

Original Paper

Climate Change Policy Agenda Setting in the Five Central Asian Countries: A Multiple Streams Framework Analysis

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Abstract

Applying the Multiple Streams Framework to climate policy agenda-setting in the five Central Asian countries has strong explanatory power. The study finds that, under their political systems, the problem, policy, and politics streams do not operate independently; rather, the politics stream is dominant. Accordingly, this study offers an appropriate refinement of MSF and proposes a politics-stream-dominant coupling model. In this model, the politics stream comprises the ruling party's executive will and governing philosophy, the catalytic influence of public sentiment, and the actions of interest groups. The problem stream encompasses climate-change-induced natural disasters and feedback from international climate conferences. The policy stream includes national climate-change plans, policy recommendations from experts and scholars, and lessons from relevant international organizations and other countries' climate policies. However, within this model, the problem and policy streams must first be recognized, vetted, and absorbed by the politics stream before the policy window for climate-change agenda-setting opens, which gives the process a distinctly top-down character. Moreover, differences in political institutions, economic structures, and resource endowments yield unique interaction patterns among the three streams across country contexts. Looking ahead, agenda-setting for climate policy in these five countries will continue to face the challenge of uneven development among the streams; sustained deepening of their coupling is required to keep the policy window open. This study provides a theoretical touchstone and a practical reference for China and other developing countries as they pursue climate diplomacy.

Keywords

Five Central Asian Countries, Climate change, Policy agenda-setting, Climate governance, Multiple Streams Framework

1. Introduction

Given that Central Asia ranks among the world's most fragile and climate-sensitive regions, climate change there has attracted widespread attention from the international community (Nasirova, M., 2024). As global warming accelerates, the five Central Asian states have continually adjusted their climate policies. The climate policy agenda has deepened, and climate governance arrangements have been progressively refined. In parallel, the five countries have forged consensus on regional climate cooperation and elevated it to a new level. From November 1 to 13, 2021, the 26th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP26) was held in Glasgow, United Kingdom. At that meeting, the five Central Asian states, acting for the first time as a single regional bloc, issued a joint statement under the banner of "Central Asian countries." It put forward a cooperation framework of "five countries, one region, one voice," emphasizing that only collective action by the five states can mitigate climate crises such as global warming, glacier melt, and declining water availability (CAREC, 2023). From November 30 to December 2, 2023, at the 28th United Nations Climate Change Conference (COP28) in Dubai, the five Central Asian states jointly issued the Central Asia Regional Climate Change Adaptation Strategy. The strategy sets out four strategic objectives: strengthening regional cooperation on climate change; establishing climate finance mechanisms; enhancing adaptive capacity; and jointly developing a climate change monitoring system (Inter-governmental Working Group, GIZ and HYDROC GmbH, 2023). Despite the broad consensus the five Central Asian states have reached on addressing climate change, efforts to place climate change on national policy agendas remain constrained by cross-country differences in political systems, economic structures, and resource endowments. These disparities have, to some extent, hindered the effectiveness of climate policy implementation across Central Asia. Moreover, they further underscore that significant shortcomings persist in the climate change policies of the five countries.

To date, climate change policy agenda-setting in the five Central Asian states has not received sufficient scholarly attention. The existing literature largely falls into two categories. One line of research, at the micro level, examines how climate change affects food security across the five countries (Su, F. et al., 2023), Water Resources (Fu, A. et al., 2025), Climate migrants (Miholjic-Ivkovic, N., 2024) and impacts on public health and other aspects (Legro, S., 2024). By contrast, the other line takes a macro-level view of climate governance in Central Asia. Within this strand, a subset of studies primarily assesses the adaptive capacity of the five Central Asian countries (Sabyrbekov, R. et al., 2023). Renewable Energy Policy (Vakulchuk, R., Øverland, I., Eshchanov, B., et al., 2019) and Green Economy Transformation Strategy (Filipović, S., Orlov, A., & Panić, A. A., 2022). Another set of studies concentrates on the influence of external factors on the climate change policies of the five Central Asian countries. In particular, it considers green energy cooperation under the Belt and Road Initiative, EU economic assistance (Bharti, M. S., 2023), Reports and Recommendations of International Organizations, and Russia's energy politics. A review of the literature shows that existing studies focus more on the observable manifestations and developmental trajectories of climate change in the five Central Asian

states, as well as the internal and external factors shaping climate governance. By contrast, there has been relatively little inquiry into the mechanisms of policy evolution and the theoretical significance of these climate policies. What brought climate change to policymakers' attention and onto national agendas in the five countries? What are the driving mechanisms of agenda-setting? How does agenda-setting differ across states? What challenges does it face? To address these questions, this article undertakes a modest adaptation of the Multiple Streams Framework. Building on a politics-stream-led coupling model, it conducts an in-depth analysis of how climate policies have formed in the five states and examines the drivers of their evolution. In doing so, it aims to provide theoretical and practical guidance for accurately anticipating the future trajectory of climate policy across the region.

2. Research Methods

2.1 Multiple Streams Theory Framework and Its Applicability Analysis

Multiple Streams Theory was developed by American policy scholar John Kingdon as a refinement of the "garbage can model" proposed by Cohen, March, and Olsen. As shown in Figure 1, Kingdon argues that three distinct streams—the problem stream, the policy stream, and the politics stream—run through policy making, agenda-setting, and policy formulation. Specifically, the problem stream encompasses salient societal issues that draw the attention of decision-makers, including indicators relevant to national development and social stability, focusing events, and policy feedback. The policy stream describes how proposals are generated, debated, revised, and ultimately placed on the agenda. This process is driven by policy communities comprising actors inside and outside government—presidents, legislators, ministers, experts, scholars, and the media—who advance solutions to perceived problems. Meanwhile, the politics stream concerns decision-makers' orientations toward prevailing political conditions such as public mood, partisan conflict, and interest-group competition. The three streams operate independently and follow their own dynamics. However, when they converge at a particular moment, a policy window opens, allowing a social problem to move onto the policy agenda (Musagalieva, G., & Ospanova, A., 2025).

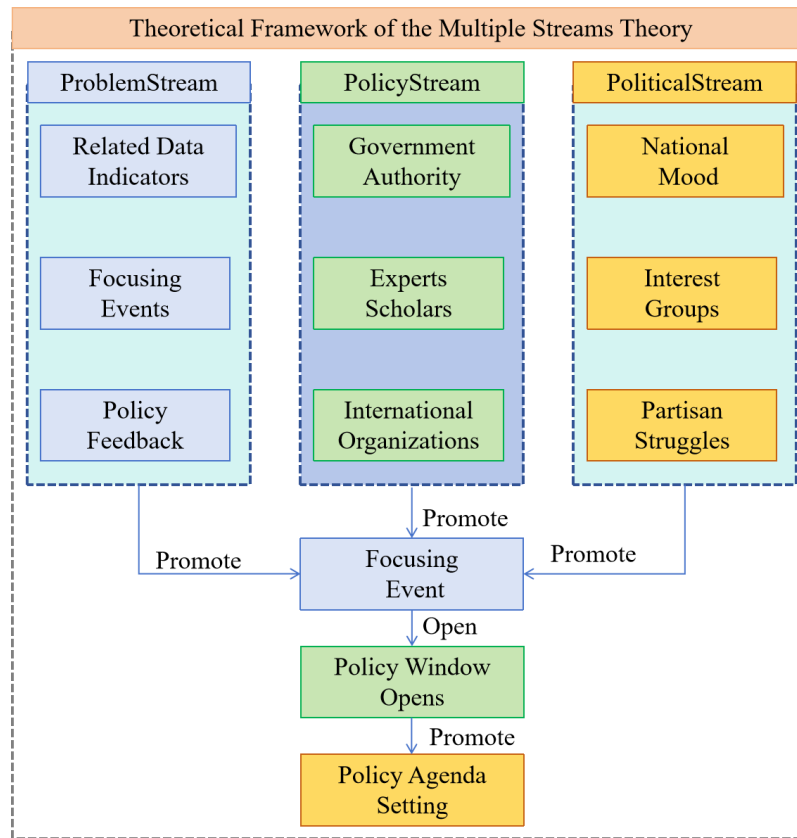


Figure 1. Multiple Streams Theory Theoretical Framework (Author's Own Creation)

As a principal theoretical tool for explaining public policy agenda-setting, Multiple Streams Theory has been widely applied to climate policy (Garcia Hernandez, A. L., & Bolwig, S., 2020), urban governance (Brils, J., 2020), technology regulation (Goyal, N. et al., 2021), education policy (Xiang, K. et al., 2023), and the governance of ethnic issues (Wong, J., 2025), thereby providing robust evidence of its applicability. Although the theory was originally formulated to explain agenda-setting within the U.S. political system, its generality and flexibility give it comparable explanatory power in virtually any national context (Cairney, P., & Jones, M. D., 2016). However, when examining climate policy agenda-setting in the five Central Asian states, analyses should closely account for their distinctive authoritarian or semi-authoritarian political structures (Buranelli, F. C., 2021). In these settings, the three streams do not operate independently; instead, the ruling party's administrative will and ideational orientation tend to play a dominant role in shaping the climate change policy agenda.

2.2 Data Sources

As shown in Table 1, this study draws on four categories of data on climate change in the five Central Asian states spanning 1991–2025: policy documents, reports from international organizations, scholarly publications, and think tank reports. By triangulating across these sources, we reveal the interplay among the three streams.

Table 1. Data Sources of this Paper

Data Source	Time Span	Specific Content	Purpose Analysis
Policy Documents	1991—2025	National development plans, climate adaptation strategies, and green economic transformation strategies released by the five Central Asian countries	Providing core evidence for the flow of policy resources
International Organization Reports	1991—2025	Regional assessments and country-specific climate and development reports issued by the Intergovernmental Panel on Climate Change (IPCC), United Nations Development Programme (UNDP), World Bank, and Asian Development Bank (ADB)	Providing data support for the flow of issues and international experiential references for the flow of policies
Academic Research Results	1991—2025	Peer-reviewed papers retrieved from English and Chinese databases such as Google Scholar, Taylor & Francis Online, Web of Science, and CNKI using keywords like "Central Asia climate change," "Central Asia climate policy," and "Central environmental policy."	Providing academic perspectives and theoretical support for the flows of issues, policies, and politics
Think Tank Reports	1991—2025	Policy briefs and analytical comments from internationally recognized think tanks such as CAREC and adelphi.	Capturing public sentiment, tracking focal events, and reflecting the viewpoints of interest groups are key foundations for political flow analysis

2.3 Text Data Analysis Process

First, drawing on the textual corpus assembled above, we employ NVivo qualitative data analysis software to code all sources. We construct a coding framework with three parent nodes and nine child nodes. This framework systematically identifies key elements in the climate change policies of the five Central Asian states, including changes in indicator data, focusing events, leadership beliefs, and expert and scholarly recommendations. It also provides the analytical foundation for subsequent tests of the mechanisms through which these elements interact.

Second, building on the completed coding, we apply process tracing to construct, in chronological order, a causal chain of key events for each country, thereby analyzing the politics-stream-led causal narrative. we use Kazakhstan as an example and develop a causal narrative framework for its climate change policy agenda-setting.

Finally, building on the completed case-based process tracing, we will conduct a structured cross-national comparison. This approach is designed to elucidate differences in climate change policy agenda-setting across the five countries.

3. Multiple Streams Analysis

3.1 Problem Stream: The Ration Basis for Policy Agenda-Setting

3.1.1 Trends in Climate Indicators: Progressive Deterioration of Climatic Conditions in Central Asia

Located deep within the Eurasian landmass and far from oceanic influence, Central Asia is characterized by an arid climate and scant precipitation. As a result, it is among the regions worldwide most susceptible to the impacts of climate change. According to World Bank data, the region's mean annual temperature has already increased by 0.5°C and is projected to rise by an additional 1.6–2.6°C between 2030 and 2050 (The World Bank., 2010). Sustained warming has driven more frequent natural hazards, including droughts, wildfires, floods, and debris flows. In particular, extreme heat increases evaporative losses from surface waters and runoff and heightens evapotranspiration, thereby accelerating glacier melt. In the short term, meltwater can augment agricultural irrigation and support domestic water supply across the five Central Asian states. In the longer term, however, accelerating glacier retreat reduces glacier-fed runoff and intensifies water stress. By 2100, glacier area in Central Asia is projected to shrink by more than 50%. According to the Intergovernmental Panel on Climate Change (IPCC), by 2050 winter precipitation in Central Asia is projected to increase by 4%–8%, while summer precipitation is projected to decrease by 4%–7%, further exacerbating summer drought (University of Geneva, 2012). Moreover, water use in the five Central Asian states remains water-intensive and inefficient, which has heightened tensions over water resources.

In fact, water-related challenges have become central to security and stability in the region. All five are major agricultural economies. Today, climate change—manifested in extreme heat, drought, flooding, and uneven water availability—poses a serious threat to food production. According to World Bank estimates, Kazakhstan's food output could decline by 37% by 2030 and by 48% by 2050 (Musavir, W., 2025). In Uzbekistan, corn production is expected to fall by 22%, while Tajikistan is projected to experience the largest losses in spring wheat (Thomas, T. S. et al., 2021). These declines impede the smooth functioning of regional food supply chains and fuel price volatility. They also weaken households' ability to access and utilize food, thereby jeopardizing livelihoods. In the longer term, climate change exerts severe negative impacts on food security and may even entrench a vicious cycle.

3.1.2 Focusing Events: The Catalytic Role of Major Climatic Events

Central Asia has long been among the regions most affected by natural hazards such as floods, debris flows, droughts, and earthquakes, and most of these hazards are climate-related. According to World Bank statistics, over the past 30 years the region has experienced roughly 500 flood and earthquake events, affecting 25 million people and causing direct economic losses as high as \$80 billion. Drought alone has inflicted approximately \$5.4 billion in economic losses in Tajikistan (World Bank Group, 2025). In April 2024, Kazakhstan suffered its most severe flooding in 80 years, inundating 18,000 homes and prompting the emergency evacuation of 117,000 people (Kazakh International News Agency, 2025). Similarly, Kyrgyzstan, Uzbekistan, and Turkmenistan have sustained varying degrees of damage from floods, debris flows, and earthquakes. In 2024, Kyrgyzstan recorded 339 debris-flow events, resulting in 22 deaths and losses totaling 1.226 billion Kyrgyz som (Turkish News World, 2024). Taken together, these high-impact events underscore the salience of climate risks across the region.

Moreover, climate change has intensified soil salinization and alkalization, land degradation, and the shrinkage of the Aral Sea across Central Asia. At present, 47.5% of irrigated land exhibits pronounced salinization, with rates exceeding 50% in Uzbekistan and Turkmenistan (Yu, Y., Pi, Y., Yu, X., et al., 2019). The share of degraded land is approximately 35% in Kazakhstan, about 30% in Uzbekistan, and 20% and 10% in Kyrgyzstan and Turkmenistan, respectively (Andreeva, Olga, et al., 2022). Most critically, the contraction of the Aral Sea has become the region's greatest environmental crisis; as of 2022, its surface area had declined by 88% (Duan, Z., Afzal, M. M., Liu, X., et al., 2023). As the Aral continues to recede, salt-laden dust emitted from the exposed, desiccated seabed is transported to glaciers near Kyrgyzstan and Tajikistan, accelerating glacier melt. This, in turn, further elevates the likelihood of floods, debris flows, and drought. Taken together, the occurrence of these natural hazards and climate-related crises has deepened recognition of climate change's adverse impacts across the five Central Asian states. Consequently, it has objectively propelled climate change onto their policy agendas.

3.1.3 Policy Feedback: An Accelerator of Policy Agenda-Setting

On November 2, 2014, the IPCC released its Fifth Assessment Report, emphasizing that global warming has become a worldwide climate crisis. As global temperatures continue to rise, issues related to glacier melt, sea-level rise, water scarcity, and extreme weather events will grow more complex, thereby necessitating stronger multilateral cooperation under the UN Framework Convention on Climate Change (UNFCCC) (IPCC, 2015). Subsequently, on March 20, 2023, the IPCC issued its Sixth Assessment Report, indicating that the global mean temperature has increased by 1.1°C relative to pre-industrial levels and that atmospheric CO₂ concentrations have reached their highest level in two million years. If global greenhouse gas emissions continue, the global mean temperature could reach 4.4°C after 2100 (IPCC, 2023). The Intergovernmental Panel on Climate Change (IPCC) assessment reports have positively advanced the placement of climate change on the policy agendas of the five Central Asian countries. They also serve as a key basis for climate policy formulation and for strengthening multilateral cooperation. For example, several jointly issued documents—the Joint Statement of Central Asian States

on Achieving Carbon Neutrality, the “Central Asia Voice” Climate Change Regional Statement at the 26th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP26), and the Regional Strategy for Central Asian Countries to Adapt to Climate Change by 2030—actively act on the climate issues and findings reported in the IPCC assessments. Notably, the “Central Asia Voice” regional statement, released at COP26 in 2021, marked the first time the five states spoke as “five countries, one region, one voice,” signaling a new phase in their attention to climate change. The statement emphasizes that Central Asian countries should innovate technologies, methods, and pathways to enhance their capacity to address climate change (Fidanza, Alessandra, 2022).

Since 2021, to advance climate-related initiatives and agendas, the five Central Asian states have issued joint statements at the United Nations Climate Change Conferences. These communiqués aim to encourage countries, including those in Central Asia, to strengthen climate cooperation and build collective capacity to address climate change. For example, at the 28th United Nations Climate Change Conference (COP28) held in Dubai in November 2023, the five states jointly introduced a comprehensive regional strategy for climate adaptation. This strategy aligns closely with the international community’s emphasis on addressing climate change through regional cooperation.

3.2 Policy Stream: The Feasibility Basis for Policy Agenda-Setting

3.2.1 National Planning for Climate Change

To address climate change, the five Central Asian states have articulated a suite of mitigation and adaptation strategies, including developing a green, low-carbon economy, reducing greenhouse gas emissions, and introducing carbon emissions trading mechanisms. For instance, Kazakhstan’s Plan for National Development through 2025 and its Policy Statement on Achieving Carbon Neutrality by 2060 call for phasing out a number of new coal-fired power projects by 2025, doubling the share of renewable energy by 2030, and attaining carbon neutrality by 2060 (Kazakh International News Agency, 2021). Uzbekistan’s Strategy for the Transition to a Green Economy, 2019–2030, prioritizes photovoltaic, wind, hydropower, and biogas-based generation, with a plan to increase the share of renewable electricity by more than 25 percent by 2030 (OECD, 2023). Likewise, Kyrgyzstan’s Green Economy Development Program (2019–2023) focuses on green energy, green agriculture, and green industry, and envisions raising the share of renewables in the national energy mix to 10 percent by 2030 (AIFC, 2024). In a similar vein, Tajikistan’s Green Economy Development Strategy for 2023–2037 emphasizes the rapid expansion of solar and wind power. It aims to raise national power generation capacity to 1,000 megawatts by 2033 and to achieve the goal of becoming a “green state” by 2037 (Kyrgyz Republic, 2019). Finally, Turkmenistan’s National Strategy for the Development of Renewable Energy through 2030, adopted in 2021, seeks to reduce reliance on fossil fuels, improve the efficiency of renewable energy utilization, and reach a 15 percent share of renewable electricity generation by 2030 (CAREC, 2024).

As an important climate partner to the five Central Asian countries, the World Bank likewise recommends leveraging the Central Asia Climate Information Platform to establish a regional climate database that tracks key indicators—air temperature, glacier mass loss, and precipitation—and to

harmonize monitoring standards (Government of Turkmenistan, 2023). Doing so would support adaptation planning in critical sectors such as energy and agriculture. Overall, these strategic plans for climate mitigation and adaptation have made it possible to advance climate change onto the national policy agendas of the Central Asian states.

3.2.2 Recommendations and Proposals from Experts and Scholars

First, the publication of think tank reports. In 2009, the International Fund for Saving the Aral Sea (IFAS), together with experts from Kazakhstan, Uzbekistan, Tajikistan, and other countries, released “Impact of Climate Change to Water Resources in Central Asia.” The report underscores that glacier retreat could reduce river runoff by 30–40%, thereby worsening agricultural and water security. It recommends introducing integrated water resources management (IWRM) at both national and regional levels to help resolve water allocation issues between upstream and downstream countries (AIFC, 2024). In 2021, researchers from Kazakhstan, Kyrgyzstan, and Tajikistan jointly issued “The impact of climate change on the dynamics of conflicts in the transboundary river basins of Kyrgyzstan, Kazakhstan and Tajikistan.” The report finds that climate change is intensifying uneven water availability. Accordingly, stakeholders should heighten awareness of its potential impacts and consequences, strengthen intergovernmental dialogue, and establish water-allocation mechanisms. By allocating and using water resources more rationally, communities can reduce disputes and conflicts (Eurasian Development Bank, 2009). Meanwhile, expanding cross-regional collaborative research and promptly sharing relevant data and information have strengthened stakeholders’ adaptive capacity to climate change. In 2023, the Organization for Security and Co-operation in Europe (OSCE), in its report “Regional co-operation strategy on climate change and security in Central Asia’s high mountain areas,” not only emphasized the need for all actors to enhance adaptive capacity, but also proposed establishing a regional financing mechanism. This mechanism would provide concessional loans and scale up the introduction of new technologies and training to strengthen the capacity to address climate change, thereby ensuring the sustainability of financing (Ni, Vadim, Elena Efimova, & Alyona Rickelton, 2021).

Second, participation in climate cooperation projects. The involvement of experts and scholars in such initiatives likewise demonstrates their sustained engagement with climate issues. In 2017, research institutions from 22 countries—including China, the five Central Asian states, the United States, Belgium, and others—jointly signed the Memorandum of the Research Alliance on Monitoring and Management of Central Asian Ecosystems under Climate Change (2018–2012). The alliance focuses on studying the impacts of climate change on agriculture, industry, ecosystems, and water resources, and on cooperation in key technologies to strengthen climate responses. More recently, in 2023, the Central Asia Regional Environmental Center (CAREC), together with the OSCE Programme Office in Astana, the World Bank, and other institutions, launched the Central Asia Leadership Program on Environment for Sustainable Development (CALP). The program aims to build the capacity of young scholars in Central Asia to address climate-related issues and to provide financial support for regional climate cooperation.

Third, convening conferences and symposia. A wide range of meetings and forums provide platforms for experts and scholars to deepen scholarly exchange and disseminate research findings. At the Fifth Central Asia Expert Forum held in Turkmenistan in 2022, participants called on Central Asian countries to increase financial and technological investments in climate change, water use, and food security, to remove various barriers, and to promote greener lifestyles. Furthermore, the Green Regional Development Initiative released at the inaugural Samarkand Climate Forum in 2025 emphasized strengthening cooperation on renewable energy development, water resources management, biodiversity conservation, and Aral Sea restoration.

3.2.3 Experience of International Organizations and Other Countries with Climate Change Policies

Climate policies advanced by international organizations and other countries have provided useful guidance for the five Central Asian states in formulating sustainable climate strategies. From 1992 to 2015, the United Nations successively adopted the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, and the Paris Agreement, which set out detailed frameworks for stabilizing greenhouse gas concentrations, establishing emissions trading mechanisms, and setting long-term temperature-control targets. Between 2019 and 2022, the European Union likewise issued a series of policy documents—the European Green Deal, the Roadmap on Climate Change and Defence, the Concept for an Integrated Approach on Climate Change and Security, and the Strategic Compass for Security and Defence—aimed at leveraging the EU’s strong normative influence and regulatory capacity to position it as a leader in addressing climate change. In 2022, China released the National Climate Change Adaptation Strategy 2035, which outlines a three-stage set of strategic objectives: by 2025, to establish a policy framework and institutional mechanisms for climate adaptation; by 2030, to put in place systems for climate observation and forecasting, impact assessment, and risk management; and by 2035, to build a climate-resilient society (Mosello, Beatrice, Spencer Adrian McMurray, Lukas Rüttinger, & Alina Viehoff, 2024). In 2023, the United Kingdom released its Third National Adaptation Programme (NAP3), which aims to build a highly resilient nation capable of responding efficiently to climate change (Zhao, X., & Qi, Y., 2022). In sum, the climate policies advanced by international organizations and other countries have supplied the “policy primeval soup,” enabling the five Central Asian states to develop climate strategies tailored to their specific circumstances.

3.3 Politics Stream: The Primary Driver of Policy Agenda-Setting

3.3.1 The Governing Party’s Executive Will and Governing Philosophy

The governing party’s executive will and governing philosophy are the core drivers of the politics stream. In the early post-independence period, climate change quickly drew the attention of ruling parties across Central Asia. Over time, their accumulated experience and measures for addressing climate risks provided feasible policy alternatives for climate agenda-setting. From 1995 to 1999, the five Central Asian states acceded to the United Nations Framework Convention on Climate Change (UNFCCC) in succession. In prompt response, they articulated measures in multiple documents to curb greenhouse gas emissions through legal and regulatory controls, to formulate agricultural irrigation policies, and to

strengthen water resources management. For example, Tajikistan's 2010 National Disaster Risk Management Strategy emphasized using a National Platform for Disaster Risk Reduction to integrate natural hazards—such as droughts, debris flows, and floods—into a unified national governance framework, thereby improving implementation monitoring and evaluation. Between 2016 and 2019, the Central Asian states successively ratified or acceded to the Paris Agreement. To meet the agreement's objective of limiting the rise in global temperatures to 2°C by the end of the century, each country set its own emissions-reduction targets and reinforced them through legislation. For example, Kazakhstan has committed to achieving carbon neutrality by 2060, while Kyrgyzstan has set a 2050 carbon-neutrality goal.

These measures signaled the politicization of the climate agenda across Central Asia, with responses becoming more focused and systematic and policy agenda-setting entering a new phase. In 2021, at the inaugural Central Asian Carbon Neutrality Forum, the five countries jointly issued the Joint Statement of Central Asian States on Achieving Carbon Neutrality. This step further professionalized the climate agenda, increased the frequency of its consideration within national policy agenda-setting, and accelerated the opening of the “policy window” for climate change to enter government agendas.

3.3.2 The Actions of Interest Groups

Interest groups are systems of interaction formed by stakeholders around shared interests, attitudes, and ideas. They primarily include business and industry associations, labor unions, professional associations, and public-interest groups (Sambrook, K., Harcourt, R., Dessai, S., et al., 2024). In the case of the five Central Asian states, conventional energy interests, multinational corporations, and environmental nongovernmental organizations together constitute the principal interest groups shaping climate change policy agenda-setting. Although the will and governing philosophy of ruling parties remain predominant, the roles of multinational corporations and environmental NGOs in addressing climate change should be assessed with nuance. Because of their abundant resource endowments and relatively low labor costs, the Central Asian countries have long attracted multinational enterprises from extra-regional states such as China, Russia, the United States, Germany, Turkey, and Japan. On the one hand, investment by multinationals has created substantial employment and spurred socioeconomic development. Notably, China has become Central Asia's largest trading partner and source of investment. As of 2024, China's stock of direct investment in the five countries exceeded \$17 billion, while cumulative turnover from contracted engineering projects surpassed \$60 billion. These activities span infrastructure construction, energy development, and trade, and have created more than 60,000 jobs (Rozbicka, P., & Spohr, F., 2015). On the other hand, some multinational enterprises have neglected climate and environmental protection in their operations, harming the interests of local communities. For example, from the 1990s through the first decade of the 21st century, Chevron emitted more than one million tons of harmful substances into the atmosphere, causing irreversible damage to regional ecosystems and public health. At the same time, the use of outdated sulfur recovery technology at the Tengiz oilfield has resulted in approximately 500,000 tons of sulfur going unrecovered each year, which has significantly increased the

incidence of lung cancer and cardiovascular and cerebrovascular diseases among local residents (Zhang, B., Nadyrov, S., & Stepanov, A., 2024). This has compelled ruling parties to recognize the urgent need for environmental protection and has further elevated the climate agenda to the level of a national strategy. Moreover, the roles of environmental NGOs—such as the BIOM Youth Environmental Movement, the Dashoguz Eco-Defenders, and the Alliance for the Protection of the Aral Sea—have become increasingly prominent in environmental protection and climate action. Emerging in the early independence period, these organizations have grown steadily and now contribute by engaging in governmental deliberations on climate policy, monitoring corporate operations, and raising public environmental awareness. In particular, the BIOM Youth Environmental Movement disseminates environmental knowledge to the public through magazine publications, thereby strengthening awareness. Beyond these functions, NGOs also deepen collaboration with international organizations. They participate in a wide array of climate-focused seminars convened by international bodies, disseminate and scale up environmental best practices, and encourage the public to accord greater attention to climate issues (Crude Accountability, 2013).

3.3.3 The Catalytic Role of Public Sentiment

The "public sentiment" essentially reflects the public's ideological tendencies and opinions regarding a specific social issue. It can significantly influence the policy agenda and outcomes of government decision-makers (Volik, V., & Bespalova, O., 2021). Because climate change is closely linked to public health, it has heightened public attention to the issue. In turn, public opinion places pressure on governmental agenda-setting, prompting relevant policies to be refined and strengthened. In recent years, the growing incidence of climate change-related disasters has further increased concern among segments of the population. However, shaped by geography, economic structure, and policy orientation, public perceptions of climate change vary. According to the 14th wave of the Central Asia Barometer in 2023, the share of respondents concerned about climate change exceeds 40 percent across all five Central Asian countries (Maor, M., 2024). Uzbek scholar Tlegen Kuandykov, in "Views on Climate Change in Uzbekistan," reports that one-quarter of respondents consider the country's environment to be very poor, and another 18 percent view it as somewhat poor. Similarly, a survey on public perceptions of climate change in Kyrgyzstan found that 79 percent believe climate change poses a serious threat to the health of older adults and minors (Central Asia Barometer, 2024). Beyond heightened concern, segments of the public also support government efforts to reduce harmful emissions, adopt low-carbon strategies, and strengthen international climate negotiations. According to the United Nations Development Programme, roughly 80 percent of Kazakhstan's population is willing to make personal contributions to environmental improvement. In sum, propelled by public sentiment, climate change has been gradually incorporated into national development strategies and has become an important item on the policy agendas of the five Central Asian states.

3.4 Opening the Policy Window: Explicating the Logic of the Three Streams

As shown in Figure 2, in the climate policy agenda-setting of the five Central Asian countries, the problem, policy, and politics streams do not operate independently.

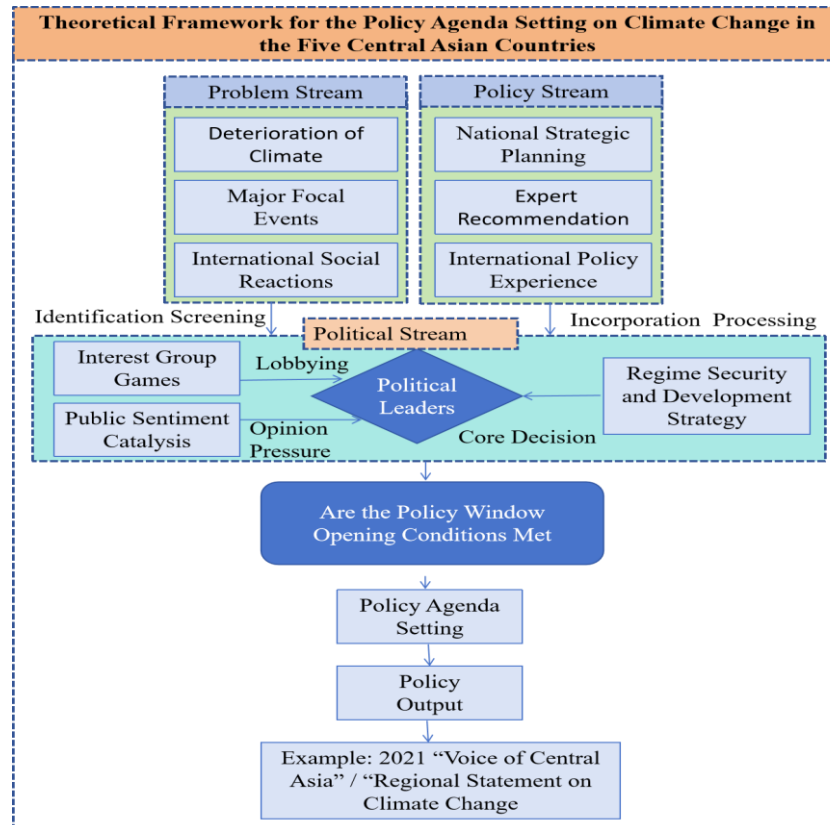


Figure 2. The Theoretical Framework for Climate Change Policy Agenda-setting in the Five Central Asian Countries (Author-developed)

First, the convergence of the problem stream and the political stream. Climate change has triggered floods, debris flows, droughts, and extreme heat. Feedback on Central Asia from the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Climate Change Conference enters the ruling parties' agendas for issue identification and screening. In this process, governing parties prioritize climate issues that align with national development interests and strategic imperatives. As the problem stream continues to gather momentum, attention across the five Central Asian states further intensifies, thereby advancing the policy process for the climate agenda.

Second, the coupling of the problem stream and the policy stream. Ruling parties in the five Central Asian states identify and delineate both the rising frequency of natural disasters and the recommendations put forward by the policy community. Building on this foundation, and taking into account each country's level of economic development, strategic priorities, and energy mix, they convene experts and scholars. They also draw on the climate governance experience of international organizations and other countries

to conduct a comprehensive assessment of the problem's drivers and impacts. On this basis, they formulate a set of feasible policy alternatives, thereby strengthening the scientific basis of these options. Finally, the nesting of the political stream and the policy stream. Building on earlier problem identification and lessons drawn from international organizations and other countries' climate governance, interest groups exert pressure on ruling parties to maximize their own interests. Meanwhile, public concern over health issues heightens opinion pressure on the ruling parties, compelling them to incorporate scientifically grounded climate policies into agenda setting. Ultimately, under the leadership of the ruling parties, the five Central Asian states in 2021 issued, for the first time as "five countries, one region, one voice," the "Voice of Central Asia" Regional Statement on Climate Change. This formally opened the policy window for climate change and helped elevate it to a shared regional priority.

4. The Challenges and Prospects of Climate Change Policy Agenda Setting in the Five Central Asian Countries

4.1 Challenges: Uneven Development across the "Three Streams"

First, climate change has entered the policy agendas of the five Central Asian states largely through the momentum of the political stream, creating an imbalance with the problem and policy streams. Although the issue has attracted attention since independence in 1991, with proposals and policy recommendations addressing green growth and low-carbon strategies, outdated infrastructure, funding shortfalls, and technological gaps have impeded effective implementation. Moreover, because governments in the region have tended to act as "conceptual leaders" in climate agenda-setting—without commensurate monitoring and evaluation of implementation—the policy stream has lacked traction. For example, while the five countries unanimously adopted the Central Asia Climate Change Adaptation Strategy in 2023, the absence of an effective policy oversight framework has slowed progress on the 2.5 million-hectare land restoration plan submitted to the World Bank. At the same time, the current environmental legislation of the five Central Asian countries has yet to incorporate climate change adaptation considerations. Some countries, when developing climate change adaptation plans, lack cross-sector coordination bodies, leading to fragmented policy implementation. For instance, Tajikistan introduced the "National Strategy for Climate Change Adaptation until 2030" on October 2, 2019, which explicitly calls for the agricultural sector to develop adaptive planting plans. However, due to the absence of legislative mandates, only 30% of agricultural land implemented drought-resistant crop rotation by 2023. Therefore, it is foreseeable that at certain critical junctures, when the three streams of influence are imbalanced, it will affect the opening of the policy agenda-setting window for climate change in the five Central Asian countries.

Second, the political systems of the five Central Asian countries bring considerable uncertainty to the sustained opening of policy windows. In these countries, although the administrative will of the ruling party and the president's decisions dominate the setting of climate change policy agendas, political infighting between the ruling party and opposition parties has been a constant. The political structure of

"a strong president, a weak legislature, and a small government" often leads to divided opinions among various parties, significantly weakening the consensus foundation on climate change issues. For example, Kyrgyzstan, despite adopting a parliamentary system, has not achieved a balanced distribution of political interests, leading to prolonged challenges in regime transitions. This has, to some extent, hindered the sustainability of the climate change agenda.

Third, Climate change is inherently complex and interconnected, often involving a range of issues such as water resource distribution, food production, and security. As the process of climate change accelerates, these interconnected challenges are further influenced by internal factors such as national political structures and economic development levels, as well as shifts in the global geopolitical landscape. This dynamic can lead to the emergence of new problems. Some issues may be exacerbated by climate change, such as the uneven distribution of water resources, which amplifies the pressure on these issues and creates new challenges beyond the control of governments. For instance, within this complex network of issues, climate change has intensified the problem of water scarcity. The competition for water resources in Central Asia has become more pronounced, with Kyrgyzstan and Tajikistan, located upstream on the Amu Darya and Syr Darya rivers, holding more than two-thirds of the region's surface water resources. Meanwhile, downstream countries like Kazakhstan, Uzbekistan, and Turkmenistan face significant water shortages. If Central Asian countries fail to resolve the water allocation dispute, the risk of military conflict over water could rise. This, in turn, would create a severe imbalance in the "three flows" of power, acting as a significant obstacle to setting climate change policy agendas. Uzbekistan and Tajikistan's intense disagreements over the Rogun Dam project, which almost led to military conflict, exemplify this issue.

4.2 Future Outlook: Accelerating the Deep Integration of the "Three Flows."

Emphasizing the "balance" of the flows from different sources may be an important strategy for the five Central Asian countries in addressing climate change in the future.

First, from the perspective of source streams, the five Central Asian countries will increasingly focus on the practical issues of climate change driven by the "issue source streams." Climate change is characterized by cross-regional and transnational effects, and the intensifying global warming trend suggests that more complex climate-related issues may arise in the future. This further necessitates the Central Asian countries to pay sufficient attention to the real-world challenges caused by different "issue source streams" and develop targeted solutions, making necessary regulatory commitments. Currently, the insufficient capacity of the five Central Asian countries to respond to natural disasters caused by climate change can be considered a fundamental issue stemming from these source streams. This deficiency is closely linked to factors such as lack of funding, incomplete cooperation mechanisms, and outdated technology. Several existing documents from the five Central Asian countries have explicitly pointed out the challenges that climate change poses to economic and social development. Therefore, clarifying the response strategies and focusing on core issues may become the main approach in setting the climate change agenda for the Central Asian countries in the future.

Second, from the perspective of policy streams, the five Central Asian countries are relatively open to the recommendations and proposals from policy communities, which allows them to select more actionable policy options. The maturity of the "policy stream" results from the collective efforts of policy communities. Governments of the countries, guided by the goal of regional integration, provide comprehensive implementation plans for the climate change policy agenda. Experts and scholars offer theoretical suggestions based on professional expertise, while policy recommendations from multinational corporations, non-governmental environmental organizations, and other interest groups contribute fresh perspectives for shaping the climate change policy agenda. In the future, the five Central Asian countries may further assess and filter the suggestions from policy communities, selecting the policy options that best balance the interests of different stakeholders. This, in turn, may become a key consideration for the countries as they navigate the climate change policy agenda.

Third, From the perspective of political streams, in the future, achieving an effective balance between environmental public interest and regime security will become an important consideration for decision-making in Central Asian governments. Environmental public interest aims to protect the shared values of the people in each country, serving as a core issue that connects policymakers and the public. Therefore, in the process of setting the climate change policy agenda in the five Central Asian countries, it is essential to emphasize the realization of environmental public interests. As observed in the current plans, strategies, and declarations related to climate change issued by these countries, issues such as water resource allocation, food production and security, and low-carbon emissions reduction remain a primary focus. These issues are closely linked to regime security. Thus, it can be anticipated that, in the future, the five Central Asian countries will prioritize addressing climate change issues related to environmental public interest as a major policy direction.

5. Conclusion and Limitations

5.1 Research Conclusion

This study makes appropriate adjustments to the multiple streams theory and proposes the "political stream-dominant coupling" model. It systematically explores the driving mechanisms and influencing factors of the climate change policy agenda in the five Central Asian countries from three perspectives: problem streams, policy streams, and political streams. The analysis addresses the differences in the climate change policy agendas of these countries and summarizes the challenges and prospects of their climate change policy agendas.

1. In the political-stream-dominated coupling model, the problem, policy, and political streams do not operate independently. Extreme weather events, water scarcity, glacial melt, and climate change-related public health issues represent common challenges faced by the five Central Asian countries. These issues, once identified and selected by the governments, lead to the formulation of climate change policies that align with each country's development realities. These policies are also shaped by drawing on national

social experiences and incorporating recommendations from experts and scholars. As a result, climate change policies begin to enter the policy agenda-setting process.

2. The climate change policy agendas of the five Central Asian countries exhibit significant differences. Kazakhstan and Uzbekistan, with their relatively stronger economic power, are able to adopt a more diversified policy agenda-setting model, characterized by a degree of autonomy in policy formulation. In contrast, Tajikistan and Kyrgyzstan's climate change policies are largely influenced by external factors, relying heavily on international funding and technological support, reflecting an external dependency. As a neutral country, Turkmenistan's climate change policies primarily serve traditional energy interests, displaying a selective approach. These differences essentially reflect how disparities in political systems, economic development levels, and resource endowments shape the climate change policy agenda-setting processes in each country.

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