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Policy Brief

TURNING URBAN PLANNING INTO A CLIMATE ACTION TOOL: A PATH TO RESILIENCE IN KYRGYZSTAN

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Introduction

Despite its relatively low contribution to global greenhouse gas (GHG) emissions (Emission Index, 2025), Kyrgyzstan faces significant impacts from climate change. Its mountain communities and residents, such as those of the town of Naryn, are particularly vulnerable, as rapid glacial melting increases the risk of flooding while shifting precipitation patterns threaten water availability for agriculture and electricity generation (ADB, 2013). These challenges underscore the pressing need for climate mitigation strategies in Kyrgyz towns, many of which are situated in mountainous areas. Kyrgyzstan's legal framework provides the foundation for responding to climate change, but urban policy remains fragmented. There are gaps in regulations, inter-agency cooperation, zoning, and building codes. Since cities are the primary source of Kyrgyzstan's emissions (UNDP & UNEP, 2022), the country's climate strategy must also include reforming urban planning.

Without urgent reform, Kyrgyzstan risks maintaining outdated approaches that are unable to adapt to climate challenges. The absence of a national urban adaptation strategy and a lack of technical competence hinder emissions reduction and energy efficiency at the local level. Meanwhile, municipalities lack incentives and resources for resilient planning, forcing them to focus on short-term infrastructure, which increases their vulnerability. This policy brief builds on parts of UN-Habitat's legal analysis (UN-Habitat, 2024) that was developed within the framework of the Naryn Urban Resilience Programme (NURP)[1] and proposes key strategic approaches to low-carbon and climate-resilient integrated urban planning.

Orienting Urban Planning to Decrease Greenhouse Gas Emissions

Urban planning is the starting point for successfully incorporating climate change mitigation into creating new urban spaces. However, the legal and institutional framework of Kyrgyzstan does not yet ensure the full integration of climate priorities into urban planning. The 2021 Presidential Order "On Measures to Ensure Environmental Safety and Climate Sustainability" recommends decreasing GHG emissions in many fields but says nothing about reforming urban planning. There is one law, "On Government Regulation and Policy in the Field of Emissions and Absorption of Greenhouse Gases" (2007), which requires the use of advanced technology when planning and constructing settlements and other infrastructure, under the assumption that using advanced technology will decrease GHG emissions. However, assessing GHG emissions during the planning phase is not required, leaving a gap in the planning-to-construction timeline. Although Kyrgyz legislation requires implementing Environmental Impact Assessments (EIAs) for certain environmental aspects, none are related to GHG emissions (and thus climate change mitigation). The absence of emission reduction plans allows cities to grow without planning for their carbon footprint, leading to poor land management and increasing energy demands.

When climate change mitigation is not considered at the outset of the urban planning process, achieving sustainable urban development becomes significantly more challenging in managing the consequences of urban growth. Unfortunately, the current national legislation does not include specific greenhouse gas emission targets in urban planning, nor does it require the assessment of different development scenarios in terms of their potential contributions to emissions (UN-Habitat, 2024). In Kyrgyzstan, the lack of a unified approach to evaluating the carbon footprint of urban projects complicates monitoring emissions over time. Due to limited knowledge

1 The Naryn Urban Resilience Program is a five-year project aimed at transforming Naryn into a resilient urban settlement, economically, socially and culturally adapted to the challenging mountain environment of Central Asia, https://ucentralasia.org/programmes/naryn-urban-resilience-programme

and information on the importance of an integrated approach, decision-making is predominantly sectoral and focused on short-term plans rather than long-term climate objectives. The absence of emission reduction strategies allows cities in Kyrgyzstan to expand without considering their carbon footprint, resulting in inefficient land use and increased energy demand.

Integrating Public Development, Mixed Land-Use, Energy-Efficient Grids and Transport Infrastructure

Developing public spaces with green and blue infrastructure plays a crucial role in creating sustainable, healthy, and climate-adapted urban areas. Integrating natural spaces -- parks, waterways, green corridors -- into urban design improves quality of life and mitigates GHG emissions. Although Kyrgyz legislation mandates the preservation of areas with existing plant and water bodies, the development and integration of such spaces into urban development remain fragmented. Current municipal planning does not fully harness the potential of green-blue infrastructure as a climate adaptation tool, and enforcement of its conservation and adherence to standards is virtually non-existent.

Creating the regulatory space for mixed-use zoning also decreases transport-related GHG emissions as residents become less reliant on cars. Kyrgyz legislation promotes mixed land use via the building code SN KR 30-01:2020, named "Planning and Building of Cities and Popular Points of City Types," that caps urban density increases by 25-30% beyond a city's previously designated density category, a requirement promoting mixed-use zoning (GKR, 2020). However, this standard is not consistently applied in urban planning and development, and regulatory authorities often fail to monitor its implementation. This gap in implementation and monitoring significantly reduces the potential of regulatory support to create sustainable urban space and reduce emissions.

Energy-efficient design of residential areas is a crucial element of sustainable urban development, enabling the reduction of power grid load and natural gas consumption through the effective use of natural factors. The legislation of Kyrgyzstan already includes key provisions in this area. Kyrgyz legislation requires that in areas where the average temperature exceeds 21°C in July, buildings must protect light openings from excessive sunlight and heat (UN-Habitat, 2024). Additionally, SN KR 31-09:2018 "Single-apartment residential buildings," mandates that the house's 'most rational' orientation be used to decrease energy use for heating (GKR, 2018). Current Kyrgyz legislation mandates consideration of building orientation during construction, but does not address street design to leverage natural conditions for maximum energy efficiency. There are no effective mechanisms to monitor compliance with these provisions, nor are there methodological recommendations to ensure their systematic application.

Climate-smart street design is an important aspect of sustainable and energy-efficient urban development. Its application helps to reduce urban heat islands, improve stormwater management, and support low-carbon mobility options, such as walking, cycling, and electric transit. For example, integrating shade trees, permeable pavements, and dedicated bike lanes can lower surface temperatures, reduce energy use in adjacent buildings, and encourage non-motorised transport. Although Kyrgyz legislation includes specific requirements for the use of building materials in public spaces, such as requiring durable mineral pavements and limiting the use of asphalt to exceptional cases, it does not cover broader issues of climate-smart street design. Current regulations lack provisions on street orientation, minimising heat accumulation, and using permeable and light pavement materials to reduce the heat island effect. Legislation does not consider the impact of street pavement on the energy consumption of buildings and the microclimate of pedestrian areas.

Urban planning that enables the future integration of clean transport is a prerequisite for reducing greenhouse gas emissions, as transport is the primary source of greenhouse gas emissions (OECD, 2019). According to the SDG 7 roadmap scenario for the Kyrgyz Republic, the transport sector is expected to be the largest GHG-emitting sector in 2030, accounting for approximately 48% of GHG emissions (UN ESCAP, 2022). At the same time, there are gaps in the implementation of regulatory legal acts, including the Law of the Kyrgyz Republic on Atmospheric Air Protection, adopted on June 12, 1999, in terms of defining and regulating emissions from mobile sources, as well as in measures taken in the event of excess emissions. According to the State Agency for Transport Registration, there are 1.67 million cars registered in Kyrgyzstan, with more than 80% of them being older than 15 years (Alymbaev, 2025). Existing air quality management tools in Kyrgyzstan are insufficient to obtain reliable information necessary for informed decision-making and citizen engagement. This points to the need to improve air quality management systems and detailed data analysis for effective planning of actions to improve it. Cities lack proper emission regulation and weak control over the technical condition of transport, and green transport, as well as pedestrian and bicycle infrastructure, is not developed (Alchynbaev, Beishembaeva & Borubaeva, 2022). Thus, despite the existence of legislative frameworks, the practical implementation of measures for sustainable urban development remains limited, which requires a rethinking of approaches to both urban planning and its implementation.

Implementation of Climate Mitigation Strategies through Development Approval/Control

Who gets to develop and under what limitations are decisions that both national and local levels of government can make. If the government influences developers to consider the GHG impact of their projects and then enforces their compliance with measures set by the government, there is significant potential to mitigate the negative climate impacts that construction development often has (UNEP, 2023). There are four climate mitigation strategies through development approval and control: development approval, developers' contributions for mitigation infrastructure, compliance monitoring, and compliance enforcement.

However, Kyrgyz legislation only partially reflects these approaches. For example, developers must improve the adjacent municipal territory and comply with approved urban planning documentation. In theory, this could include climate-related aspects, but in practice, the legislation does not link the issuance of building permits to the mandatory consideration of climate risks. Developers are also not required to create climate-resilient infrastructure, such as green spaces or energy-efficient solutions. Furthermore, the country lacks a construction monitoring system to track the fulfilment of climate-related commitments, and there are no mechanisms to ensure compliance with these requirements. This poses significant challenges to the implementation of climate change mitigation strategies.

Strengthening Urban Planning for Climate Mitigation: Key Recommendations

Despite individual provisions supporting sustainable practices, Kyrgyzstan's current legal and institutional framework does not ensure the systematic integration of climate change mitigation measures into urban development. Legislation remains fragmented, failing to cover key aspects, from emissions assessment to enforcement. Targeted structural reforms are needed to transition to a sustainable and low-carbon future. The strategic areas for reforming urban policy to integrate climate considerations into urban development planning, design and implementation are presented below:

STEP 1
Integrating climate criteria into the urban planning system:

- Introduce mandatory assessment of greenhouse gas emissions at the preparatory stage of all territorial and urban planning documents.
- Establish a legal requirement to include emission reduction targets in general and detailed city plans.
- Expand the environmental impact assessment (EIA) scope to include mandatory assessment of climate impacts and greenhouse gas emissions.

STEP 2
Institutional and financial measures for implementing reforms:

- Strengthen municipal capacity in climate-smart planning through training and methodological support. For instance, the Certificate Program in Urban Resilience (CPUR) of NURP, implemented by the University of Central Asia, provides educational materials and trains high-potential municipal officials in Kyrgyzstan in project management, urban planning, and climate adaptation.
- Create financial incentives and co-financing mechanisms to promote low-carbon solutions in cities. One practical example is a performance-based grant scheme, where municipalities receive additional funding or bonuses conditional on achieving specific sustainability targets, such as reducing building emissions or increasing green infrastructure coverage. Such schemes have been implemented in countries like India (e.g., Kerala's World Bank-funded urban services grants), the Philippines, and Thailand, where grant components are explicitly tied to measurable environmental outcomes.
- Ensure interdepartmental coordination between environmental, urban planning and infrastructure authorities.

STEP 3
Legislative consolidation of climate-resilient design standards:

- Consolidate in regulatory documents requirements for rational orientation of buildings, adaptive street planning and consideration of natural factors (wind, insolation).
- Develop national methodological recommendations for climate-adaptive design of urban areas and street environments.
- Introduce requirements for minimising the thermal effect and the use of light, permeable materials in street surfaces.

STEP 4
Strengthening the connection between climate requirements and the permitting system:

- Introduce a rule requiring development projects to comply with climate criteria when obtaining building permits.
- Legislatively require developers to contribute to the development of climate-resilient infrastructure, including green spaces, energy-efficient lighting, and other sustainable measures.
- Develop legal instruments for accompanying monitoring of development and the application of sanctions in the event of failure to meet climate obligations.

STEP 5
Strengthening legal mechanisms for the implementation of green and blue infrastructure:

- Introduce mandatory requirements into legislation for the preservation and expansion of green areas and water bodies within urban development boundaries.
- Integrate green infrastructure and stormwater management solutions into urban planning regulations.
- Establish minimum greening standards for various types of urban areas.
- Develop a step-by-step roadmap and identify specific activities based on adopted state programs for the development of the transport sector and environmental safety.

STEP 6
Stimulate the development of mixed land use and accessibility:

- Legislatively clarify the concept of mixed land use and establish requirements for its application in new projects.
- Prioritise pedestrian and bicycle infrastructure when developing new development plans.
- Establish mandatory shares of public and recreational spaces in residential and mixed areas.
- Conduct an information campaign aimed at increasing public awareness of the transition to an environmentally friendly lifestyle and its role in reducing emissions.

To successfully respond to climate challenges, Kyrgyzstan needs to move from declarative measures to systemic reforms in urban policy. Integrating climate considerations into legislation, urban planning standards, and design practices should become the basis of the national sustainable development strategy. This will not only reduce greenhouse gas emissions but also improve the quality of life for city residents, reduce infrastructure vulnerability, and create more adaptive and resilient cities.

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