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Policy Brief

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Pathways to Resilient Urban Futures in Tashkent

Key Messages

- Tashkent's path to resilient urban futures depends on simultaneously addressing fragmented governance and a critical shortage of qualified professionals — two structural deficits that underpin challenges across urban planning, water, and energy systems alike.
- In the urban realm, resilience requires shifting from reactive, KPI-driven governance towards integrated long-term planning that embeds climate, seismic, and demographic considerations, and redirects investment from prestige-led projects towards community needs.
- In the water sector, freshwater resilience depends on reducing dependency on transboundary supplies and upgrading water management infrastructure, particularly that serving industry.
- In the energy sector, accelerating the transition requires prioritising distribution grid modernisation and building the full implementation ecosystem — technicians, monitoring systems, supply chains — needed to translate existing policy commitments into action and scale up the momentum already demonstrated by market-led solar adoption and independent power producers.

Introduction

Over the next 20 years, the Government of Uzbekistan is embarking on one of Central Asia's most ambitious urban projects: New Tashkent. Located around 20 km from the existing capital, a city of 3.1 million residents, New Tashkent is planned to cover approximately 20,000 hectares, accommodate an additional 2 million people, and attract global private capital and skilled human resources.[1]

This comes at a pivotal moment. Uzbekistan is a country in transition. After years of stagnant urban growth, partly due to the Soviet-inherited *propiska* residence permit system that limited domestic migration, cities are now expected to expand rapidly. With an annual population growth of around 2% and a strong youth bulge, with almost 31.5% of the population under the age of 14, Uzbekistan has a significant demographic dividend. As a lower-middle-income country, it now faces a 25-year window of opportunity to pursue resilient growth through investment in services, health, education, and inclusive urbanisation[2].

These ambitions are reflected in ongoing efforts to improve the public governance system and in

[1] Arch Daily (2025), Cross Works Unveils Masterplan for New Tashkent Expansion in Uzbekistan, https://www.archdaily.com/1025409/cross-works-unveils-masterplan-for-new-tashkent-expansion-in-uzbekistan

[2] ADB (2021), Harnessing Uzbekistan's Potential of Urbanisation. National Urban Assessment, Manila: Asian Development Bank. Data available from the United Nations data portal, Available at: https://www.adb.org/sites/default/files/institutional-document/735126/uzbekistan-national-urban-assessment.pdf

major investments in quality education, as outlined in the Uzbekistan 2030 Strategy[3].

However, Uzbek cities are struggling to keep pace with rising demand for water, energy, and efficient public transport, partly due to underinvestment in infrastructure and poor maintenance[4]. This gap is further compounded by the limited benefits currently generated by agglomeration economies, particularly in terms of quality employment and suitable service provision. This raises a critical question: whether Uzbekistan's urbanisation process will ultimately support sustainable and resilient development in the long run[5].

This policy brief presents findings from a joint research collaboration between Westminster International University in Tashkent (WIUT) and the University of Westminster (UoW), aimed at building a community of practice around green and resilient urban development in Tashkent — responding to the rapid pace of urbanisation and the growing demand for urban planning expertise. Directed at national and city-level policymakers, international development partners, and higher education institutions, it lays the groundwork for the development of plausible future scenarios for Tashkent — recognising the dual necessity of advancing land-water-energy nexus approaches while balancing the retrofitting of the existing built environment with planning for future urban expansion — and informs the development of urban planning-related academic programmes at WIUT.

The context of urbanising Tashkent

Urban Reforms

Tashkent is undergoing rapid transformation, stimulating investment, institutional reforms, and urban growth. Since 2016, investment in industries producing construction materials has reached $9 billion nationwide[6], with major investments focused on Tashkent city. As a result, in a 10-year period, the number of firms in the construction sector has increased by around 3,800 units in the city alone[7], and spending on construction works has grown fourteenfold, reaching 69 trillion UZS as of 2024[8]. These trends reflect the substantial transformations in Tashkent's landscape, contributing to rapid short-term increases in economic activity.

The current changes are further reinforced by a number of structural policy reforms. As already mentioned, the abolition of the *'propiska'* system, which previously restricted mobility to the capital city, is intended to liberalise internal migration, allowing residents outside Tashkent to find employment in the capital and purchase newly built houses. The easing of the propiska policy appears to be supporting the housing construction sector. Complementary policy changes include land reforms (UP-5623, dated 10.01.2019), which enabled land privatisation. Changes to land ownership are intended to apply market principles to remove barriers that previously prevented construction companies from carrying out their projects. These policy changes have stimulated demand for housing and

[3] United Nations (2025), United Nations Sustainable Development Cooperation Framework 2026-2030, Available at: https://unece.org/sites/default/files/2025-12/CF%20Uzbekistan%202026-2030_FINAL.pdf

[4] ADB (2021), ibidem.

[5] World Bank (2022), The Time is Now. How can Uzbekistan leverage Urbanization as a driver of sustainable development. Washington: The World Bank. Available at: https://documents1.worldbank.org/curated/en/099650006092233844/pdf/P1745200317 0f001708cc10479893d7c193.pdf

[6] UzBuild (2025). Current issues in the construction sector were discussed. News. https://uzbuild.uz/en/news/current-issues-in-the-construction-sector-were-discussed

[7] National Statistics Committee (2026). The number of active business entities operating in the field of construction (annual). SIAT STAT UZ. https://siat.stat.uz/data/2155/?lang=en

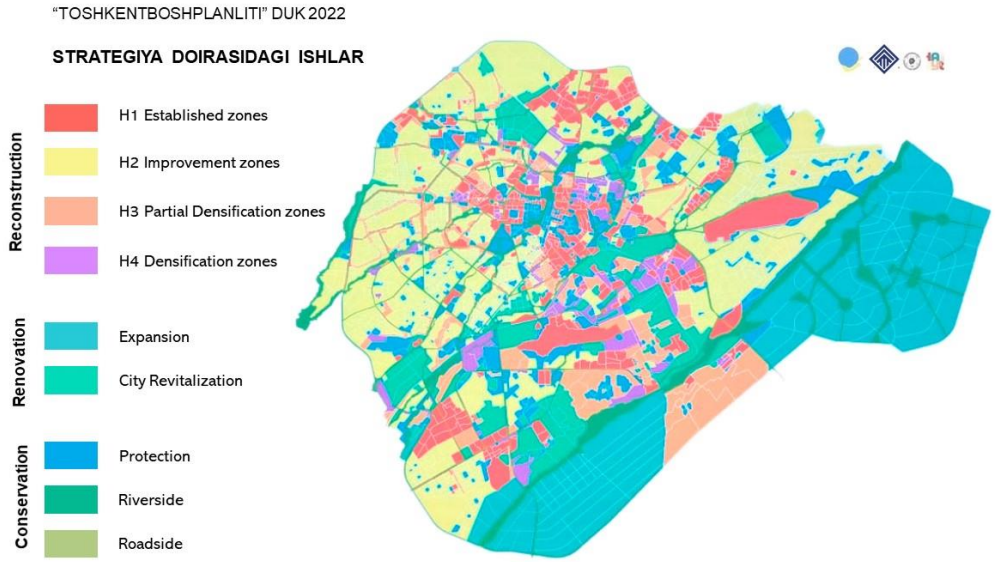
[8] Statistics Agency. (2024a). Construction. STAT UZ. https://www.stat.uz/en/official-statistics/construction

commercial development, further accelerating construction activity in Tashkent.

As construction activities grew, the government adopted the Master Plan 2045 to regulate this process. The Master Plan introduces a zoning-based approach to urban development. The plan proposes three zones for the capital: *Conservation zones* for improving green areas and preserving cultural heritage, *Reconstruction zones* to upgrade existing infrastructure through renovation and increasing urban density through new multi-story development, and *Renovation zones*, where old 1-story buildings and underused industrial or vacant land are cleared to make way for a new urban complex (Figure 1). This planning framework seeks to 'rebuild' Tashkent city by driving growth through both major construction projects and smaller-scale renovations.

The Master Plan 2045 promotes vertical expansion through renovation and densification within the city's existing borders. Alongside this, Tashkent city is also pursuing horizontal growth through territorial expansion (the south-east 'Expansion' area in Figure 1). From 2020 onwards, administrative reforms (443-IV, dated 08.09.2020) redistributed rural territories of the Tashkent region to the capital city, adding 7,853.3 hectares. Later, the new Yangihayot district was formed to transform the rural area into an urban settlement with 500 multi-story apartments. This outward growth is expected to continue with the planned construction of 'New Tashkent', which will increase the capital territory by an additional 20,000 ha through rural-to-urban transformation.

Figure 1. Revised Tashkent city under Master Plan 2045



Source: "TOSHKENTBOSHPLANLITI" DUK 2022 in Gazeta. uz[9]

[9] Gazeta.uz (2022). Detailed Overview of Tashkent's Master Plan 2045. News. https://www.gazeta.uz/ru/2022/10/25/master-plan/

Path to Renewable Energy

Alongside physical expansion, urban reforms have been framed within a broader sustainability agenda. The buildings in New Tashkent are designed to provide high thermal resistance, aimed at reducing energy consumption for heating and cooling. By using energy-saving technologies, the city is estimated to save 900 million kWh annually[10]. Additionally, a 400-megawatt solar farm is currently under construction to power New Tashkent[11]. The city will also be connected to the existing hydropower capacity, which is planned to be upgraded and expanded by building a small hydropower plant with a capacity of 8.2MW. All these ambitions align with Uzbekistan's strategies for transition to renewable energy sources.

In the current energy landscape, natural gas and oil plants are being modernised to replace corroded pipelines that cause fugitive emissions. By 2030, no new gas power plants will be built, and by 2050, all of them will begin retiring once their technological lifetimes end (Roadmap for Carbon Neutrality 2021[12]). The Thermal projects will facilitate the transition by meeting a growing electricity demand until renewable energy sources eventually take over. As such, gas-fired power plants can be reconfigured to produce energy from decarbonised fuels, such as hydrogen. The first step toward such reorganisation was taken when ACWA Power signed a contract to build a Green Hydrogen station in the Tashkent Region. These changes position sustainable energy development as a parallel priority to urban and industrial growth.

Challenges Presented

Large-scale urban investments in Tashkent city and the rural-to-urban transformation of the Tashkent Region are symptomatic of a construction-led path to growth that has contributed to rapid short-term increases in regional economic activity and GDP. These developments are expected to accelerate Uzbekistan's transition from lower-middle- to upper-middle-income status. However, whilst this model supports GDP growth during an active phase of urban transformation, it offers limited long-term growth potential once major reconstruction and expansion projects have been completed. This raises critical questions about the environmental and social sustainability of growth driven by construction activity.

Besides, they could come at a cost. The rapid transformation has already intensified pressures on the urban systems, natural resources, and infrastructure. Reconstruction zones often replace recreational and communal spaces, leading to problems with urban intensification, while rural-to-urban transformation results in the loss of agricultural land and way of life. Although the latter is meant to facilitate the transition to an industrial economy, agriculture still plays a crucial role in Uzbekistan's economy. The loss of irrigable lands might hurt the economy before productivity gains take over.

Despite energy sector developments, infrastructure changes did not keep pace with the increasing number of new constructions. In 2023, 128 power outages were reported in the news following an accident at the station. Although the exact cause of outages is hard to identify, the increased number of buildings

[10] Qosimova, M. (2025). New Tashkent: A green city, a sustainable future. UZA. https://uza.uz/uz/posts/new-tashkent-a-green-city-a-sustainable-future_719105

[11] Primova, D. (2026). New Tashkent: Building a sustainable city from scratch. EuroNews https://www.euronews.com/2026/01/17/new-tashkent-building-a-sustainable-city-from-scratch

[12] Ministry of Energy (MinEnergy). (2021). A Carbon Neutral Electricity Sector in Uzbekistan Summary for Policymakers. https://minenergy.uz/uploads/57c6df8d-6eco-8362-504a-fb3162895df6_media_.pdf.

connected to the same power station is likely to be a contributing factor in the electricity shutdowns, as the station's capacity fails to accommodate them.

A larger number of houses in the area also overloads the existing sewage and water management systems. The sewage treatment plants are operating near full capacity, with their efficiency declining due to excessive load. As of now, the efficiency of three aeration stations, "Salar", "Bozsu" and "Bektimir", is estimated at around 30-51%[13]. This means that the portion of wastewater the equipment failed to filter ends up in rivers and lakes, contaminating freshwater. Drainage systems are equally under strain: during heavy rainfall, they are unable to handle excess water, leading to minor flooding on Tashkent's roads. It is believed that 20-30% of drainage systems are blocked by newly constructed apartments[14].

These interconnected challenges suggest that Tashkent and its wider metropolitan region continue to face deep-rooted structural and governance challenges that cannot be addressed solely through outward urban expansion. From this perspective, the creation of New Tashkent is both an opportunity and a challenge to build a sustainable city from scratch, while the capital's infrastructure challenges persist. The potential risks of this urban-regional development require evidence-led research to inform urban and regional planning practice and to shape greener, more resilient urban growth in the Tashkent region.

Study methods

The current study used focus groups to collect the opinions of experts in three fields – Water, Urban, and Energy Sectors – regarding the current state in their respective sectors and progress towards sustainable, green, and resilient urban development. The focus groups adopted the Horizons scanning approach, with discussions focusing on existing challenges, emerging signals of change, and the skills and capacities needed to support the transition.

Focus groups were conducted with 18 local stakeholders from multiple sectors during a workshop held on 26 January 2026 in Tashkent. The participants represented experts with diverse backgrounds, including those specialising in water supply, sewerage systems, renewable energy, carbon markets, real estate, green and resilient buildings, architecture, engineering, and urban development. The workshop featured three parallel breakout focus groups on Urban Growth, Water Management, and Energy Systems, each comprising 6 experts facilitated by a dedicated moderator. Each session lasted approximately one and a half hours. Using the UN Futures Lab's Horizon Scanning approach, specifically the Three Horizons method, each group was guided through two structured exercises[15]. The first focused on identifying current systemic challenges and the inertias constraining resilient development; the second explored emerging signals of change — early indicators that practices, policies, or behaviours are beginning to shift. At the close of each session, participants collectively prioritised the challenges and signals they considered most significant, providing ratings that are reflected in the findings below.

On the second day, a smaller group of 6 stakeholders reconvened to brainstorm on the educational implications of the current

[13] Gazeta.uz. (2021). The Canalization System in Tashkent works at its limit (Канализация Ташкента работает на пределе мощности. Хоким рассказал, как решат проблему). Gazeta.uz. https://www.gazeta.uz/ru/2021/12/16/sewerage/

[14] Gazeta.uz. (2023). Why is Tashkent flooded? Will the problem be solved after new resolution (Почему Ташкент продолжает затапливать? Решится ли проблема после новых поручений?) https://www.gazeta.uz/ru/2023/04/10/floods/

[15] United Nations Futures Lab, https://un-futureslab.org

situation, with a view to informing the potential launch of an urban planning programme at WIUT. In the months that followed, and during the systematisation of the findings, a set of speculative scenarios was developed based on the two most recognised drivers of change identified by participants — institutional reform and educational innovation — and subsequently presented at a seminar held at the University of Westminster in London on 3 July 2026.

Study Findings

The findings below are organised by sector — Urban Growth, Water Management, and Energy Systems — and follow the structure adopted during the workshop: first, the systemic challenges identified as constraining resilient development, and second, the emerging signals of change that experts recognised as early indicators of a shift towards more sustainable practices. A cross-cutting synthesis that draws on common threads across sectors follows in a dedicated sub-section and serves as the basis for the speculative scenarios presented thereafter.

Urban Growth Sector

Current Challenges

Urban experts identified eleven interrelated challenges facing the city of Tashkent and its surrounding districts. Two were flagged as the highest priority based on the depth and intensity of workshop discussion. First, outdated planning systems and regulatory frameworks are ill-equipped to manage the pace of urban transformation, with gaps in professional capacity and institutional coordination leaving planning practice poorly adapted to accelerating growth, migration, and environmental pressures. Second, there is a lack of education and evident capacity gaps in urban sustainability, which requires the upskilling of educators, professionals and mid-level management in local authorities. Significant issues also presented are: the presence of state-led development strategies that frequently prioritise large flagship projects at the expense of place-based approaches that address everyday community needs, resulting in misallocated resources, fragmented heritage conservation, and uneven territorial development; the absence of a long-term urban vision is compounded by reactive, KPI-driven governance and weak data systems, limiting institutions' ability to anticipate and respond to future challenges such as climate adaptation and water stress. These findings call for governance reform that embeds long-term vision into planning systems, investment in applied urban sustainability education, and a shift from prestige-led development towards integrated, community-centred approaches. These priorities are addressed directly in Recommendations R1, R2, R4, and R6.

Table 1. Current challenges in urban growth

Challenge	Priority Group	Related Sub-issues
Outdated urban planning systems and regulatory frameworks	Highest	Capacity gaps, institutional coordination, legal frameworks
Lack of Education and Capacity Gaps in Urban Sustainability	Highest	Connecting sustainability to urban planning and resilient cities. Need for upskilling of educators, urban professionals and mid-level management in administration.
Ineffective state-led development and weak place-based planning	Significant	Prestige projects, heritage fragmentation, territorial inequality
Lack of long-term urban vision and evidence-based decision-making	Significant	Reactive governance, weak data systems, climate adaptation gaps
Seismic risk and geological constraints	Moderate	Infrastructure planning, historical reconstruction legacy
Demographic pressure, migration, and car dependency	Moderate	Housing pressure, mobility culture,

		limited public transport

Signs of Change

Despite these challenges, urban experts identified several encouraging signals of change. The three signs considered most likely to drive transformative impact were: growing use of public transportation (measurable growth in metro ridership and improved accessibility); adoption of nature-based solutions (green-blue corridors, green belts in secondary cities, and green space targets of up to 40% in new development plans); and the emergence of cross-sector innovation ecosystems linking government, civil society, and the private sector. Additional signals include EV subsidies and restrictions on highly polluting vehicles, digitalisation of planning tools and cadastre systems, growing installation of solar panels, and bottom-up heritage conservation movements. Experts noted that the main barriers to scaling these signals include strong car dependency, fragmented governance, limited institutional capacity, and the gap between high-level policy commitments and on-the-ground delivery.

Water Management Sector

Current Challenges

Water sector experts highlighted that Uzbekistan's core water challenge is not scarcity per se, but rather a high dependence on transboundary water and poor governance of available resources. Participants agreed that climate change and projects such as the Kushtepa Canal — being constructed overseas to divert an estimated one- third of the Amu Darya's flow — are creating mounting external pressures, while domestic challenges of ageing infrastructure, industrial pollution, inaccurate metering, and weak enforcement compound the problem. Tashkent's three existing wastewater treatment plants are near capacity and were designed only for domestic biological treatment, implying that uncontrolled industrial discharges routinely exceed their design limits, contaminating rivers. Fines for non-compliance are cheaper than building treatment facilities, creating a perverse incentive that is further compounded by corruption in enforcement. Voting in the session identified ageing infrastructure and ineffective control of industrial waste as the two most critical challenges requiring urgent action. These findings point to the urgent need to modernise ageing distribution networks, strengthen enforcement frameworks, invest in water sector professionals, and reform the regulatory environment for water reuse, as reflected in Recommendations R5, R8, R10, and R11.

Table 2. Current challenges in water management

Challenge	Expert Priority	Key Notes
Aging infrastructure (built 1970s); 40–60% water losses in irrigation	Highest	Transmission losses; treatment plants near capacity
Ineffective control of industrial wastewater discharge	Highest	Fines cheaper than compliance; corruption in enforcement
Climate change: glacier melt, drought, 1.9°C temperature rise	Significant	Uneven seasonal distribution; projected 30–40% reduction by 2100
Kushtepa Canal (Afghanistan): ~1/3 of Amu Darya diverted by 2028	Significant	Geopolitical dimension; Afghanistan outside water-sharing agreements
Combined sewage system; restrictions on treated-water reuse	Significant	Storm water and industrial effluent overwhelm treatment plants
No household water metering; low tariffs insufficient to sustain services	Moderate	Per-capita billing; public mindset of water as a free resource

Signs of Change

Water experts identified a number of governance and infrastructure changes as meaningful signals of a positive shift. At the policy level, a dedicated presidential advisor for water was appointed for the first time, and the Ministry of Environment was elevated to a National Committee reporting directly to the President — significantly raising the profile of water and environmental governance. A new Water Code was adopted in summer 2025, clarifying the roles and responsibilities of all stakeholders. The national Concept for Water and Sewerage Development to 2030 has been updated and includes provisions for water recycling and reuse. On the infrastructure side, the construction of the new Surin wastewater treatment plant (capacity: 1.5 million m^3/day) will eventually replace Tashkent's three ageing plants. International partnerships with the World Bank and ADB are supporting the installation of flow meters and infrastructure upgrades. A digitalisation loan for household metering has been approved, though implementation capacity remains a constraint. Experts agreed that the primary barriers to scaling these changes are the implementation gap between national legislation and local-level delivery, local political resistance to transparency, and the chronic underpayment and low attractiveness of the water sector as a professional career path.

Energy Systems Sector

Current Challenges

Energy experts unanimously rated two challenges as the most urgent: a severe shortage of qualified specialists and the condition of the distribution grid, with approximately 80% of networks outdated and responsible for 18–20% energy losses. These were joined by the absence of a coherent master plan for the energy sector, poor inter-agency coordination (with energy efficiency, urban development, and urbanization managed across siloed ministries and committees), and a significant disparity between energy production (concentrated in the west of the country) and consumption (concentrated in Tashkent and the Fergana Valley), exacerbated by insufficient high-voltage transmission capacity across the country's elongated geography. The lack of objective consumption data — in contrast to the comprehensive systems used in countries such as the United States — was flagged as a cross-cutting constraint, preventing evidence-based improvements to energy efficiency. An underdeveloped SME energy audit ecosystem (the planned audit programme covers only 2,000 of 470,000 enterprises by 2029) and a market monopoly in both energy purchase and distribution further constrain the sector's modernisation. These findings suggest the need to prioritise grid rehabilitation, build a national energy data system, and develop the qualified specialist pipeline, as directly reflected in Recommendations R3, R4, R5, and R10.

Table 3. Current challenges in energy

Challenge	Group Priority	Related Sub-Issues
Lack of qualified specialists	Highest	Lack of renewable energy, biodiversity, & energy-efficiency specialists.
Aging electricity infrastructure	Highest	outdated distribution grid (80%); 18–20% energy losses; outages, modernization needs.
Limited energy efficiency	Highest	Few audits, SME coverage gaps, shortage of consultants.
Lack of objective data	Significant	Weak consumption data and evidence-based planning.
Weak planning and coordination	Significant	No master plan for the energy sector; fragmented governance, poor coordination.

Transmission constraints	Significant	Regional imbalances and insufficient high-voltage lines.
Market concentration (monopoly)	Moderate	Limited competition in purchasing and distribution.
Declining gas reserves	Moderate	Exploration gaps and energy security risks.
Grid modernization challenges	Moderate	Limited smart-grid and digital systems.
Lack of recycling infrastructure	Emerging	Battery and solar-panel waste management gaps.

Signs of Change

The energy sector showed the strongest market-driven signals of change. Following repeated power outages that caused significant losses for factories, businesses began independently investing in solar panels — a development experts rated as one of the most significant signals. The entry of multiple independent power producers into the market (including Masdar and ACWA Power, which have signed large-scale PPAs) is introducing competition and breaking the generation monopoly. The government's updated renewable energy targets for 2027–2030 were highly rated, as was the overall renewable energy sector. A 2025 Presidential Decree now requires all new buildings to incorporate energy-efficient equipment and renewable energy installations from 1 June 2025, and the newly established National Agency for Energy Efficiency (from 1 July 2025) will provide subsidies covering up to 40% of heat pump installation costs. Experts emphasised that the key challenge across all these signals is not policy ambition but execution: strong decrees exist, but full implementation ecosystems — including skilled technicians, monitoring systems, and supply chains — are not yet in place. The water-energy nexus also emerged as an underappreciated risk: reduced hydropower generation from Charvak (down 20% due to lower water volumes) directly threatens energy security, and VFDs (Variable Frequency Drives) in water pumping stations are not yet widely deployed despite their potential for energy savings.

Table 4. Signs of change

Signal of Change	Priority Group	Related Implications
Growing business demand for renewable energy	Highest	Solar adoption and energy security concerns.
More energy generators entering the market	Highest	Greater competition and efficiency.
Expansion of renewable energy projects	Highest	Progress toward national targets.
Government energy targets (2027–2030)	Highest	Policy support and investment confidence.
Recognition of the water-energy nexus	Significant	Hydropower risks and efficiency measures.
Heat pumps and efficient technologies	Significant	Decarbonization and implementation opportunities.
Electrification and alternative heating	Significant	Reduced fossil-fuel dependence.
Rooftop renewable systems	Moderate	Distributed generation and resilience.
I-REC and carbon trading	Moderate	Green finance and sustainability incentives.
Increased winter coal use	Weak/Transitional	Short-term energy security response.

Cross-Cutting Themes and Sector Parallels

Despite operating in different domains, the three focus groups surfaced a remarkably consistent set of structural challenges and shared dynamics. Four cross-cutting themes stand out.

First, the implementation gap: all three sectors report strong policy ambition at the national level — decrees, codes, targets, and roadmaps — but a persistent gap between legislation and on-the-ground delivery, driven by

limited capacity, local resistance, and weak enforcement.

Second, a human capital deficit: urban planners, water engineers, and energy auditors are all in short supply and often inadequately paid, with education systems not yet producing graduates with the applied, interdisciplinary competencies required.

Third, infrastructure legacy: whether ageing water distribution networks built in the 1970s, an 80% outdated energy grid, or planning frameworks designed for a different era of urban scale, all three sectors are constrained by systems that predate today's challenges.

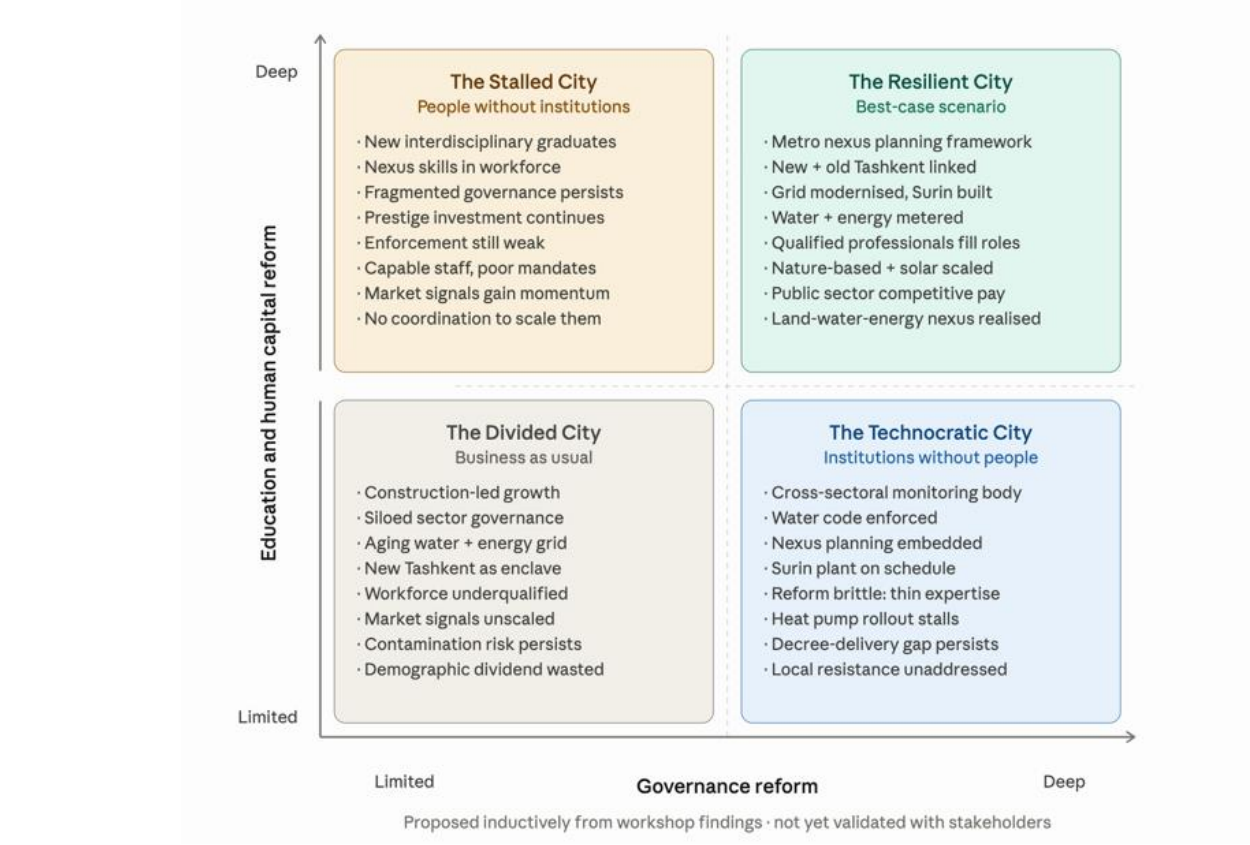
Fourth, data and transparency gaps: none of the sectors has adequate data infrastructure — water metering is barely piloted, energy consumption data is sparse, and urban planning relies on KPIs disconnected from robust evidence — limiting the ability to design and evaluate interventions.

On the signals side, a shared pattern also emerges: in each sector, market actors and civil society are beginning to move before institutional frameworks are ready, creating a productive but fragile leading edge. Supporting and scaling these bottom-up signals while strengthening delivery capacity is the defining challenge for green and resilient urban development in Tashkent.

From Challenges to Scenarios: An Analytical Framework

The challenges and early signals of change identified through the workshop provide the empirical foundation for a scenario-based planning exercise. Drawing on the above cross-cutting themes surfaced across the three focus groups, two drivers of change emerged as pivotal to the future trajectory of the city: the pace and depth of governance reform — including institutional coordination, cross-sectoral nexus approaches to land, water, and energy, and the transition away from siloed sectoral planning — and the extent of education and human capital reform, encompassing capacity building, applied professional training, and the development of the interdisciplinary expertise that sustainable urban development requires. Combining these two drivers produces a 2×2 scenario matrix with four plausible futures. At one extreme, a business-as-usual trajectory assumes limited uptake of innovative education and weak governance reform, perpetuating fragmented institutional coordination and an underprepared professional workforce. At the other end, a best-case scenario envisions the integrated and coordinated development of both New Tashkent and the retrofitting of the existing urban fabric, with efficient connectivity and functional complementarity between the two, underpinned by strong cross-sectoral governance and a new generation of qualified urban, water, and energy professionals. The two intermediate scenarios explore the consequences of reform in one dimension without the other. It should be noted that this scenario framework is proposed inductively, derived from the workshop findings, and has not yet been validated with stakeholders — it is offered here as an analytical provocation and a basis for future participatory scenario development.

Figure 2. Analytical framework for cities



The Divided City
(Low governance / Low education)

New Tashkent is built on schedule through construction-led growth, but without the institutional coordination or professional capacity to manage land-water-energy interdependencies. Planning remains reactive and KPI-driven; ageing water and energy infrastructure deteriorates further; wastewater enforcement stays weak. New Tashkent becomes a modern enclave while the existing city is piecemeal renovated — two urban realities pulling apart rather than developing in tandem. A young population enters a labour market underserved by applied education, and market-led innovations — solar, independent power, heritage movements — continue without institutional frameworks to scale them.

The Technocratic City
(High governance / Low education)

Institutional coordination improves: a cross-sectoral monitoring unit is established, and nexus planning links land use, water, and energy in metropolitan governance. But the city's reform rests on a fragile foundation. The practice relies on outdated frameworks, and graduates are unequipped to update. The Technocratic City functions but only as well as its thin layer of senior experts, and it is one generation of turnover away from regression.

The Stalled City
(Low governance / High education)

A new generation of interdisciplinary professionals emerges, urban planners, water engineers, and energy auditors, equipped with nexus skills. But they enter institutions that remain fragmented and resistant to coordination. The Stalled City has the talent to change but not the structures to act; its

potential is visible, but its momentum is arrested.

The Resilient City
(High governance / High education)

Governance and human capital reform advance together. A metropolitan-scale framework links New Tashkent's expansion with strategic retrofitting of the existing city, ensuring complementarity rather than enclave development. Land, water, and energy are planned jointly; the Surin plant replaces the ageing facilities; the grid is modernised; water metering and industrial enforcement are implemented. A new generation of qualified professionals is filling roles left vacant in the previous decade, making the water and energy sectors competitive career fields. The early signals identified across all three sectors — solar adoption, governance elevation of water, cross-sector innovation — are institutionally supported and scaled into the fabric of a city built to last.

The scenario framework has direct implications for the recommendations that follow. Moving from The Divided City toward The Resilient City requires simultaneous progress on both drivers: governance reform and education reform, which are mutually reinforcing. Recommendations under Priority 1 and Priority 3 address the governance dimension; Priority 2 addresses human capital. Policymakers should treat these not as competing priorities but as parallel tracks; neglecting either leads to intermediate outcomes rather than the best-case outcome.

Recommendations

Based on the cross-sectoral analysis and expert focus group findings, eleven recommendations, organised around four strategic priorities, are directed at national and city-level policymakers, international development partners, and higher education institutions.

Priority Policy Actions at a Glance

1. Develop a **Strategic Metropolitan Framework** for integrated urban development for Tashkent City and its surrounding districts, informed by foresight methodologies (R1, R2, R3).
2. Develop an **Integrated Resilient Urban Development Curriculum at WIUT** alongside a set of applied professional training programmes and short courses for water engineers, energy auditors, and urban planners (R4, R5, R6).
3. Establish a **Cross-Ministerial Unit** with a mandate to monitor progress and implementation across the urban, water, and energy domains, closing the persistent gap between national policy and on-the-ground delivery (R7, R8, R9).
4. **Modernise Critical Infrastructure Systems** by prioritising electricity distribution grid rehabilitation and advancing wastewater treatment capacity, including the Surin plant, alongside reform of the regulatory framework for treated water reuse (R10, R11).

Priority 1: Build Long-Term Vision and Data Systems

R1. Steer a visioning exercise. Create a multi-stakeholder engagement to capture the future vision for Tashkent (including New Tashkent).

R2. Commission an integrated energy-water-urban master plan. Commission a strategic framework addressing the interdependencies between energy supply, water availability, and urban growth in Tashkent and its de-facto metropolitan area, underpinned by robust baseline data collection and scenario-based planning methods. The plan should explicitly link the New Tashkent expansion with the retrofitting of the existing city fabric.

R3. Establish a national energy and water data system. Digitalise all water and energy consumption reporting, starting with Tashkent

as a pilot. Require large industrial users to report disaggregated consumption data. Publish open-access sector dashboards to enable evidence-based policy and private-sector investment, drawing on international models such as integrated energy information agencies.

Priority 2: Invest in Human Capital and Professional Capacity

R4. Develop applied training programmes for sector professionals. Design and fund targeted short-cycle professional training programmes in renewable energy installation, energy auditing, water system engineering, and urban resilience planning. Partner with WIUT and international universities to deliver these programmes in Uzbekistan, prioritising mid-level public agency managers who currently lack applied regulatory expertise.

R5. Enhancing market demand for water and energy sector professionals. Identify, institutionalise and promote professional services in the energy and water sector. Address chronic barriers, such as underpayment in the water and energy sectors, to attract and retain qualified professionals. Introduce sector-specific salary reforms benchmarked against comparable public service roles, and develop graduate fellowship and internship schemes with SuvTaminot, energy distribution companies, and urban planning departments.

R6. Integrate resilient city curricula across higher education. Establish an interdisciplinary programme or module cluster on resilient urban development at WIUT and partner universities, covering urban planning, climate adaptation, energy systems, and water governance. Develop applied learning formats — live briefs with city agencies, field studios, and policy simulation exercises — aligned with the scenarios developed in this study.

Priority 3: Close the Implementation Gap

R7. Establish a cross-sectoral delivery monitoring unit. Create an independent, multi-sectoral body responsible for tracking the implementation of national decrees and programmes across urban, water, and energy domains. This unit should publish regular progress reports, flag bottlenecks, and hold local administrations accountable, reporting directly to the Office of the President.

R8. Strengthen enforcement and reform incentivisation and penalty frameworks. Revise environmental incentives and fines so that non-compliance can be managed. Introduce whistleblower protections for environmental violations and separate inspectorate functions from local political influence, particularly for industrial wastewater enforcement.

R9. Develop implementation ecosystems for policy decrees. For each major regulation — including the June 2025 building energy decree and heat pump subsidies — prepare a dedicated implementation plan specifying installer training programmes, supply chain requirements, monitoring frameworks, and public awareness campaigns.

Priority 4: Modernise Infrastructure Systems

R10. Accelerate grid modernisation and smart metering. Prioritise investment in electricity distribution grid rehabilitation, targeting the 80% of outdated networks responsible for 18–20% energy losses. Simultaneously, resolve the implementation bottlenecks delaying the approved household water metering loan, using external technical assistance where capacity is lacking.

R11. Scale wastewater treatment and reform the reuse regulatory framework. Advance Surin plant construction (1.5 million m^3/day) on schedule and develop a phased decommissioning plan for the three ageing Tashkent plants. Reform restrictions on treated wastewater reuse, starting with technical irrigation and industrial cooling, and introduce

a tiered national standard for treated water quality and permissible reuse categories.

Key Takeaways

Governance and education reform advancing together. The scenario analysis offers a sobering reminder: progress on only one driver, however deep, leads to fragile or stalled outcomes. The Technocratic City and The Stalled City could each materialise if institutional reform proceeds without human capital investment, or vice versa. The priority actions in this brief are parallel tracks, not a sequence. The **Resilient City** is achievable only when both tracks move at once, underpinned by integrated, forward-looking planning frameworks.

Human capital as a prerequisite. No reform agenda, however well-designed, will succeed without the professionals to implement it. Uzbekistan urgently needs qualified water engineers, energy auditors, and urban planners with applied, interdisciplinary competencies. Investment in education – from higher education curricula to targeted professional training programmes and competitive public-sector pay – is not a downstream concern. It is a condition for delivery.

Closing the implementation gap is crucial. Strong decrees and ambitious targets exist across all three sectors, but a persistent gap between national legislation and on-the-ground delivery remains the defining constraint. Establishing a cross-ministerial monitoring unit, strengthening enforcement and building implementation ecosystems for major policy decrees are preconditions for any reform to take effect.

Positive signals are real, but infrastructure deterioration cannot wait. Market actors and civil society are already moving; businesses installing solar panels, water experts proposing reuse models, and urban consultants advancing nature-based solutions. These signals are encouraging, but they coexist with systems under acute strain — 1970s-era water networks, an 80% outdated energy grid, near-capacity wastewater plants — that are actively constraining growth and public health today. Electricity grid rehabilitation and the Surin wastewater plant must be prioritised without further delay.

Disclaimer

The study's findings, interpretations, views, conclusions, and recommendations, as contained in this publication, reflect the authors' and do not necessarily reflect the official opinion of WIUT or CPRO.

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