed initiative will also support the implementation of pilot risk financing instruments (e.g., disaster relief bonds) for selected CAREC countries.⁴⁰

39. Considering countries' varying capacity levels, capacity building and knowledge support on climate and disaster risk modeling and financing will be provided. Regional workshops with public and private stakeholders⁴¹ will be conducted to promote the exchange of knowledge, best practices, and lessons learned from other regions.

1.6. Linkages and synergies with existing initiatives

40. There are relevant past and ongoing global and regional initiatives from development partners and existing CAREC institutional structures that the proposed interventions under Action Area 1 can build upon and establish linkages with, as outlined in Table 2 below.

Table 2 – Linkages and Synergies for Climate Risk, Preparedness and Health

| | |
|--|--|
| Regional Climate Risk Assessments and Resilient Infrastructure Planning | <ul style="list-style-type: none"> • Coordination with the CAREC Transport Sector Committee for climate risk assessment of regional transport and cross-border infrastructure to integrate climate resilience measures. • Country and project-based climate risk assessments conducted by CAREC development partners. • Pilot project “Kashkadarya Masterplan Risk Screening”, as part of TA9414: Supporting Adaptation Decision Making for Climate Resilient Investments in Uzbekistan,⁴² whose approach and methodology could be replicated at the regional level. |
| Regional Multi-Hazard Early | <ul style="list-style-type: none"> • UN Early Warnings for All initiative (EW4All), formally launched in November 2022 at the COP27 meeting and jointly endorsed by multilateral development banks and development partners, calls for everyone to be protected by early warning systems by 2027. |

³⁷ [Developing a Disaster Risk Transfer Facility in the Central Asia Regional Economic Cooperation Region](#)

³⁸ CAREC. 2023. [Joint Statement on Developing a Disaster Risk Transfer Facility in the CAREC Region](#). Tbilisi.

³⁹ ADB. 2023. [Road Map to Developing a Regional Risk Transfer Facility for CAREC](#). Manila.

⁴⁰ The initial focus of the pilot disaster relief bond will be selected countries (most likely group A countries eligible to receive Asian Development Fund support), although all CAREC countries will be observers to the pilot issuance process.

⁴¹ This includes local insurance industry stakeholders and insurance supervisors as well as disaster risk management agencies, Ministry of Finance, and other relevant government authorities.

⁴² The TA aims to improve the understanding by DMCs on how to make effective use of climate information and services to facilitate planning and decision-making under climate uncertainty and to generate, interpret and apply climate information in decision-making in sectors including agriculture, water, and energy. See: <https://www.adb.org/projects/50121-001/main>

| | |
|--|--|
| Warning System | <ul style="list-style-type: none"> • Opportunities for cooperation with the Systematic Observations Financing Facility (SOFF) that could be a source of climate finance for CAREC MHEWS. SOFF is one of the main pillars of EW4All, which funds improvements in weather and climate observation infrastructure in least-developed countries (LDCs), small independent states (SIDS), and analytical work in low- and middle-income countries (MICs). • The World Bank, GFDRR, and WMO joint initiative established the Central Asia Flood Early Warning System (CAFEWS) as part of the ongoing work on hydromet service delivery in the region. Following the recently completed Central Asia Hydrometeorology Modernization Project (CAHMP), a regional roadmap is being developed to enhance hydrometeorological infrastructure, data collection, processing, forecasting, warning dissemination, and service delivery. • The Global Telecommunication System (GTS), a key component within the WMO Information System (WIS), aims to facilitate the flow of data and processed products to meet the World Weather Watch requirements. • ADB's regional project "TA10103 - Increasing Investments in Early Warning Systems to Strengthen Climate and Disaster Resilience", includes five CAREC countries (Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan). • UNDP's project for Enhancing Multi-Hazard Early Warning System to Increase Resilience of Uzbekistan Communities to Climate Change Induced Hazards (GCF financed). • ADB and World Bank collaboration and data sharing data on early warning for projects in Tajikistan, Kyrgyz Republic, and Uzbekistan. |
| Health and Climate Change | <ul style="list-style-type: none"> • ADB's project for Building a Climate Change Early Warning System for the Aged in the People's Republic of China (PRC) aimed to develop a climate change early warning system to warn the vulnerable elderly population and government authorities to reduce heat risk. • Collaboration with the CAREC Health Working Group is needed to strengthen health authorities' climate risk awareness and heatwave preparedness in CAREC countries and support the integration of heat risk in MHEWS. |
| Regional Risk Transfer Solutions for the CAREC Region | <ul style="list-style-type: none"> • ADB-funded regional technical assistance project on "Developing a Disaster Risk Transfer Facility in the CAREC Region". • Strengthening Financial Resilience and Accelerating Risk Reduction in Central Asia Program, supported by the European Union, GFDRR, and the World Bank. |

2. Water-Energy-Food Security Nexus

2.1. Overview

Table 3 – Water-Energy-Food Security Nexus

| ACTION PLAN AREA 2 - WATER ENERGY FOOD SECURITY NEXUS | | |
|--|--------------------------------------|------------------------------|
| Objective: To increase countries' financial resilience to climate shocks across the water, agriculture, and energy sectors. | | |
| Regional Initiatives and Projects | Coordinating Countries* | Indicative Start Date |
| Regional glacier risk assessment and water forecasting (preparatory assessments and supporting actions in collaboration with G2F) | Tajikistan, Turkmenistan | 2025 |
| Irrigation, Reservoir Restoration, and River Basin Monitoring in Central Asia (coordination with CAREC Water Pillar) | Uzbekistan, Kazakhstan, Turkmenistan | 2025 |

* Responsible for coordinating the implementation of the regional initiatives and projects, and reporting on progress during working group meetings and to the CAREC Climate Change Steering Committee once established.

41. The CAREC region is heavily dependent on its glacier-fed water resources. As such, it faces significant challenges at the intersection of water, energy, and food security, often called the water-energy-food (WEF) security nexus.

42. Central Asia's glaciers are a critical component of the region's hydrology, serving as the primary source of freshwater for major river systems such as the Amu Darya and Syr Darya that are essential for the region's agricultural production, hydropower generation, and urban water supply. However, glaciers in Central Asia are under increasing threat from climate change, which has implications for the region's long-term availability and management of water resources.⁴³ Similar concerns for water security can be found in the South Caucasus for the Kura Aras River basin, originating in Turkey and flowing through Georgia and Azerbaijan.

43. Glaciers' retreat and unseasonal glacier melting contribute to the unpredictability of water flows and water availability, which are set to be further exacerbated by climate change in the future. Transboundary water management and predictable river flows are critical for hydropower generation and the further integration of renewable energy in the regional grid.

44. Ensuring food security requires addressing the interdependencies between water, energy, and agricultural production. Glacial melt will lead to progressively reduced river flow and increased drought risk. This can have far-reaching consequences for the region's economic, social, and environmental prosperity⁴⁴, particularly for mountain communities and rural women tasked with food production and preparation and thus more vulnerable to climate change.

45. Regional projects and initiatives under this action plan area will be implemented through and/or in close coordination with the upcoming ADB's Glaciers-to-Farms (G2F) regional program (see Box 1) and the CAREC Water Pillar Working Group. Energy initiatives focused on mitigation activities for energy efficiency, renewable energy, and grid integration are included under Action Area 3.

Box 1: Glaciers to Farms (G2F) Regional Program

G2F is a 10-year regional program (currently at the concept stage) proposed to be financed by ADB and intended to be supported by GCF and development partners. It aims to enhance communities' resilience, food systems, and infrastructure in Central and West Asia. The CAREC countries included in this program are Azerbaijan, Georgia, Kazakhstan, the Kyrgyz Republic, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

G2F has clear linkages with the Action Areas 1 and 2 under the CCAP. G2F has four main components: (i) Climate Resilience through Integrated Planning and Policy Reforms for Financial Acceleration; (ii) Glacier Investment and Technical Facility with pillars on Climate Resilient Landscapes for Water Resource Management, Sustainable Agriculture Value Chains, and Food Security, and Enhancing Adaptation for Climate-Vulnerable Poor Populations in Mountainous and Rural Areas, (iii) Establishment of Green Business Financing Lines for Small and Medium Agriculture Enterprises; and (iv) G2F Regional Knowledge Sharing and Coordination Hub.

The program will support existing regional cooperation mechanisms and management systems for transboundary rivers, building upon successful models such as tri-national ownership of flood control and hydropower dams in the region that provide a promising platform for tackling upstream-downstream challenges for regional goals. The

⁴³ GRID Arendal 2017, Mountain Adaptation Outlook Series: Outlook on Climate Change Adaptation in the Central Asian Mountains

⁴⁴ United Nations Regional Centre for Preventive Diplomacy for Central Asia, 2014, Glaciers Melting in Central Asia: Time for Action

CAREC Program provides a strong platform for coordinating across multiple countries and effectively sharing regional knowledge.

2.2. Regional Glacier Risk Assessment and Water Forecasting

46. This initiative focuses on conducting a regional glacier risk assessment for improved monitoring and forecasting of regional water resources. The main objective is to assess the impacts of glacier melt and water scarcity on the WEF security nexus and to identify the vulnerability of critical economic sectors, infrastructure, and communities to the effects of glacier melt and water scarcity.

47. The initiative will support countries' forecasting capabilities for glacier dynamics and water availability based on regional baselines and climate projections. Regional glacier and water resources monitoring could potentially be integrated into the CAREC MHEWS (under Action Area 1) by expanding existing on-site and remote sensing monitoring stations to track glacier mass balance, melt rates, and associated water flows, glacier lake outburst floods (GLOFs) and other related hazards. It could also include the creation of a regional atlas of glacier-related natural hazards (GLOFs, mudflows, landslides, avalanches, etc.) on a Geographic Information System (GIS) platform that can be integrated into a CAREC climate platform for MHEWS.

48. Lastly, support will be provided to build countries' technical and institutional capacities for climate-resilient planning focused on the WEF nexus and enhanced regional cooperation and data-sharing mechanisms for effectively managing shared water resources (linkages with Action Areas 1 and 4).

49. The regional glacier risk assessment and related initiatives proposed by CAREC members are identified under the G2F program. To maximize synergies with CAREC DPs' activities, the CCAP will coordinate with the G2F program to identify complementarity and reduce potential overlap. For instance, out of the initiatives outlined in these sections, the CCAP could contribute to preparatory assessments and required participatory consultations in collaboration with the G2F design team. The CAREC WGCC and the CAREC Climate Platform could also provide the venue for coordination on regional elements and knowledge exchange among CAREC countries while not directly implementing activities that will be included under G2F.

2.3. Climate Adaptation in Mountainous Areas

50. The Action Plan focuses on responding to the adaptation needs of CAREC's mountain communities resulting from changing precipitation patterns, glacier retreats, glacial lake outburst floods (GLOF), growing water scarcity, soil erosion, and loss of biodiversity. The needs of mountainous areas in the CAREC regions will be addressed in the context of other Action Plan activities and, where appropriate, with specially targeted actions.

51. Proposed interventions could include (i) regional initiatives addressing shared challenges of mountain communities and smallholder farmers (especially women-led dekhans⁴⁵ farms) across CAREC countries, including access to clean and green energy, improving food security and better access to markets, and promoting adoption of climate-smart agriculture practices and crop diversification; (ii) pursuing nature-based solutions such as reforestation and restoration of degraded land to reduce natural hazard risk (floods and landslides) while at the same time sequestering carbon; and (iii) facilitating the exchange of knowledge and best practices on climate adaptation among mountain

⁴⁵ A dekhkan farm is an individual or family farm in Central Asia.

communities, local authorities, and relevant regional and national institutions through the CAREC Climate Platform (linked to Action Area 4).

52. CAREC will work closely with national and international partners in pursuing these interventions, including the Regional Environmental Centre for Central Asia (CAREC-Eco), the Mountain Partnership Secretariat at FAO, and other development partners actively supporting CAREC's mountain areas. CAREC will also assist its member countries in making the case for enhanced attention to the needs of mountain areas in international forums, such as at COP29 and future COPs, at the International Conference on Glaciers' Preservation in Tajikistan in 2025, and other such important events.

2.4. Irrigation, Reservoir Restoration, and River Basin Monitoring in Central Asia

53. Under the WEF security nexus, the CCAP will seek collaboration with the CAREC water pillar to help address the needs and priorities identified by CAREC countries, including upstream climate risk assessments on water and nature-based solutions for climate change adaptation to enhance efficient use of water. While not directly implementing these activities, the WGCC will ensure coordination with the CAREC Water Pillar Working Group, including providing support for knowledge exchange and facilitating regional coordination with other relevant sectors (e.g., energy).

54. Collaboration with the CAREC Water Pillar will focus on transboundary projects and investments to increase the resilience of Central Asia's water and energy nexus. It includes a set of proposals under consideration by the CAREC Water Pillar Working Group⁴⁶, demonstrating regional benefits for other countries while integrating innovative climate resilience solutions.

55. By 2025, three regional projects are expected to be selected by the CAREC Water Pillar Working Group for further development and implementation. Potential projects may include modernization of irrigation systems in Kyrgyz Republic and Kazakhstan; effective water management of reservoir in Tajikistan with downstream benefits for Uzbekistan and Kazakhstan; upgrading of the Kosonsoy water reservoir in the Kyrgyz Republic; and automated monitoring systems and digital transformation for Syr Darya and Amu Darya River basins. The CAREC WGCC will work and coordinate closely with the CAREC water pillar working group to advance the selected regional initiatives.

56. In addition to water management, the role of agrifood systems, particularly climate-smart agricultural practices such as carbon sequestration through forest, wetland, and soil management, can be integrated to enhance climate resilience further. Agrifood systems, beyond traditional irrigation, play a critical role in climate solutions by improving food security, increasing soil health, and contributing to carbon capture through nature-based solutions (link to Action Area 3).

57. In addition, recognizing the importance of rainfed agriculture in Central Asia's food systems, future regional initiatives could also address the unique needs of lowland areas where most rainfed crops are grown. Projects that promote sustainable land management practices in these areas—such as soil restoration, carbon sequestration through sustainable agriculture, and ecosystem-based adaptation—would contribute to flood mitigation, reduce dust storms, and enhance biodiversity.

2.5. Linkages and Synergies with Existing Initiatives

⁴⁶ For details see: <https://www.adb.org/projects/54103-001/main>. The work of the CAREC Water Pillar started in 2017 with a focus on Central Asia, building on the Almaty Agreement (in the Field of Joint Management of the Use and Conservation of Water Resources of Interstate Courses) and the work of the International Fund for saving the Aral Sea (IFAS) and its Executive Committee.

58. There are relevant past and ongoing global and regional initiatives from development partners and existing CAREC institutional structures that the proposed interventions under Action Area 2 can build upon and establish linkages with, as indicated in Table 4.

Table 4 – Linkages and Synergies for the WEF Security Nexus

| | |
|--|--|
| Regional glaciers' risk assessment and water forecasting | <ul style="list-style-type: none"> • The International Conference on Glaciers' Preservation⁴⁷ will be hosted in Dushanbe in 2025 to mark the International Year of Glaciers' Preservation as part of the UNGA's Glacier resolution⁴⁸ that Tajikistan put forward. • G2F regional program (see text box). • CAREC Water Pillar, see: https://www.carecprogram.org/?project=developing-carec-water-pillar |
| Climate adaptation in mountainous areas | <ul style="list-style-type: none"> • The Kyrgyz Republic development of a road map⁴⁹ supported by the United Nations Development Programme (UNDP) under the 2023–27 United Nations General Assembly's (UNGA) Declaration for Five Years of Action for the Development of Mountain Regions. The initiative was a key outcome of the International Year of Sustainable Mountain Development 2022. • The Kyrgyz Republic is preparing a shared pavilion for mountainous countries at COP29 dedicated to sustainable mountain development, with support from the Regional Environmental Centre for Central Asia (CAREC Eco), building upon the experience of the COP28's Central Asia pavilion focusing on mountains, climate change and adaptation.⁵⁰ The pavilion will be open and shared by all mountainous countries. • G2F regional program. • GIZ is preparing the regional project "Climate Resilient Landscapes in Central Asia" to strengthen the climate resilience of the most vulnerable populations and the transboundary ecosystems on which they depend and transform Agriculture, Forestry, and Other Land Use (AFOLU) systems in Central Asia towards low-emission, climate-resilient development. Expected outcomes include increased resilience of land users and rural populations to climate change (through pasture and forest restoration, climate-smart agricultural systems and protected areas, and income diversification opportunities); national climate-resilient planning processes, enabling environment and incentive schemes in place to enable land users to benefit from adaptation measures; strengthened regional cooperation on climate resilience. • EBRD is developing a Regional Climate-Smart Agriculture and Resilience Platform for Expedited Transition to support access to adaptation finance, knowledge, and technologies for vulnerable farmers, agribusinesses, and local communities through financial institutions (project expected to start after 2025). |
| Irrigation, Reservoir Restoration, and River Basin Monitoring in Central Asia | <ul style="list-style-type: none"> • Coordinate with CAREC Water Pillar Working Group to further develop and implement the selected projects. • Central Asia Water and Land Nexus (CAWLN). |

⁴⁷ See Tajikistan's Centre for Research of Glaciers of the National Academy of Sciences of the Tajikistan» <https://www.cryosphere.tj/en/2025-is-the-international-year-of-glacier-protection>

⁴⁸ The Glacier's Resolution is available at: [International Year of Glaciers' Preservation, 2025 - \(un.org\)](https://www.un.org/development/desa/press/2023/11/23-11-2023-ung-resolutions-on-glaciers.html)

⁴⁹ For a timeline of Kyrgyzstan road map see the illustration available at ZoiNet - https://zoinet.org/wp-content/uploads/2024/01/KRG-mountain-roadmap_EN.pdf

⁵⁰ See CAREC Eco: <https://www.carececo.org/upload/iblock/a2f/0ha1ih064a51tqn7wwf9txbgvk1ri1tg.pdf>. <https://centralasiacimateportal.org/unfccc-cop28-kyrgyzstan-initiative-to-establish-a-negotiating-group-on-mountain-partnership-supported/>; see UNFCCC: <https://unfccc.int/news/understanding-and-closing-adaptation-knowledge-gaps-in-mountains-and-high-latitude-areas>.

3. Low-Carbon Growth

3.1. Overview

Table 5 – Low Carbon Growth

| ACTION PLAN AREA 3 – LOW CARBON GROWTH | | |
|---|---------------------------------|-----------------------|
| Objective: To create the enabling conditions to shift to a low-carbon economy, focused on the energy and transport sectors. | | |
| Regional Initiatives and Projects | Coordinating Countries* | Indicative Start Date |
| Low emissions zones | Kazakhstan, PRC, Azerbaijan | 2025 |
| Carbon Markets Development | Mongolia, Kazakhstan | 2025 |
| Decarbonization of CAREC transport and trade corridors | Georgia, PRC | 2025 |
| Grid readiness and renewable energy integration | Uzbekistan, Georgia, Azerbaijan | 2026 |

* Responsible for coordinating the implementation of the regional initiatives and projects, and reporting on progress during working group meetings and to the CAREC Climate Change Steering Committee once established.

59. The transport sector is a significant source of greenhouse gas (GHG) emissions, accounting for 23% of global carbon emissions.⁵¹ Three-quarters of transport emissions are from road transport⁵² and the burning of fossil fuels in trucks, cars, buses, and trains. In addition, data from the CAREC region shows a steady increase in the yearly growth of transport fleets between 2010–2019.⁵³ While there has been progress in developing electric vehicles, biofuels, and other low-emission technologies, adopting these alternatives has been slow due to the high costs and structural challenges associated with some alternative technologies.⁵⁴

60. The adoption of renewable energy sources, such as solar, wind, and hydropower, has also been relatively slow in the CAREC region compared to global trends. The CAREC region is heavily reliant on fossil fuels. Some CAREC countries are ranked among the highest per-capita emitters⁵⁵, contributing significantly to global GHGs. While all CAREC countries are signatories to the Paris Agreement and have decarbonization goals and targets in their respective NDCs, the share of projects integrating renewable energy in the transport sector is small.

61. Renewable energy integration requires addressing a range of challenges.⁵⁶ Existing electricity grids in the Central Asia region are often outdated and lack the necessary infrastructure to allow for large-scale integration of variable renewable energy sources such as solar. In addition, the grid may not have the required flexibility, transmission capacity, and system control capabilities to manage the fluctuations in renewable energy generation, which can pose risks to grid stability and reliability. Renewable energy projects have upfront capital costs that can be high compared to fossil fuel-based power generation, especially in Central Asia, where there is limited access to affordable financing, particularly for small-scale renewable energy projects, hindering their deployment. Moreover, Central

⁵¹ IPCC Sixth Assessment Report, Chapter 10 - Transport

⁵² Hannah Ritchie (2020) - "[Cars, planes, trains: where do CO₂ emissions from transport come from?](#)"

⁵³ [Decarbonization of the Transport Sector in CAREC Countries: Assessment of Policy Options](#)

⁵⁴ IEA, [Tracking Clean Energy Progress 2023 Report](#).

⁵⁵ Jones et al. [National contributions to climate change](#) (accessed in July 2024).

⁵⁶ ADB. 2019. [CAREC Energy Strategy 2030](#). Manila.

Asia's energy tariffs and subsidies are not yet fully aligned to support the economic viability of renewable energy investments.

62. Several CAREC countries have extended heating seasons, with a substantial share of energy usage and CO₂ emissions attributable to heating. Replacing fossil fuel-based heating systems with renewable alternatives might not always be feasible due to the required investments. On the other hand, energy efficiency represents a largely untapped climate mitigation potential in the CAREC region that could lead to GHG emissions savings and contribute to NDCs targets. The CAREC's Almaty-Bishkek Economic Corridor (ABEC) technical assistance project includes support for energy-efficient solutions by switching to efficient heat pumps in Bishkek and developing low-emission zones in Almaty (see 3.4).

3.2. Decarbonization of CAREC transport and trade corridors

63. This initiative will analyze CAREC transport and trade corridors' emissions to help identify required solutions and policy measures to overcome current inefficiencies. CAREC uses the Corridor Performance Monitoring and Measurement (CPMM)⁵⁷ tool to assess and track the time and cost of moving goods across borders and along transport corridors. In its latest report⁵⁸, CPMM indicates that border crossing times have increased markedly from 12.2 hours in 2019 to 15.1 hours in 2020, primarily due to the lack of integration of national customs systems and inefficient and lengthy border procedures, with implications for travel costs and associated emissions.

64. The proposed initiative will also identify climate mitigation measures to help cut cross-border times and increase transport efficiency. Potential options include digitalizing trade processes (e.g., integrated paperless custom procedures based on common standardized formats), upgrading cross-border infrastructure to improve border efficiency and reduce transit times, and integrating smart mobility and mass transport into existing transport modalities.

3.3. Grid readiness and renewable energy integration

65. This initiative will focus on assessing the readiness of the regional grid to increase integration of renewable energy, focusing on both hard and soft infrastructure. The objective is to identify grid instability factors, grid overload, bottlenecks in regional connectivity, and gaps in existing legislation and tariff systems. The assessment will support identifying required investments for grid modernization and strengthening the transmission and distribution infrastructure to accommodate higher levels of renewable energy and achieve enhanced interconnectivity.

66. Other options could include developing and improving legislation to connect CAREC countries better and allow for more efficient regional power trade, such as dynamic tariff systems by implementing flexible electricity pricing to match supply with domestic and regional demand better, ensuring more efficient use of resources.

67. Lastly, regional cooperation and knowledge-sharing will facilitate the exchange of best practices and the development of harmonized regulatory frameworks, as well as build local technical and institutional capacity through training, capacity-building programs, and the involvement of international experts and organizations. Linkages can be established with Action Area 1 by integrating climate risk assessment in the design of renewable energy projects. For instance, solar power installations in Central Asia are increasingly affected by climate change, such as extreme heat and the rising incidence of dust storms. In addition, heatwaves strain the grid as more and more people resort to air conditioners and

⁵⁷ <https://cpmm.carecprogram.org/>

⁵⁸ <https://cpmm.carecprogram.org/uploads/CAREC-Corridor-Performance-Measurement-Monitoring-Annual-Report-2020.pdf>

refrigerators to cool down. At the same time, dust and sand can significantly reduce the output of solar facilities while ramping up servicing costs (e.g., Uzbekistan).⁵⁹

3.4. Low Emissions Zones

68. People in the CAREC region are exposed to consistently elevated levels of air pollution that are dangerous to human health. Existing data⁶⁰ shows that most regional capital cities' average annual PM2.5 levels exceeded the WHO Air Quality Guidelines (AQG).⁶¹ Evidence shows that air pollution is among the most severe environmental risks in the region.⁶² Air pollution can lead to several health consequences, such as cardiovascular and respiratory diseases, and adverse effects on the central nervous system, particularly among the most vulnerable.

69. To reduce emissions and improve urban air quality, this initiative will focus on assessing the impacts of low-emissions zones on air quality. This is piloted under the CAREC's Almaty-Bishkek Economic Corridor (ABEC) framework. This initiative will test the establishment of low emissions zones, including alternative transport and heating options to reduce harmful emissions in urban areas.⁶³ These initiatives can be shared through regional knowledge exchange and replicated in other CAREC countries and cities.

70. Emissions reduction and energy efficiency can also be achieved via low-carbon infrastructure and the implementation of green building standards for trade, social, health, and education operations. The CAREC climate platform can provide the required venue for collaboration and information exchange on green building standards, with policy and implementation varying across the CAREC region.

3.5. Carbon Markets Development

71. As part of a broader climate policy architecture, carbon pricing can play an essential role in reducing greenhouse gas (GHG) emissions cost-effectively and achieving broader energy system and decarbonization objectives. There is a vast landscape of carbon pricing instruments, which include carbon taxes, emissions trading systems, domestic carbon crediting mechanisms, and international carbon markets. Green taxes and reform to fossil fuel subsidies can also serve as the fiscal equivalent of a carbon tax. Carbon pricing can create incentives for energy efficiency and renewable energy investment, which help improve energy security and affordability.⁶⁴

72. The CCAP will support CAREC countries in the adoption and strengthening of both direct and indirect carbon pricing policies, including carbon tax, emission trading system (ETS), international carbon markets (both under Article 6 of the Paris Agreement and the voluntary carbon market), reform to fossil fuel subsidies, and tradable certificates, as aligned with countries' national circumstances and priorities.⁶⁵ CAREC countries have highlighted the lack of technical capacity and incentives to cooperate as the main barriers inhibiting regional cooperation on carbon markets. At the same time, CAREC countries have strong expectations for participation in international carbon markets as net sellers of

⁵⁹ UNCCD, FAO. 2024. [Guidelines on the Integration of Sand and Dust Storm Management into Key Policy Areas](#). Rome.

⁶⁰ IQAir. 2023. [World Air Quality Report](#). Steinach.

⁶¹ WHO AQG is 10 µg/m³, while some cases pollution levels exceed even the more conservative EU threshold of 25 µg/m³.

⁶² UNDP. 2021. *Tackling air pollution in Europe and Central Asia for improved health and a greener future*. New York.

⁶³ Other initiatives by ABEC include the installation of air quality monitoring stations in the cities of Almaty and Bishkek, with the aim to fill existing knowledge and awareness gaps in air pollution levels of urban areas. <https://www.almaty-bishkek.org/air-quality>

⁶⁴ ADB. 2022. *Carbon Pricing for Energy Transition and Decarbonization*. Manila.

⁶⁵ On 2–3 September 2024, CAREC provided an executive training on Article 6 as part of the CCAP quick actions under this Action Area. During the training session, the CAREC WGCC identified carbon markets and pricing as the most suitable types of instruments to support regional cooperation on climate mitigation.

carbon credits in the global compliance and voluntary market carbon markets. However, the level of readiness to engage in international carbon markets varies among countries.

73. Based on the needs identified by CAREC countries, support under this AP area could include providing technical and capacity-building support; promotion of regional knowledge exchange; integration of carbon markets as part of the broader climate policy architecture; Article 6 national strategy development; development of carbon baselines to ensure accuracy and consistency of data, particularly in sectors like energy, agriculture, and land use and robust monitoring, reporting and verification mechanisms; carbon asset preparation and monetization support such as for the development of natural climate solutions and nature-based solutions projects via bringing in private sector capital; as well as explore approaches that would unlock incentives for cross border cooperation on climate mitigation.⁶⁶

74. Training for carbon baseline development could include using and applying carbon capture and storage (CCS) in specific sectoral contexts, carbon accounting, and carbon sequestration opportunities within the agriculture and land-use sectors, including knowledge sharing via the CAREC climate platform. This could include establishing standardized carbon quantification methodologies and integrating industrial and nature-based solutions such as soil carbon sequestration and reforestation. In this context, regional cooperation on knowledge transfer and best practices related to sustainable land management, agroforestry, and climate-smart agriculture would enhance the region’s ability to contribute to global carbon capture efforts.

75. Pilot initiatives focusing on the co-benefits of integrating CCS with sustainable land-use practices could demonstrate scalable models for carbon sequestration, aligning with broader goals of climate resilience and rural development (linked to Action Area 2). Additionally, strengthening partnerships and collaborative networks would help mobilize technical expertise and resources to fill the gaps in regional and national carbon baselines, enabling the effective monitoring and verification of carbon capture efforts.

3.6. Linkages and synergies with existing initiatives

76. There are relevant past and ongoing global and regional initiatives from development partners as well as existing CAREC institutional structures that the proposed interventions under Action Area 3 can build upon and establish linkages with, as indicated in Table 6.

Table 6 – Linkages and Synergies for Low-Carbon Growth

| | |
|---|--|
| Decarbonization of CAREC transport and trade corridors | <ul style="list-style-type: none"> Coordinate with the CAREC Regional Trade Group to develop and implement initiatives to decongest, diversify, and digitalize trade that could reduce GHG emissions (as per the CAREC Integrated Trade Agenda 2030).⁶⁷ Other areas of work of the CAREC Regional Trade Group that could be linked to CCAP may include carbon policy instruments as deemed relevant by parties, exploring opportunities in critical minerals⁶⁸, and rapid assessment of the impact of the recent floods on Kazakhstan’s trade infrastructure and identification of potential resilience measures. |
| Grid readiness and renewable | <ul style="list-style-type: none"> Coordination with the CAREC Energy Sector Coordinating Committee, whose work program focuses on the abovementioned activities, including a recent study |

⁶⁶ CAREC WGCC training on carbon markets, 2–3 September 2024.

⁶⁷ The [CAREC Integrated Trade Agenda](#) outlines how CAREC can enhance trade by addressing key challenges, including poor market access, limited economic diversification, and weak institutions.

⁶⁸ Critical minerals such as copper, lithium, nickel, cobalt and rare earth elements are essential for the rapidly growing clean energy technologies, such wind turbines, electricity grid, solar panels, electric vehicles, etc.

| | |
|-----------------------------------|--|
| energy integration | <p>tour to Norway and Denmark, where energy sector representatives from CAREC countries learned about best practices on grid integration in Europe’s Nordic region.</p> <ul style="list-style-type: none"> • ADB is working with regional and international partners for a scalable Energy Transition Mechanism⁶⁹, initially proposed under the World Economic Forum umbrella in 2018. This is a replicable and scalable market-based model to help accelerate the transition from coal to clean power (e.g., legacy coal-fired power plants) • The ADB initiative on “Preparing Energy Storage and Green Hydrogen Sector Development Program” in Georgia includes a project to develop battery storage for further integration of renewable energy into the national grid.⁷⁰ |
| Low emissions zones | <ul style="list-style-type: none"> • Coordinate with the ABEC subcommittee on air quality measurement and establishment of low-emission zones. • World Bank’s air quality work aims to increase regional cooperation and transboundary efforts involving the Central Asian countries.⁷¹ • The Kyrgyz Republic has worked with the United Nations Development Programme and the United Nations Environment Programme to improve its air quality monitoring capabilities and data-sharing practices.⁷² • Tajikistan has been collaborating with the World Bank and other international organizations to enhance its air quality monitoring and management efforts, including establishing a national air quality monitoring network.⁷³ • Georgia’s experience implementing its road map for air quality monitoring network development⁷⁴ is another example of knowledge that could be shared via a CAREC regional platform. Georgia has expanded its meteorological and air quality monitoring network with technical capacity support from the UN Economic Commission for Europe. |
| Carbon Markets Development | <ul style="list-style-type: none"> • ADB report “National Strategies for Carbon Markets under the Paris Agreement: Making Informed Policy Choices” analyzes Asia and Pacific carbon markets and how they can help economies reach emission reduction goals and generate the financing needed for climate action. Other publications are also available from ADB. • United Nations Economic Commission for Europe (UNECE) produced a technology brief focusing on CCS and required actions that identified sharing good practices, working via a transboundary approach, and the crucial role of the private sector as the main guiding principles.⁷⁵ • ADB supports Pakistan with a TA focused on determining the potential of CCS⁷⁶, looking at energy, agriculture, transport, and industrial processes to develop roadmaps that include the private sector. |

⁶⁹ <https://www.adb.org/what-we-do/energy-transition-mechanism-etm>

⁷⁰ <https://www.adb.org/projects/54448-001/main>

⁷¹ First High-Level Regional Policy Dialogue "Building a Clean Air Future in Central Asia" with policy makers and stakeholders from Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan, together with leading air quality experts from Central Asia and around the world.
<https://www.worldbank.org/en/events/2024/06/18/building-clean-air-future-in-central-asia#1>

⁷² UNDP, UNEP. [Air Quality in Bishkek Assessment of Emission Sources and Road Map for Supporting Air Quality Management](#), 2022.

⁷³ World Bank. 2023. [Air Quality Management in Tajikistan](#). Washington, D.C.

⁷⁴ Part of the “State Program on Enabling Activities for Reduction of Ambient Air Pollution in Tbilisi,” with support from SIDA and UNDP. https://unece.org/sites/default/files/2021-04/Georgia_final.pdf

⁷⁵ UNECE. 2022. Technology Brief, [Carbon Capture, Use and Storage](#). Geneva.

⁷⁶ ADB Pakistan: [Determining the Potential for Carbon Capture and Storage](#).

4. CAREC Climate Platform

4.1. Overview

Table 7 – CAREC climate platform

| ACTION PLAN AREA 4 – CAREC CLIMATE PLATFORM | |
|--|-------------------------|
| Objective: To strengthen regional climate cooperation and coordination to address transboundary climate adaptation and mitigation needs and priorities. | |
| Regional Initiatives and Projects | Indicative Start Date** |
| Capacity development on regional climate action | 2024 |
| Regional platform for knowledge generation and dissemination | 2025 |
| Climate finance and development of bankable regional climate projects | 2025 |

** 2024 is the preparatory phase of the CCAP, including the initiation of some pilot actions in various AP areas.

4.2. Regional Platform for Knowledge Generation and Dissemination

77. This initiative aims to establish a CAREC climate platform to strengthen coordination, information, and knowledge-sharing on climate action and enhance the capacity of CAREC countries to address climate-related challenges. This is key for implementing the CCAP activities and ensures a harmonized and effective transboundary approach towards climate adaptation, resilience, disaster preparedness, and mitigation activities. The CAREC Climate Change Vision guides the proposed initiative, which recommends building an open and inclusive regional institutional platform on climate change.

78. The CAREC climate platform will facilitate the development and implementation of joint regional climate action initiatives that will require close coordination and cooperation with development partners (DPs) and CAREC countries to mobilize financial resources and technical expertise for climate-resilient development in the region. The platform will support the collection and dissemination of knowledge and best practices on climate change adaptation and mitigation and facilitate the exchange of experience and lessons learned among CAREC countries, including knowledge and practices incorporating gender equality perspectives in the design of climate change adaptation and mitigation actions.

79. The CAREC platform will collaborate with CAREC clusters to implement the CCAP activities and integrate climate change into the respective cluster strategies and work plans. The CAREC climate platform could also work in partnership with the CAREC Institute, the ADB Institute, CAREC Eco, and other regional institutions to promote the development of a range of knowledge products. Potential activities could include knowledge-sharing events, such as workshops, webinars, and regional forums to facilitate the exchange of experiences and best practices on climate change, collaborative research on climate topics at different sectoral and thematic levels, and peer-to-peer exchanges among CAREC countries.

80. The CCAP knowledge resources will be disseminated via diverse communication channels and platforms (e.g., CAREC website, social media, newsletters) and translated into CAREC languages to improve accessibility and relevance for national and subnational stakeholders.

4.3. Capacity Development on Regional Climate Action

81. This initiative focuses on providing training support to CAREC countries on climate-related issues across CCAP areas and key topics to support a more informed and constructive dialogue during COP. This includes, among others, capacity building for government officials and policymakers on

Article 6 of the Paris Agreement regarding carbon market cooperative mechanisms, to be provided in September and October 2024 by the ADB and UNDP in preparation for COP29.

82. Additional training on Article 6 could focus on regulatory instruments, the relation to carbon pricing (via examples and practical applications), the relevance of baseline development (and distinctions from Monitoring Reporting and Valuation (MRV) and GHG inventory) that could facilitate access and cooperation on carbon market opportunities, ETS and carbon credits (from economic and monetary perspectives), and in relation to carbon capture and storage (CCS).

83. In 2024, ADB also supported a training on green public financial management (PFM) aimed at enhancing CAREC countries’ understanding of the consequences of climate change on the management and planning of public sector finance and identifying potential entry points to integrate climate into PFM better. ADB will support regional financial cooperation across CAREC and ASEAN regions to mobilize private sector capital for climate action. This initiative will bring together policymakers, regulators, investors, and private sector leaders from CAREC’s Capital Market Development Forum and the ASEAN Capital Markets Forum to share knowledge and experience and deepen cross-regional collaboration on sustainable and green finance.

84. Training topics will be identified and selected based on needs identified by the WGCC and based on CAREC and COP’s respective agendas each year. Support for developing joint initiatives and positions for promoting a One-CAREC voice in global and regional climate forums, including COP, will also be provided.

4.4. Climate finance and development of bankable regional climate projects

85. As part of the regional cooperation on climate, CAREC will provide technical and capacity-building support to prepare bankable regional climate projects at different stages, such as concept, project proposal design, technical support for accreditation processes, etc.

86. Considering the scale of required investments, CAREC is setting up a **Climate and Sustainability Project Preparatory Fund (CSPPF)** that is expected to be endorsed at the CAREC Ministerial Conference on 8 November and become operational thereafter. The CSPPF will contribute to implementing the CCAP by supporting the preparation of bankable regional projects focused on climate and sustainability objectives (see Section IV: Resource Mobilization).

4.5. Linkages and synergies with existing initiatives

87. There are relevant past and ongoing global and regional initiatives from development partners as well as existing CAREC institutional structures that the proposed interventions under Action Area 4 can build upon and establish linkages with, as indicated in Table 8.

Table 8 – Linkages and Synergies for Regional Climate Cooperation

| | |
|---|---|
| Regional platform for knowledge generation and dissemination | <ul style="list-style-type: none"> • Coordination with the CAREC Institute and ADBI for climate-related research and knowledge products • Coordination with CAREC Eco on regional climate research and experiences (climate risk assessment, EWS, resilience and adaptation in mountainous areas, etc.) • Collaboration with national and regional research institutions, academic institutions, non-governmental organizations, and civil society organizations to expand the climate knowledge network and explore joint regional capacity building, training, and learning initiatives. |
|---|---|

IV. Implementation, Financing, and Monitoring

A. Institutional Arrangements

88. The following roles and responsibilities support the successful and effective implementation of the CCAP:

89. **Ministerial level.** The CAREC Ministerial Conference (MC) provides high-level strategic guidance and endorsement for implementing the CCAP. The CAREC MC serves as a platform to discuss and debate important policy and strategic issues of regional relevance and exercises overall accountability over the results of the CAREC Program. The CAREC MC is held on an annual basis and is attended by Ministers of CAREC member countries.

90. **Senior Officials level.** CAREC senior officials provide executive support and strategic guidance for the CCAP implementation and the integration of climate change in CAREC operations and clusters. The Senior Officials Meeting (SOM) is the operational-level mechanism of CAREC that monitors progress at the cluster and sector levels and has the authority to consider and endorse complex multi-country and multisector projects. The CAREC SOM also serves as a mechanism to ensure the effective implementation of the policy and strategic decisions made by the MC. The CAREC SOM, composed of senior-level officials from the relevant agency in overall planning or finance, is convened annually to prepare for the CAREC MC.

91. **CAREC National Focal Points (NFPs).** Each country has a senior official appointed as CAREC NFP to ensure effective coordination among all relevant government agencies and development partners at the country level in matters related to regional cooperation. CAREC NFPs will support the WGCC in coordinating with sectoral agencies to develop and implement CCAP regional initiatives and projects.

92. **Climate Change Steering Committee.** A steering committee may be established to oversee and guide CAREC's efforts on climate action and provide strategic guidance to the WGCC on CCAP implementation, including ensuring alignment of sectoral strategies, action plans, and project portfolios across clusters with the CAREC Climate Change Vision. The steering committee is proposed to be composed of CAREC NFPs and high-level officials from member countries' environmental, ecology, and climate change ministries. The Committee will report annually to the CAREC MC on the progress of the CAREC climate agenda.

93. **CAREC Working Group on Climate Change (WGCC).** The CAREC WGCC plays a vital role in the CCAP development and implementation (the TORs of the WGCC are included in Appendix B).⁷⁷ Its responsibilities include (i) coordinating with and supporting sector committees and working groups for integrating climate change in CAREC 2030's operational areas; (ii) identifying priority sectors and regional initiatives on climate adaptation and mitigation in alignment with countries' NDCs and climate strategies and plans; (iii) developing CAREC climate project portfolio and identifying potential financing sources; (iv) building multistakeholder consensus and public-private partnerships and sharing best practices for regional climate action; and (v) promoting One CAREC voice on climate change agenda at global and regional forums such as the Conference of Parties (COP). The WGCC comprises representatives of the CAREC member countries, development partners, and the CAREC Secretariat. The WGCC will annually report to the CAREC SOM and the Climate Change Steering Committee on

⁷⁷ The WGCC is primarily composed of senior and technical level government officials from CAREC countries' Environmental and Climate Change Ministries and Agencies, and other Ministries. In 2024 the WGCC has already met four times (twice virtually and twice in-person in Astana, Kazakhstan and Baku, Azerbaijan).

the CCAP implementation. Each year, the CAREC host country (rotating annually) will chair the WGCC meetings with support from the CAREC Secretariat (see Appendix B).

94. **Coordinating Countries** will update the WGCC on the implementation status of the regional activities they are responsible for coordinating. Coordinating countries will actively establish linkages and synergies with other working groups, such as the water pillar, transport, energy, etc., by participating in relevant working groups' meetings and reporting back to the WGCC and vice versa. Coordinating countries will inform the WGCC of the progress of initiatives included in the CCAP but implemented under other working groups.

95. **The CAREC Secretariat** supports the WGCC in conceptualizing, designing, and implementing the CAREC CCAP and its activities. This includes organizational support for WGCC meetings and coordination and sharing of information with CAREC member countries, development partners, CAREC sectoral committees and working groups, and other regional and national stakeholders.

96. **CAREC sector committees and working groups.** The WGCC will coordinate, link up, and establish synergies with committees and working groups across CAREC sectors to advance the implementation of CCAP initiatives. Most of the proposed regional initiatives and projects in the CCAP require sector committees and working groups to be actively involved and/or possibly take the lead regarding implementation. Focus sector group sessions and/or cross-sectoral meetings of the WGCC with other sector committees and working groups will be organized to raise awareness and advance the implementation of the CCAP initiatives through a coordinated approach.

97. **Development Partners.** Development partners participate at several levels in the overall strategic formulation and implementation of the CCAP and further integration of climate change in the CAREC portfolio, including as active members of the WGCC. To optimize resources, development partners could be assigned to take the lead in implementing various CCAP initiatives and projects based on their core expertise and ongoing initiatives.

98. **CAREC Institute.** The CAREC Institute will play a key role in generating and disseminating climate-related knowledge to support the various regional initiatives and projects of the CCAP under the guidance of and in close coordination with the WGCC and the CAREC Secretariat. It will be responsible for establishing collaboration and partnerships with global and regional climate research institutions to ensure access to the latest knowledge and best practices on climate adaptation and mitigation solutions.

B. Resource Mobilization

99. The implementation of CCAP initiatives and projects requires considerable incremental financial resources.⁷⁸ An analysis of the CAREC project portfolio between December 2016 and December 2023 shows that only 3% and 5% were invested in climate adaptation and mitigation, respectively.

100. To meet the substantial financing requirements and support the CCAP implementation, there is a need to scale up climate financing for CAREC projects through new financing modalities and solutions and to coordinate various funding sources. A wide range of sources will have to be tapped, including domestic resource mobilization, in particular revenues generated by the effective management of energy subsidies and carbon pricing (multilateral carbon market solutions) that will support the energy transition.⁷⁹ Another potential source is private sector finance, which includes green bonds, international reinsurance, and capital markets for regional risk transfer solutions.

⁷⁸ The CAREC Climate Change Scoping Study provided a rough estimate of \$26 billion in total climate action financing requirements for CAREC (excluding PRC), of which \$10 billion could be raised domestically and \$16 billion internationally.

⁷⁹ IMF. 2022. [Revenue Mobilization for a Resilient and Inclusive Recovery in the Middle East and Central Asia](#). Washington, D.C.

101. However, developing the domestic resource base and private sector financing will take time and be challenging. External official funders will, therefore, be a critical source of climate finance for the CAREC region in the foreseeable future. This includes bilateral and multilateral development partners' financing, including specific climate funds (e.g., GCF, the Global Environment Fund (GEF), the Adaptation Fund (AF), the Loss and Damage Fund, and SOFF, among many others).

102. The official financing architecture is fragmented and lacks coordination; each funding agency has its own priorities, conditions, and procedures, so official finance can be challenging to access and manage. Moreover, most funders are focusing on national rather than regional climate action. Finally, there is a dearth of bankable public and private investment projects supporting climate action in the CAREC region.

103. In this context, CAREC, in cooperation with the CAREC Institute, can play a vital role in supporting domestic resource mobilization and private financing efforts and in helping to facilitate access to official finance, especially for regional projects. This involves supporting (i) the development of national carbon pricing policies and institutions, (ii) capacity building for accessing private sources of climate finance, (iii) information sharing, coordination, and cofinancing among development partners for regional investment projects, (iv) developing the capacity of national authorities to access international climate funds, and (v) strengthening the climate project preparation capacity of CAREC countries.

104. Multilateral development institutions such as ADB and the World Bank could lead in financing this context. ADB has outlined climate change mitigation, adaptation, and environmental sustainability as central pillars in its Strategy 2030, aiming to reach \$100 billion in climate finance by 2030. Out of these, \$34 billion will be earmarked specifically for adaptation and resilience initiatives,⁸⁰ presenting opportunities for ADB to fill CCAP financing needs.

105. The World Bank made a commitment in its Climate Change Action Plan for 2021–2025⁸¹ to align all its financing operations with the goals of the Paris Agreement while setting targets of 45% of annual financing devoted to climate-related projects and a 50% split between climate mitigation and adaptation. The overall World Bank's commitment to mainstreaming climate change into Central Asia is via a regional portfolio of \$12 billion.

106. Similarly, AIIB has ambitious climate financing targets, committing to allocate at least 50 percent of its annual financing approvals to climate finance by 2025. AIIB's thematic priorities in its Corporate Strategy align with the CAREC Climate Change Vision (i.e., green infrastructure, connectivity and regional cooperation, and private capital mobilization). AIIB has climate-related projects and operations in CAREC countries. It is committed to delivering impact, including contributing to the CCAP implementation and supporting the needed policy reform through its policy-level instrument.

107. ADB also supports the Kyrgyz Republic by establishing a Climate Finance Centre (CFC) to address climate finance needs.⁸² The center aims to act as a one-stop-shop at the country level to help coordinate financial assistance available through regional and international climate funds. This example could also be replicated in other CAREC countries.

108. Crucially, to strengthen the project preparation capacities of CAREC countries and scale up regional climate finance, CAREC is establishing a dedicated financing mechanism: **the Climate and Sustainability Project Preparation Fund (CSPPF)**, expected to be launched at the CAREC Ministerial Conference in November 2024. The CSPPF will help address and narrow down CAREC countries' financing gaps in achieving climate commitments and SDGs by supporting the preparation of bankable

⁸⁰ <https://www.adb.org/news/adb-commits-record-climate-finance-almost-10-billion-2023>

⁸¹ <https://openknowledge.worldbank.org/entities/publication/ee8a5cd7-ed72-542d-918b-d72e07f96c79>

⁸² ADB TA 10042-REG (KGZ) [Enabling Green Recovery in Central and West Asia through a Sustainable Financing Program](#).

regional projects focused on climate and sustainability objectives consistent with CAREC countries' Paris Agreement and NDCs targets.

109. CSPPF is intended for regional projects (i.e., projects that promote collaboration between two or more CAREC countries and are expected to generate economic benefits for more than one country in the CAREC region). CSPPF can play a crucial role in advancing the implementation of the CCAP through technical assistance to conduct project preparatory activities, including pre-feasibility and feasibility studies and small-size grant components of regional climate projects that demonstrate and/or pilot innovative features and adaptation and mitigation co-benefits.

Box 2: ASEAN Catalytic Green Finance Facility

CAREC could take into consideration ADB's experience in the development of the ASEAN Catalytic Green Finance Facility (ACGF) supporting governments in Southeast Asia to prepare and finance infrastructure projects that promote environmental sustainability and contribute to climate change goals. To be financed under the ACGF, projects must be sovereign or sovereign-guaranteed and fulfil eligibility criteria that includes clear environmental goals and targets, a financial sustainability plan, and a roadmap for attracting private capital investment. In addition to the success in cofinancing and resource mobilization, the ACGF experience can serve as a guiding example for CAREC in terms of establishing knowledge partnerships (ACGF has in-kind knowledge partnerships with Climate Bonds Initiative, Global Green Growth Institute, Infrastructure Asia and the Organization for Economic Co-operation and Development).

110. The CSPPF will be administered by ADB, with contributions from bilateral, multilateral donors and other sources as Financing Partners. A steering committee for the CSPPF will be chaired by the Director General of ADB's Central and West Asia Department (CWRD). ADB's Regional Cooperation and Integration Unit (CWRC) will be the Fund Manager. Financing partners will hold regular consultation meetings to deliberate on CSPPF decisions and strategic directions. The steering committee will consult with the WGCC on CAREC countries' needs and priorities for climate and sustainability projects for funding under the CSPPF.

C. Monitoring and Evaluation

111. A set of measurable indicators has been developed to track progress and evaluate the effectiveness of the CCAP's implementation (Appendix A). During the implementation of the Action Plan, the indicators may be adjusted, and baseline values for each indicator will be developed. Roles, responsibilities, and resource requirements should be established for effective monitoring and evaluation implementation, including responsible parties and mechanisms for regularly collecting, analyzing, and reporting on the indicator data.

112. As part of the monitoring and evaluation requirements, the WGCC could provide a venue for regular consultation and feedback on the CCAP implementation performance in close coordination with CAREC NFPs, sectoral committees, working groups, and other relevant stakeholders involved in the monitoring and evaluation process to enhance the relevance and ownership of the CCAP.

V. Appendices

A. CCAP Indicators

| Action Plan Area | Objective / Outcome | Indicators |
|---|--|---|
| 1. Climate risk, preparedness, and health | Resilience of regional infrastructure and communities, and countries' capacities to prepare for and respond to climate and disaster risk increased | <ul style="list-style-type: none"> • Number of adaptation projects being conceptualized resulting from regional climate risk assessments. • Number of CAREC countries exchanging early warning information and data, including for extreme weather events. • Number of CAREC countries establishing policies and measures for climate change health adaptation and preparedness, including regional actions. • Number of disaster risk financing instruments piloted in CAREC countries |
| 2. Water-energy-food security nexus | Countries' resilience to climate shocks across the water, agriculture, and energy sectors improved | <ul style="list-style-type: none"> • Number of CAREC countries with improved capacity for forecasting glacier dynamics and water availability • Number of enhanced monitoring solutions piloted in transboundary river basins • Number of people in mountainous areas, including smallholder farmers, with improved capacity for climate-smart agriculture practices |
| 3. Low-carbon growth | Enabling conditions to shift to a low-carbon economy promoted | <ul style="list-style-type: none"> • Emissions reduction through improved border crossing procedures and digitalization of trade processes • Emissions reduction resulting from regional renewable energy projects • Number of low-emission zones piloted in CAREC countries |
| 4. CAREC climate platform | Regional climate cooperation and coordination to address transboundary climate adaptation and mitigation needs and priorities strengthened | <ul style="list-style-type: none"> • Number of public and private stakeholders (sex-disaggregated) trained on key climate-related topics • Amount of financing resources (USD) mobilized for regional climate projects in CAREC countries |

B. Terms of Reference of the CAREC Working Group on Climate Change

Background

The CAREC region faces significant impacts from climate change today, which are expected to aggravate further, as demonstrated in the CAREC Climate Change Scoping Study. Addressing the causes and effects of climate change in the region is of the highest urgency. It will require prompt and effective national and regional responses. CAREC is well placed as a platform to coordinate climate action in the region.

The 22nd CAREC Ministerial Conference in November 2023 adopted the CAREC Climate Change Vision (CCC Vision). The CCC Vision represents an ambitious agenda designed to ensure adequate regional climate action by CAREC member countries and development partners during 2024–2030.

Role and Functions

The role of the CAREC Working Group on Climate Change (WGCC) is to support the CAREC Climate Change Steering Committee's (CCSC) efforts on climate action with technical advice and substantive input in the following areas of the CCSC's responsibility, including decisions regarding the appropriate sequencing of the various activities to be pursued:

- Develop the CAREC Climate Change Action Plan;
- Develop the CAREC climate project portfolio;
- Ensure that the CAREC Climate Change Action Plan and climate project portfolio are aligned with Nationally Determined Contributions (NDCs) and National Climate Strategies and Plans for adaptation and mitigation of CAREC countries, as applicable;
- Identify and develop specific regional initiatives to strengthen the enabling environment for climate action by harmonizing the legal and regulatory environment and by building capacity;
- Build and maintain a multistakeholder consensus across the region;
- Gather and share best practices for regional climate action;
- Develop and launch a strategic communications plan for CAREC's Climate Change Action Plan;
- Work with development partners to seek and secure project funding for regional climate projects and avoid duplication of efforts;
- Build public-private partnerships for regional climate action;
- Annually report to the CAREC Ministerial Conference on the implementation progress of the CAREC Climate Change Action Plan;
- Review and update the CAREC Climate Vision document and the CAREC Climate Change Action Plan every three years to adapt to changing conditions and needs and
- The Working Group will meet at least twice per year. During 2024, the CAREC Secretariat will chair the WGCC, after which the CAREC host country representative will chair the meetings.

The CAREC Secretariat will provide organizational support for the Working Group and prepare draft documents for its review, input, and, where appropriate, endorsement.