2025

Green City Action Plan Methodology

European Bank
for Reconstruction and Development

EBRD GREEN CITIES

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European Bank
for Reconstruction and Development

EBRD GREEN CITIES

Acknowledgements

This document represents the fourth edition of the Green City Action Plan (GCAP) Methodology. It builds on the original work prepared by the Organisation for Economic Co-operation and Development (OECD) and ICLEI – Local Governments for Sustainability for the European Bank for Reconstruction and Development (EBRD) in 2016. In 2020, it was updated to reflect lessons learned from the development and implementation of Green City Action Plans, and to incorporate additional best practices following a review by ICLEI of both the document and the EBRD Green Cities programme. In 2024, the Methodology underwent a further external review by the World Resources Institute (WRI), informing the current version published in 2025.

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Glossary of Terms and Abbreviations

Terms

The City or Municipality	The local authority or the municipal government of a City or region.
City council	The body that approves legislation put forward by the office of the mayor or equivalent head of municipal government.
Green City Officer	Selected individual within the municipal government who has the capacity and expertise to support the GCAP throughout its development.
Consultant team	Team of international and local experts, selected by the EBRD and the City, with experience in urban sustainability and green infrastructure investing. The consultant team supports the GCAP development.
EBRD Green City	The EBRD defines a Green City as a City that i) preserves the quality of its environmental assets (air, water, land/soil and biodiversity) and uses these resources sustainably; ii) mitigates and adapts to the risks of climate change; and iii) ensures that environmental policies and developments contribute to social and economic wellbeing. The consultant team supports the GCAP development.
Green City Action Plan (GCAP)	A core component of the EBRD Green Cities programme that involves assessing and prioritising environmental and climate challenges based on specific thematic indicators and developing an action plan to tackle such challenges through policy interventions and sustainable infrastructure investments.
Green City Baseline	The Green City baseline documents the City's current environmental performance, including the governance and policy frameworks in place that affect it; and identifies a set of priority challenges that the City will address through its GCAP.
GCAP Steering Committee	A group consisting of members of various municipal departments, including finance, communications and sectoral departments, that is responsible for overseeing and steering the GCAP process.
GCAP Technical Expert Group	Technical experts within the City who work closely with the consultant team and review the deliverables submitted.
Pressure State Response Framework	The Pressure State Response (PSR) framework, developed by OECD, categorises various indicators to illustrate links between environmental pressures, the resulting state of the environment, and associated responses by the government, residents and the private sector.
Traffic light screening	A simple method of assessing and comparing a City's environmental performance indicators with established benchmarks, whereby a green light indicates good performance in line with international standards; an amber light indicates insufficient performance and cause for concern; and a red light indicates low performance and need for critical attention.

Abbreviations

API	Application Programming Interface
BAU	Business as usual
CAPEX	Capital expenditure
CBI	Climate Bond Initiative
CSO	Civil society organisation
EBRD	European Bank for Reconstruction and Development
ESCO	Energy Service Company
EU	European Union
GCAP	Green City Action Plan
GCO	Green City Officer
GDP	Gross domestic product
GHG	Greenhouse gas emissions
GIS	Geographic Information Systems
GNI	Gross national income
ICMA	International Capital Market Association
ICT	Information and communication technology
LCP	Low-carbon Pathways
LMA	Loan market association
NDC	Nationally Determined Contribution
NECP	National Energy and Climate Plans
NGO	Non-governmental organisation
NECP	National energy and climate plans
OECD	Organisation for Economic Co-operation and Development
OL	Operation lead
OPEX	Operating expenditure
PM	Particulate matter
PPP	Public-Private Partnership
PSR	Pressure-state-response
PV	Photovoltaic
RVA	Risk and Vulnerability Assessment
SEP	Stakeholder Engagement Plan
SEW	Stakeholder Engagement Workshop
SLB	Sustainability-linked bond
SLL	Sustainability-linked loan
SPO	Second Party Opinion
WWTP	Wastewater Treatment Plant

Executive Summary

This Green City Action Plan (GCAP) Methodology provides detailed guidance on how to develop a GCAP. The GCAP is a core component of EBRD Green Cities, a programme of the European Bank for Reconstruction and Development (EBRD), designed to support cities and identify urban infrastructure investment opportunities. The GCAP is a City-led strategic document that enables subnational governments to address environmental and climate challenges by integrating infrastructure investments with policymaking.

The GCAP identifies and prioritises challenges through data collection and analysis, stakeholder engagement, visioning, goal and target setting, as well as the development of pragmatic and effective actions. By ensuring strong local ownership, the GCAP serves as a roadmap for the City's sustainable future, reflecting its specific needs, aspirations and constraints. Development of the GCAP consists of three key phases: Inception, Baseline and Action Plan. Once the GCAP is fully developed, the fourth phase – Implementation of Actions and Monitoring – is introduced.

During Inception, the project structure and team are established, including the Steering Committee as the high-level leadership for GCAP development. This phase sets out the project timeline, outlines how to engage effectively with different stakeholder groups, and establishes work modalities. The City's future high-level vision (10–15 years) should be defined during this phase. The state of the environment, climate change risks and the quality of infrastructure, as well as the City's internal and external constraints, are systematically assessed during the Baseline phase. A comprehensive set of indicators, geospatial information tools, stakeholder inputs, expert analysis and policy reviews are utilised to develop the Baseline. Following an evidence-based approach, a set of priority challenges for the City is formulated in the Baseline.

These challenges are translated into qualitative strategic goals and quantifiable targets during the Action Plan phase. To achieve these goals and targets, Actions are developed. These Actions consist of infrastructure investments and policy measures and are selected based on estimated environmental, social and economic benefits, expected costs (CAPEX and OPEX), potential sources of funding and financing mechanisms. The Actions also specify the stakeholders and the steps required for implementation as well as the links to existing commitments from other strategies and plans. Initially, a longlist of Actions is prepared to capture a broad range of ideas and innovative solutions. This longlist is subsequently refined through a series of review processes to distil a shortlist of Actions. The shortlist comprises Actions that are financially, politically and technically feasible, with implementation expected to begin within the following five years. These Actions are designed to deliver positive impacts across multiple dimensions, including the environment and climate, and the City's society and economy.

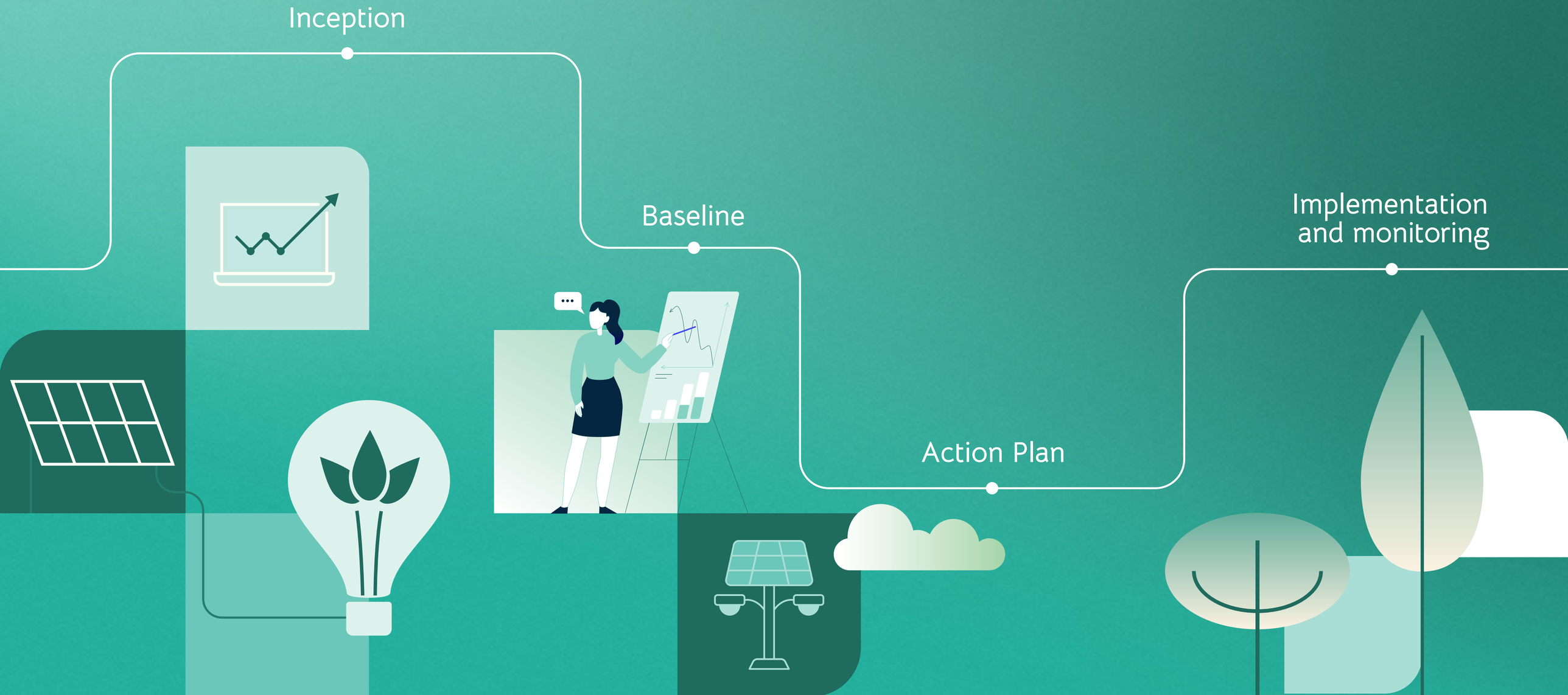
The updated Methodology mainstreams gender equality and human capital development throughout the GCAP process, ensuring that these considerations inform the identification of challenges, the engagement of stakeholders, the prioritisation of Actions and the implementation of strategies. This integrated approach – which replaces the previous gender assessment developed as a supplementary output – provides a more coherent framework that systematically addresses gender gaps and opportunities across urban sectors, resulting in more inclusive, effective and sustainable outcomes for cities and their diverse residents.

In addition to the standard process of developing a GCAP, the Methodology offers an option for additional studies from a wide variety of thematically focused Modules. They assess challenges and opportunities that are unique to or of particular concern to the City. The themes of the currently available optional Modules include smart technologies, gender equality and human capital, heat resilience, nature, and green capital markets. Further themes are under development for future inclusion. The findings of these Modules are not developed in isolation; rather, they are closely integrated into the GCAP to enhance and develop more targeted Actions.
A summary of the Baseline, the Action Plan and the Modules is compiled into a single GCAP document. Once completed, the GCAP will be considered for formal recognition or approval by the City as an official document to ensure the City's commitment to the implementation of the GCAP Actions.

The progress of GCAP implementation is monitored annually, following the Implementation and Monitoring section of the Methodology. The EBRD uses this information to prepare tailored capacity-building and knowledge-sharing workshops to overcome implementation barriers, and to convene partner organisations that can provide additional technical support.

Tbilisi, Georgia

Introduction



Cities are dynamic and vital parts of society. They are the main engines of social, economic and technological development. Meanwhile, cities are key contributors to climate change, as urban activities are major sources of greenhouse gas emissions (GHGs). While occupying only three percent of the Earth's land area, cities account for approximately 75 percent of global energy consumption and 70 percent of GHG.[1]

Climate change impacts cities with more frequent extreme weather, heatwaves and sea level rise, as well as food and water insecurity. The urban population is growing rapidly around the world. More than half of the global population lives in urban areas, a figure projected to exceed 68 percent by 2050.[2] This rapid urbanisation intensifies the demand for resources and services in cities, further exacerbating energy consumption, air pollution, traffic congestion, housing demands and loss of natural assets such as green spaces.

While many cities in the EBRD regions face challenges due to rapid urbanisation following this global trend, some cities and regions struggle with shrinking economies and population decline. EBRD Green Cities was established to support cities address their various challenges associated with the environment, climate change, economy and social issues by linking policymaking and infrastructure investments. Jointly published with OECD and ICLEI in 2017, the first edition of the Green City Action Plan Methodology provided detailed guidance for developing a Green City Action Plan (GCAP), helping cities identify, prioritise and prepare infrastructure investments and policy actions. To join EBRD Green Cities, a City needs to both commit to a trigger investment project that meets the EBRD's investment criteria and initiate a GCAP. By committing to a GCAP, a City sets a priority for high environmental performance. Info Box 1 provides an overview of the key benefits and strategic advantages for cities in joining EBRD Green Cities.

Following a revision in 2021 to incorporate assessments on Risk and Vulnerability, Gender and Economic Inclusion, and Smart Maturity, this document presents the third edition of the GCAP Methodology. Building on the previous two editions, this new version reflects the evolving needs of cities by incorporating lessons learnt from completed GCAPs. Internal and external review processes were conducted to integrate evolving and emerging priorities within a revised Methodology that enhances relevance, efficiency and impact.

The updated Methodology focuses on improved clarity, efficiency and flexibility. It is designed to strengthen follow-up mechanisms and position GCAPs as forward-looking tools that address evolving City challenges, deliver measurable outcomes and enable access to green financing opportunities. The Methodology mainstreams gender equality and human capital considerations throughout the GCAP process, recognising these as fundamental dimensions of sustainable urban development.

Key updates include:

Structured pathways

A clearer link between long-term vision, mid-term strategic goals, measurable targets, actions, and monitoring indicators.

Integrated approach

Gender equality and human capital considerations and digital, as well as risk and vulnerability are now mainstreamed throughout the GCAP rather than being addressed in a separate supplementary output.

Flexibility

Options to develop a standard GCAP (fast and focused) or a GCAP with additional modules (thematic deep dives) which would be most appropriate for cities that desire detailed guidance and support on an identified area of high priority, cities looking to enhance a longstanding GCAP with a new strategic area of focus. This flexibility also allows cities to refresh their GCAP five years after completion.

Optimised assessments

Streamlined data sourcing and analysis, e.g. through the integration of health and nature, disaggregated geospatial analysis and additional guidance for qualitative assessments.

Stakeholder engagement

More structured mechanisms ensuring outputs align with cities' priorities and stakeholder aspirations. Enhanced inclusiveness and transparency.

Actions

Enhanced cross-sectoral thinking by introducing "action tags", standardised action cards and improved action selection.

Local ownership

Enhanced leadership of the Steering Committee and roles of the local expert group for developing and implementing actions.

1. Empowering Urban Energy Transitions (IEA, 2024)
2. World Urbanization Prospects, The 2018 Revision (UN DESA, 2018)

Info Box 1

Why develop a GCAP?

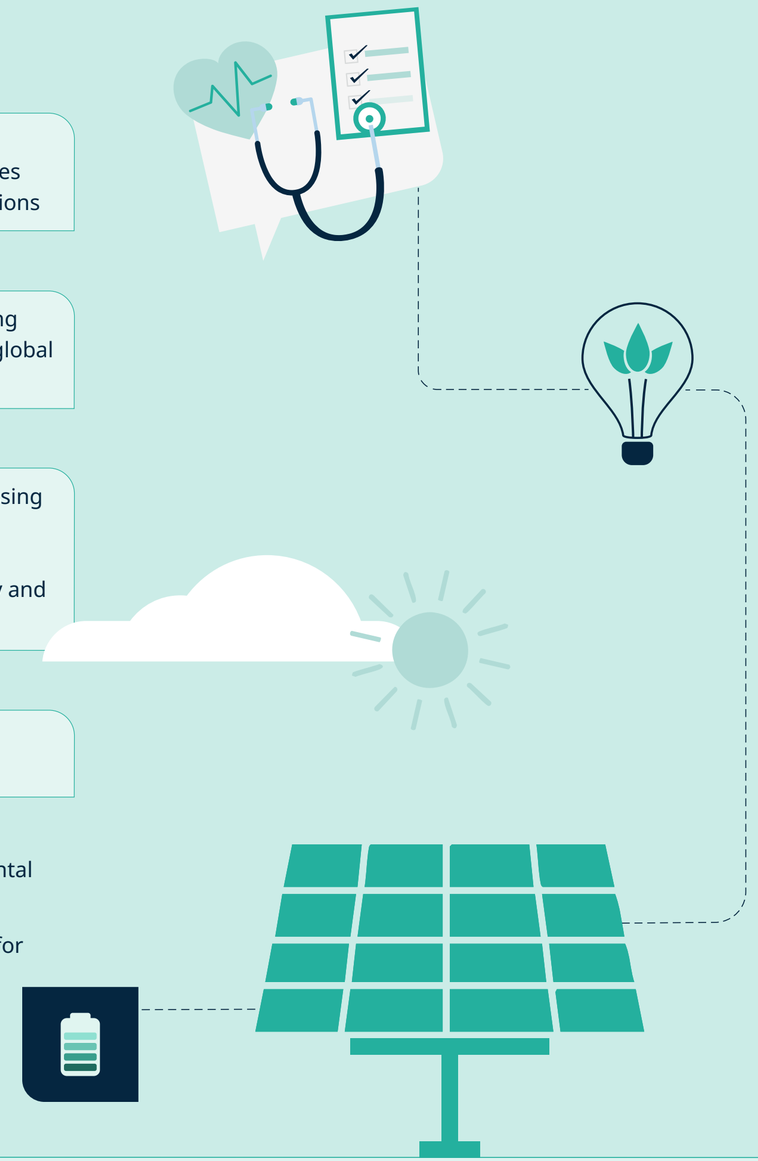
Developing a GCAP is a proactive step towards a greener, more inclusive, resilient and sustainable City. The GCAP can help cities to:

1. Support the prioritisation of environmental and climate challenges based on their urgency, impact and feasibility, to ensure that resources are allocated effectively
2. Link prioritised challenges to specific, bankable infrastructure investments
3. Align City-level efforts with global frameworks, such as the Paris Agreement, the Sustainable Development Goals (SDGs), and national climate or sustainability strategies
4. Attract financing from development banks, donors, commercial banks and private investors by aligning investment and policy actions with strategic sustainability targets
5. Pilot innovative green technologies and scale up successful solutions
6. Take action to improve public health, quality of life and the City's attractiveness for residents and businesses
7. Ensure inclusive and gender-responsive stakeholder engagement, so that a City's unique challenges, opportunities and vision are reflected in priority investment and policy actions
8. Position the City among the leaders in sustainability, inspiring other cities to follow suit and demonstrate commitment to global challenges
9. Advance gender equality and build human capital by addressing differentiated needs in urban services and infrastructure, closing skills gaps in green sectors, and increasing women's participation in the economy to enhance overall productivity and growth
10. Ensure that urban development is inclusive, equitable and socially beneficial for current and future generations

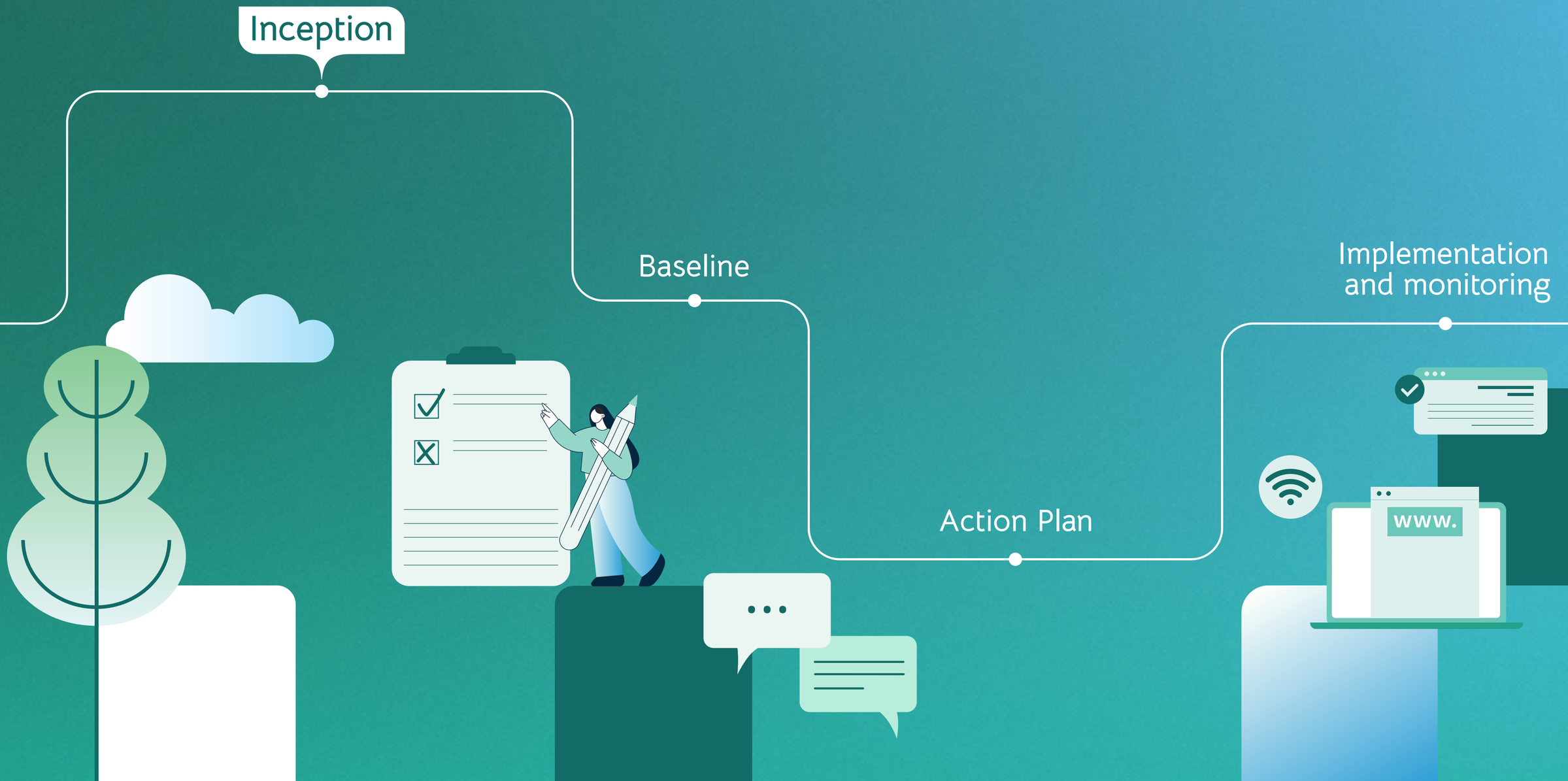
By committing to a GCAP, a City sets a priority for high environmental performance. To join EBRD Green Cities, a City must commit to:

a) a trigger investment that meets the EBRD's investment criteria for Green Cities projects; and

b) the development of a GCAP.



01/ Inception



The first phase of GCAP development focuses on planning and preparatory activities, which are captured in the Inception Report, the primary deliverable of this stage. This phase also includes discussions on the City's long-term vision (10–15 years), setting the strategic foundation for the GCAP and ensuring alignment of its sustainability goals with local priorities and aspirations.

1.1
Team and Institutional Structure

For the development and delivery of a GCAP, the EBRD recommends that the City establish a **Steering Committee**, appoint an **Expert Group** and nominate a **Green City Officer (GCO).** The following sections outline the main roles and responsibilities in GCAP development.

Steering Committee

The Steering Committee is responsible for overseeing and steering the development and implementation of the GCAP, and ensuring political ownership, institutional coordination and strategic alignment with the City's broader objectives.

The committee typically consists of high-level representatives with decision-making authority from municipal departments and municipal companies responsible for infrastructure development and maintenance. Depending on local regulations, the Steering Committee can take various forms, ranging from an informal working group to a formalised agency. It may include formal or informal members from outside the municipal government, such as representatives from the national government, public agencies, infrastructure operators, utilities, business associations or chambers, academia, think-tanks, environmental non-governmental organisations (NGOs), and community groups. The Mayor or the Deputy Mayor should preferably be a member of the Steering Committee and provide it with a mandate, reinforcing its authority and ensuring high-level commitment to the GCAP process.

Expert Group

The City may benefit from an Expert Group, composed of operational-level and technical experts from relevant municipal departments and organisations. This group provides technical input and guidance, particularly during the Baseline Assessment, and supports the development and selection of GCAP targets and actions.

While the Expert Group focuses on technical contributions, the Steering Committee remains responsible for strategic oversight and decision-making. Both the Steering Committee and the Expert Group play a critical role in ensuring strong local ownership of the GCAP. They help retain institutional knowledge and lessons learned throughout the GCAP process, establishing a lasting structure for preparing, implementing and monitoring GCAP actions.

Green City Officer (GCO)

The Green City Officer (GCO) serves as the primary coordinator of the GCAP process within the municipality. Appointed by the City, the GCO acts as a focal point, facilitating communication between the Steering Committee, Expert Group, municipal departments, the Consultant team, the EBRD GCAP team, and external stakeholders. Responsibilities include providing input on deliverables, liaising with relevant teams and departments to facilitate information exchange, and tracking progress on GCAP actions once the GCAP is launched. The GCO automatically joins the wider network of EBRD Green Cities GCOs, fostering collaboration and knowledge sharing across cities.

Consultant

The Consultant team is responsible for supporting the technical development of the GCAP, providing expertise in data analysis, environmental assessment, and urban planning. Working closely with the municipality and the EBRD GCAP team, the Consultant ensures that the GCAP methodology is applied effectively, delivers high-quality outputs and aligns with City priorities. Responsibilities include collecting and analysing data, conducting the baseline assessment, facilitating stakeholder engagement, proposing GCAP actions, and drafting reports and materials in coordination with the City and EBRD.

EBRD GCAP Team

The EBRD GCAP Team, led by a designated Operation Lead (OL) for each GCAP assignment, provides strategic oversight and technical support throughout the GCAP process, ensuring alignment with the EBRD Green Cities framework and broader institutional goals. The team works closely with the City and the Consultant team, offering guidance on methodology and deliverables. It also facilitates knowledge sharing across the Green Cities network and ensures that GCAPs contribute to sustainable urban investment and policy development.

1.2
Modalities and Schedule

The inception phase should establish clear coordination, communication and quality assurance mechanisms to ensure an efficient GCAP process. This includes defining the frequency of update meetings, public communication channels, working languages and quality control responsibilities within the Consultant team. The GCAP approval and/or adoption process should be clarified, and necessary steps, such as public consultations, and reporting requirements should be taken into consideration.

The project schedule should align with key milestones such as data collection, stakeholder engagement, drafting of deliverables, and periodic meetings, while considering risk management measures and external factors, such as elections, holidays, and major events that may affect progress.

1.3
Stakeholder Engagement Plan (SEP)

Stakeholder engagement is a critical component of GCAP development, ensuring that the process is inclusive, transparent and reflective of local priorities. The Stakeholder Engagement Plan (SEP) should be prepared by the Consultant team as part of the Inception Report, with guidance from the City and insights from initial meetings and stakeholder interactions. The SEP outlines how and when different stakeholder groups are consulted and informed, enabling diverse voices to contribute to the GCAP's formulation. Engagement fosters local ownership, strengthens public and political support, and ensures that all groups in the City have a voice in the process. It also facilitates access to local knowledge, technical expertise, and key data, which enhance the baseline assessment and inform decision-making. The SEP should be publicly available and updated regularly to reflect new findings and evolving engagement needs.

The SEP should ensure inclusive and gender-responsive participation of diverse groups, including women, men, LGBTQI individuals, the elderly, youth, migrants, persons with disabilities and other potentially underserved groups. The engagement process should create safe and accessible spaces for all stakeholders, with particular efforts made to engage those who traditionally face barriers to participation. Gender-disaggregated data and information on the representation of underserved groups should be collected during all consultations to ensure that diverse perspectives are captured.

Stakeholders

Stakeholders include any persons, groups or organisations that:

- → are directly or indirectly impacted by the GCAP or its outcomes
- → own or operate urban infrastructure and services
- → lead environment or climate initiatives within the City
- → are action owners and implementation partners of GCAP actions
- → possess technical expertise in sectors relevant to the GCAP
- → can provide key data on the City's environment and infrastructure

Method of Engagement

The SEP defines the overall approach to engagement and serves as a guiding document for all stakeholder interactions throughout the GCAP process. It should specify:

- → roles and responsibilities of different stakeholder groups
- → anticipated timelines for engagement activities
- → information disclosure protocols to ensure transparency
- → an outline of key stakeholder groups involved
- → targeted engagement approaches and communication strategies on the GCAP process (including for groups that may face barriers to participation)

Examples of potential engagement methods include but are not limited to:

Public meetings

Presenting information and findings, raising awareness and generating visibility

Focus groups, round table discussions, workshops and interviews

Gathering input from stakeholders with specific expertise, knowledge, or interest

Questionnaires and surveys

Engaging larger, open or targeted groups

Online platforms, portals and social media

Collecting feedback and facilitating discussions

Info Box 2 provides guidance on when and how stakeholder engagement activities are conducted in the development of the GCAP.

An overview of GCAP Stakeholder Engagement Activities and Events

Info Box 2

1 Inception

1.1 Kick-off Meeting
In-person or hybrid technical meeting with the City, EBRD and the Consultant. The purpose is to introduce the GCAP process, align expectations, clarify roles, and receive initial feedback from the City on the draft Inception Report.

1.2 Joining Event
An optional high-profile in-person event with senior City officials, EBRD representatives, and key stakeholders (e.g., utilities, businesses, NGOs, and academia). This event formally announces the City's participation in EBRD Green Cities and introduces the GCAP process, objectives, and expected outcomes. It fosters political commitment and awareness among decision-makers and the public.

1.3 Stakeholder Engagement Activity 1: Vision
A structured consultation activity held after the Joining Event with selected stakeholders, including government departments, service providers, and civil society representatives. The session explores the City's long-term vision, discusses current environmental and infrastructure conditions, and assesses data availability to inform the GCAP development.

1.4 Survey
An open online survey targeting residents, businesses, and community groups to gather input on the City's long-term sustainability vision, priorities, and key urban challenges. The results will help shape the vision and guiding principles of the GCAP.

2 Baseline

2.1 Stakeholder Engagement Activity 2: Prioritisation of Challenges
A series of targeted engagement activities, including focus group meetings, interviews, and structured questionnaires, involving stakeholders with expertise in urban services, infrastructure, and environmental management. Participants help identify and validate the City's key environmental and urban challenges. At this stage, stakeholders may also suggest preliminary ideas for Strategic Goals, Targets, and Actions, informing the next phase.

2.2 Presentation of Baseline
An online or in-person meeting where the GCAP team presents the findings of the baseline assessment, highlighting key urban challenges, data insights, and initial recommendations. This meeting includes City officials, key urban stakeholders, and sectoral experts to ensure shared understanding and alignment before moving to action development.

3 Action Development

3.1 Stakeholder Engagement Activity 3: Strategic Goals and Targets
A stakeholder consultation activity aimed at defining Strategic Goals and Targets based on the findings and identified priority challenges. Stakeholders, in collaboration with the City and consultants, outline sector-specific improvements needed to address challenges. Each Strategic Goal must be linked to at least one priority challenge, ensuring a targeted approach to urban sustainability.

3.2 Stakeholder Engagement Activity 4: Action Prioritisation
A stakeholder consultation activity aimed at assessing the actions' relevance to refine them. The format of these consultations should be tailored to the City's needs and context. Regardless of the format chosen, these stakeholder engagement consultations should include a diverse range of participants.

4 Post GCAP Completion

4.1 GCAP Launch Event
A high-level, in-person event featuring City leadership, EBRD representatives, and key stakeholders. The event presents the final GCAP, summarising its strategic vision, key actions, and implementation roadmap. Depending on the City's preferences, it may be open to selected external participants or the public to encourage wider buy-in.

4.2 Capacity Building
A practical, in-person training session for designated action owners, implementing partners responsible for executing key GCAP actions and those that are responsible for monitoring and reporting.

1.4
Vision

The vision serves as the central guiding principle of the GCAP, reflecting the City's long-term aspirations for sustainability, liveability and resilience over a 10–15-year period. Grounded in the City's existing commitments, strategic priorities and the local administration's agenda, the vision is further shaped by stakeholder consultations and broader citizen engagement, such as surveys or public forums.

While the environment and climate change remain the core focus, the City may choose to integrate gender equality and human capital, resilience or digital innovation into its vision. Though aspirational, the vision provides a clear foundation for identifying priority challenges and defining strategic goals, measurable targets and concrete actions, ensuring a structured pathway toward a greener, low-carbon, inclusive and resilient future. A vision statement shall be disclosed at the inception stage to guide the subsequent phases, shaping the focus areas, priorities and particularly the Strategic Goals of the GCAP.

Info Box 3

Stakeholder Engagement Activity 1#: Vision

Following the Kick-off Meeting and Joining Event, the first Stakeholder Engagement Activity serves as a critical step in defining a shared vision for the GCAP. This activity can be structured as roundtable discussions and engages key stakeholders, including but not limited to representatives from City officials, utility providers, businesses, civil society and academia. Discussions focus on the City's environmental and infrastructure conditions, existing challenges and data availability in order to enable a fact-based approach to vision-setting.

The activity should ensure inclusive and gender-responsive participation by creating safe spaces for diverse voices, with particular attention to engaging women, youth, the elderly, persons with disabilities, LGBTQI individuals and other underrepresented groups whose perspectives are essential for developing a truly inclusive vision.

The outcome can be either a single overarching vision for Green City development or sector-specific visions tailored to priority thematic areas or sectors. While environmental improvement is the primary objective of the GCAP, the vision should also consider gender equality and human capital, resilience, the transition to a green economy and the contribution of green actions to overall City resilience.

To ensure broad buy-in, a public survey or other digital engagement methods should be considered in order to gather citizen perspectives and priorities.

Vilnius Stakeholder Engagement Workshops

02/ Baseline


Inception
Baseline
Action Plan
Implementation and monitoring

The next phase of GCAP development involves the analysis of the urban framework and the application of the PSR framework (pressure, state, response). This helps identify and prioritise the City's challenges, supported by consultations with key stakeholders. Once these steps are completed, the City will have established its Green City Baseline, documenting the City's current environmental performance and main challenges.

The Green City Baseline is built of three components:

1. **Urban Framework: Setting the Scene**
   Geography & Climate / Society & Economy / Governance & Policy / Digital & Smart / Finance & Budget
2. **Technical Assessment: Building the Evidence**
   Environmental assets / Climate mitigation / Climate adaptation & resilience / Buildings / Transport / Energy / Water / Waste / Land use
3. **Priority Challenges: Defining the focus**

2.1 Urban Framework

The Urban Framework provides a snapshot of the City's context and sets the scene for the Green City Baseline. When beginning this step, it is important to consider any issues, trends and policies at the international, national and sub-national levels that may affect the GCAP and its implementation. This requires mapping out relevant political and legal conditions, as well as emerging issues and policies relating to the environment and resilience. The findings from this exercise should be structured according to Sections 2.1.1–2.1.5.

2.1.1 Geography and Climate

The description of the geographic and climatic conditions at the urban and regional levels should include information on temperature, precipitation, water resources and the frequency and intensity of extreme weather events. The Consultant should examine historic, current and projected conditions in the City, considering how these factors influence the demand for and operation of municipal services, as well as their impact on the City's environmental performance. Particular attention should be paid to how geographic and climatic conditions interact with urban development patterns, infrastructure resilience and vulnerabilities to climate change—aspects that are to be further analysed as part of the Risk and Vulnerability Assessment.

Karlovac, Croatia

2.1.2 Society and Economy

Gender equality in green municipal development is not only a social imperative but also delivers significant economic returns. Research shows that closing gender gaps in access to infrastructure, services and economic opportunities can increase productivity, improve the utilisation of municipal services and enhance the effectiveness of climate investments. Cities that address gender gaps and barriers to human capital development benefit from expanded talent pools, diverse perspectives in decision-making and more sustainable climate solutions.

The socio-economic and demographic landscape of the City should be described with the goal of identifying any social and economic issues that could influence urban environmental performance. The analysis should be informed by stakeholder engagement and existing literature, including reports, papers and articles, with findings supported by robust quantitative data.

The Consultant should examine both current and projected conditions in the City that will influence the demand for and operation of municipal services, as well as affect urban-level environmental performance. To conduct this analysis, the Consultant should collect information relating to current conditions, as well as projections to 2050, on demographics and economics:

Demographics

City-level population data, including disaggregated data by gender, age structure, disability status and nationality, among other relevant groups. The Consultant should also identify key social conditions and trends influencing the operations of municipal sectors, such as migration patterns.

Banja Luka Street, Bosnia and Herzegovina

Economics

City-level economic productivity and growth, per capita and household economic data, key economic trends, employment trends (including female labour force participation in municipal sectors), and levels of education in the City (disaggregated by gender and other relevant population groups – including youth and people with disabilities). The Consultant should identify underserved economic sectors and assess their sensitivity to environmental challenges and climate change impacts.

Gender equality, inclusive services and human capital development

The Consultant will further investigate the City's status on gender equality, inclusive services and human capital development. This will form the basis of an integrated gender and human capital assessment throughout the GCAP. This assessment will examine:

Access to urban infrastructure
analysing needs and gaps in terms of use, safety and affordability of services across all genders

Skills and employment
examining representation of women and underserved groups in infrastructure sectors› workforces, and assessing the supply and demand for skills in municipal sectors (with a focus on emerging green and digital skills)

Decision-making
evaluating participation of women and underserved groups in City governance structures

The assessment will be conducted using relevant reports, legislation and gender-disaggregated data from sources such as censuses, household databases, transportation data and public harassment databases. This will be complemented by stakeholder engagement and targeted consultations with women and underrepresented groups. The components of this assessment are detailed in Info Box 4.

Tbilisi, Georgia

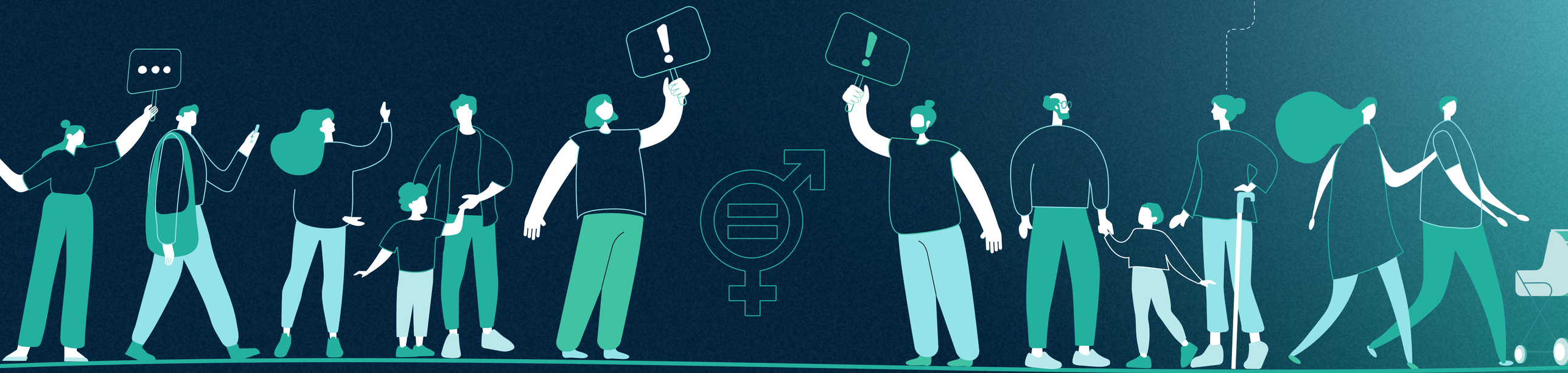
Info Box 4

Gender equality, inclusive services and human capital development

Assess the demographics and economics, focusing on gender equality in the City's governance and socio-economic framework. Evaluate whether men, women, people with disabilities,LGBTQI individuals and underserved groups have equal access to economic opportunities, representation in decision-making, and access to infrastructure and services. Identify institutional, political, and legal barriers that hinder women and underserved groups from participating. Examine whether there is political support for inclusive and gender-responsive policies, including gender, age, and disability considerations, and whether the City has already developed such policies. If so, review these policies to ensure the assessment aligns with existing urban strategies. Assess the City's capacity to implement inclusive and gender-responsive policies.

Methods:

The Consultant will analyse relevant reports, legislation, and public documents, along with gender-disaggregated data from sources like national/municipal censuses, international/national poverty and household databases, municipal transportation data, public harassment databases. The analysis will be supplemented by stakeholder consultations, including interviews with women, to gather relevant local insights.



2.1.3 Governance and Policy

This section should provide a summary of the City's jurisdiction of influence and management over specific environmental or infrastructure sectors. The Consultant will identify organisations or public authorities responsible for, or that have influence over, the municipal sectors covered in the GCAP, such as transport, energy and water to ensure responsibilities for GCAP actions are clear.

It should also include a summary of the past, current and proposed plans, policies, strategy documents, studies, commitments, and initiatives to promote sustainable urban development and support urban resilience in the City. This includes documents prepared by or for the City, as well as the other public authorities (including national and regional governments) and organisations (such as industrial groups, development agencies and any significant community initiatives). The review should also consider climate-related commitments, such as NDCs and relevant LCPs, and explore potential links with broader regional or national-level initiatives, including country platforms or other multi-stakeholder frameworks, where relevant.

2.1.4 Digital and Smart

Municipalities increasingly rely on digital technologies to enhance operational efficiency, targeted maintenance, strategic planning, environmental protection and the inclusiveness of urban services. Different cities exhibit varying levels of maturity and follow different strategies to integrate smart and digital technologies. Some municipalities may have limited capacity for the integration and maintenance of these technologies, while others may be more advanced on their digital journey. The GCAP should therefore recommend suitable technologies, supporting measures and pathways to achieve effective and comprehensive digital transformation of urban infrastructure and services.

This part of the baseline provides a general overview of the City's digital maturity level. The Consultant will assess this across the following layers of the smart City approach:

Batumi, Georgia

Governance layer: capacity of the municipality to lead and effectively coordinate the digital transformation and smart integration of municipal infrastructures and services.

Technological layer: evaluation of the current state of connectivity infrastructures and actions of the municipality to deploy and integrate ICT infrastructures.

Data layer: capacity of the municipality to capture, store, integrate, and share data from different sectors in a cybersecure way and use it for beneficial outcomes.

People layer: mapping of key stakeholders and actions of the municipality to support stakeholders' engagement, innovative ecosystems and digital skills development.

These layers are evaluated by assessing and discussing their digital maturity level, according to the guidance provided in Info Box 5. The assessment should highlight key challenges the City is facing in its digital transformation. This analysis sets the scene for the integrated digital maturity assessments within the technical assessment (Section 2.2).

These findings should then inform the development of smart components within the GCAP. These may be included as part of sectoral actions or as cross-sectoral actions that support the digital transformation of the municipality.

Info Box 5

Digital maturity level

The EBRD has developed the following Levels of Digital Maturity to capture the various stages at which an organisation may find itself across different domains during its digital transformation journey.

Initiating

Basic digital awareness is apparent; the municipality understands the need for digital systems and there is evidence of the intent to progress; little evidence of digital technologies being deployed and the functional operations of the organisation is predominantly sustained manually (i.e. paper based).

Enabling

Basic functionality of digital approaches and solutions enables improvement in the domain or department. The municipality has identified the means/features to systematically and consistently deploy digital technologies and has credible strategic plan/resources to progress in the area.

Integrating

Data is being integrated at the municipal level and established digital technologies and approaches provide real benefits; the municipality is deploying advanced technologies to progress in the area; it has sufficient digital capability to create actionable insight and take operational decisions as a result.

Optimising

The municipality is receiving significant benefits of the established digital technologies and approaches; remote and real time data monitoring is making the organisation agile and well informed; the City or responsible department/utility has fully embedded digital capability to routinely optimising business decisions in this area.

Pioneering

The municipality is a digital leader; it has fully embedded digital capability, that is recognised as world-class across sectors; established digital solutions and approaches enable collaborative work across sector(s) developing innovative digital solution; utility is breaking new ground and advancing the state of digital transformation.

2.1.5 Finance and Budget

This section should provide a summary of the City's fiscal autonomy and capacity, financial stability and creditworthiness (if relevant). The analysis should include financial information of revenues and expenditures of the municipal budget over the most recent three-year period. Information collected should include at least the following:

- → a balance sheet and cash flow for the City's finances
- → revenues delineated by major sources and sectors
- → operating expenditure by major costs and sectors
- → annual investment in new or improved infrastructure

Sources of additional finance – including national entities, private co-finance, municipal bonds (and similar instruments) or donors – should also be identified. The analysis should assess the City's capacity to invest in potential Green City actions over the next five years.

Vilnus, Lithuania

2.2
Technical Assessment

The technical assessment has two main components – namely, the Pressure-State-Response (PSR) framework and the technical write-up. The PSR framework, with traffic light indicator screening, provides a high-level picture of a City's environmental and resilience performance. The technical write-up relies on the Consultant to exercise expert judgement to synthesise and contextualise the main findings from the database. It aims to explain why the indicators appear as they do and to uncover why risks and vulnerabilities may exist.

The technical assessment applies the PSR framework to build the evidence base for GCAP development. The City's environmental performance is mapped by collecting state and pressure indicators and benchmarking them against international standards. These are then complemented by an analysis of responses, completing the Green Cities indicators database. The assessment is conducted through a traffic light screening[3] of a prescribed set of indicators (Annex I presents the thresholds for this benchmarking exercise). The PSR framework process as outlined in Figure 1 shall be followed.

Each sectoral assessment must systematically incorporate digital and smart technologies, as well as gender-specific considerations, in line with the assessments undertaken in the Urban Framework section. The Consultant should examine differing needs, usage patterns and barriers to access faced by women and other underserved groups for each sector. The analysis should cover both access dimensions (including safety, accessibility and availability) and employment dimensions (such as representation in sector workforce, skills development and decision-making positions). For digital and smart technologies, the Consultant should assess the current level of digitalisation and smart technology integration in each sector and module, if any, identifying opportunities to enhance service efficiency, data use and user experience. The assessment should also explore barriers to digital access or uptake, ensuring that proposed actions contribute to inclusive and future-proof urban systems.

State and pressure indicators marked red in the traffic light screening can be used to develop an initial list of challenges the City should consider. If the traffic light screening results in many red-flagged indicators, the prioritisation of challenges may be based on a trend analysis[4] (for example, by selecting only red-flagged indicators with declining trends). If the screening results in no, or very few, red-flagged indicators, amber indicators may be considered, again using a trend analysis to prioritise, if necessary.

Once initial challenges and risks have been identified, the assessment proceeds to the analysis of the responses to evaluate whether the City and other public authorities have sufficient plans, policies, studies and initiatives in place to address environmental, climate and urban resilience challenges. Please note that the responses within the PSR framework are qualitative in nature and therefore not subject to the traffic light scoring. Guidance for evaluating the responses is provided in the sectoral guidance provided in Annex I. The identified strategies are then matched against an established set of EBRD Green Cities indicators. As responses are largely qualitative, the identified gaps will be general in nature. However, the assessment should still aim to indicate the presence, absence and quality of relevant policies.

The Consultant shall structure the technical assessment write-up in accordance with the themes and guidance outlined in Section 2.2. In case the GCAP incorporates any modules –examples of which are provided in Annex II – Modules – these shall also be addressed in the assessment in line with the relevant guidance. Additionally, the Consultant should assess the City's past achievements, drawing insights from existing progress and identifying opportunities to build upon them. Each section should begin with a visually engaging summary of key findings (maximum two pages). Certain subsections of the technical assessment contain an analysis of governance structures; Info Box 6 outlines how the City's control over policy-setting and investment decisions can be characterised.

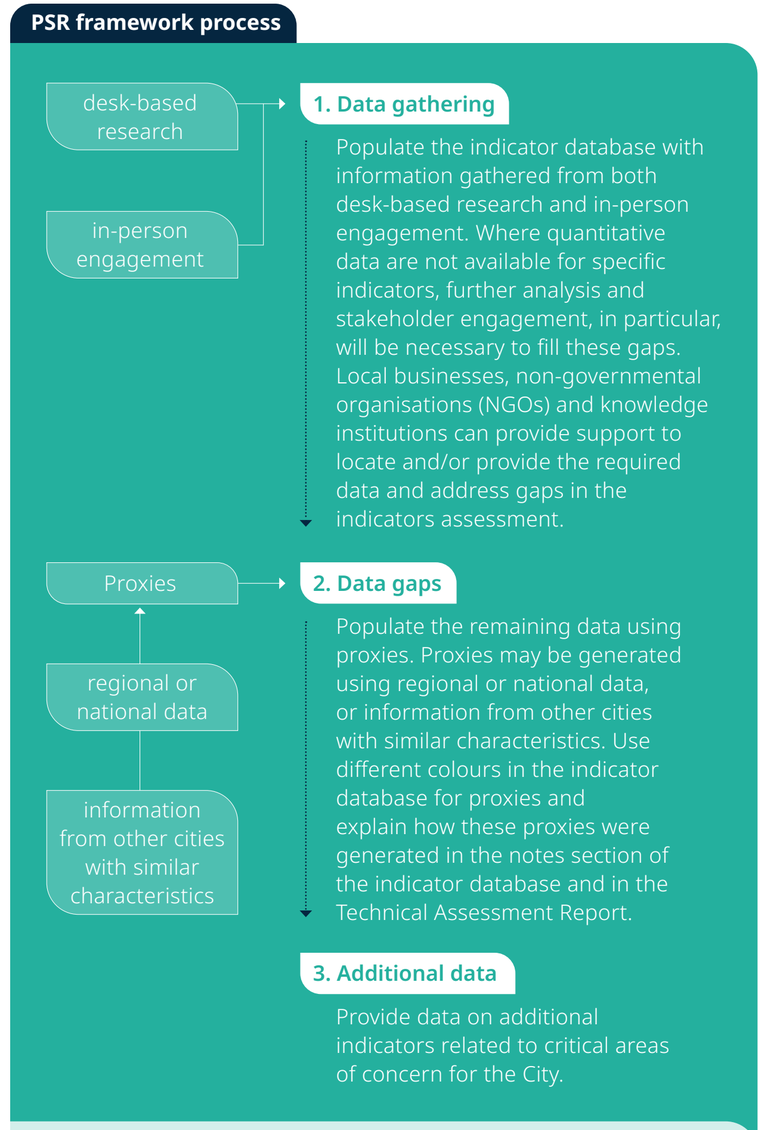


Figure 1. PSR framework process

3. A traffic light screening is applied to each indicator to compare a City's environmental performance against international standards.
   Green light = good performance, in line with international standards
   Amber light = insufficient performance, cause for concern
   Red light = low performance, in need of critical attention
4. Trend analysis looks at the performance of a specific indicator over a given period of time. For example, has the local air quality improved or declined in the last decade?

2.2.1 Environmental Assets

This section corresponds to the state indicators for the Quality of Environmental Assets and Availability of Resources – namely, air quality, water bodies, drinking water, soil, water use, open space, biodiversity and ecosystem services. In addition to the PSR framework, the Consultant shall follow the additional guiding information provided in the sectoral guidance in Annex I. A map should be generated showing the City's main environmental assets and hotspots for concern.

The Environmental Assets form the bedrock of the baseline assessment and are therefore a critical part of the overall GCAP. They describe the City's current environmental performance and are hence described as state indicators. These state indicators are a key determinant in the liveability of a City and define the boundary conditions of the subsequent technical assessments. As cities look to promote and increase the role of nature across their different municipal sectors, this section on Environmental Assets provides the evidence base to achieve this.

Chisinau, Moldova

2.2.2 Climate Change Mitigation

This section corresponds to the state indicators for mitigation (GHG). In addition to the PSR framework, the Consultant shall provide an assessment of the Nationally Determined Contributions (NDCs) as relevant to the City's context, a GHG baseline and GHG trajectories.

NDC assessment

Assess how any relevant targets and priorities agreed upon in the NDCs and other relevant documents – for example, the National Energy and Climate Plans (NECPs) - relate to urban environmental performance and the City's current and planned operations.

GHG baseline and net-zero by 2050 trajectory

Use the EBRD City Emission Trajectory Tool provided by the EBRD to complete this task. See Info Box 6 for additional guidance of the tool.

Sarajevo, Bosnia and Herzegovina

Info Box 6

The EBRD City Emission Trajectory Tool

1 GHG baseline

Collect and enter the following data:

- → City-level per capital GHG emission (2019)
- → City-level population (2019)
- → City-level GDP per capita (2019)
- → Population growth rate projection (to 2050)
- → GDP per capita growth rate projection (to 2050)

2 GHG emission trajectories

Based on the GHG baseline, two emission trajectories should be prepared. The respective targets should correspond to the City's jurisdictional boundaries or defined metropolitan area, including emissions beyond the direct control of the City authorities.

- → The business-as-usual (BAU) trajectory represents the emissions pathway for cities on the assumption that no further climate action will be taken. These BAU scenarios are based on an extrapolation of current trends and do not reflect any policy commitments.
- → The net-zero 2050 trajectory is based on per capita GDP and emissions of the of the target City's population. This trajectory illustrates the emission reduction required to reach net-zero by 2050, consistent with a 1.5°C pathway as articulated in the Paris Agreement. Cities are categorized into one of four typologies with distinct peak and decline rates to 2050, based on income status and current per capita emissions. This approach acknowledges that cities must calibrate their ambition relative to their respective GHG emission baselines.

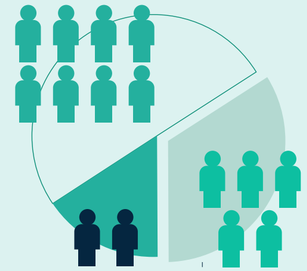
Typologies

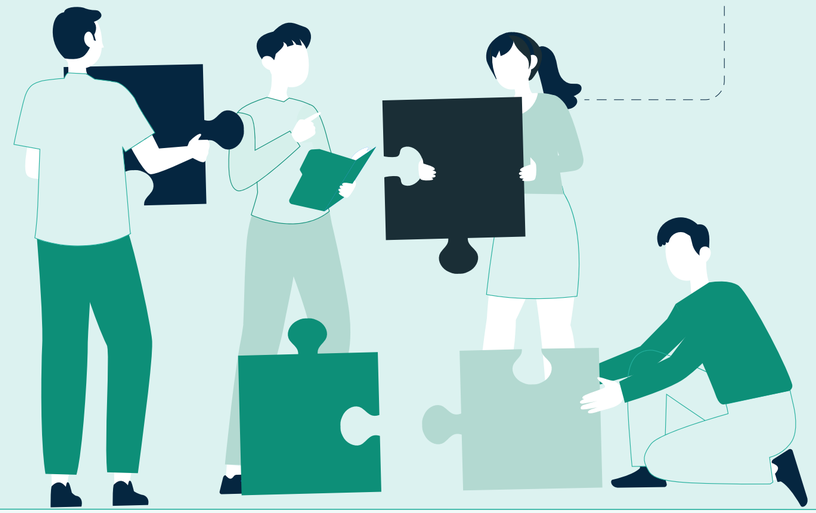
	Country income status (GNI)[a] [$/capita/year]	**GHG per capita**[b] [tCO2e/capita/year]
Early peak	Upper middle-income or lower middle-income	High > 6.48
Late peak		Low < 6.48
Steady decrease	High income	Low < 6.48
Steep decrease		High > 6.48

[a] Per the World Bank's latest available Country and Lending Groups GNI classification

[b] Per Climate Watch's latest available country-level data

Note that the limitations of this approach include the use of national-level data for cities, a lack of tailored typologies for individual City contexts, and the inherent uncertainty associated with projections to 2050 based on historical trends.





2.2.3 Climate Change Adaptation and Resilience

This section corresponds to the *state* indicators for adaptation (resilience to natural and climate-related disaster risks). Understanding the risk landscape is crucial for both the implementation of the GCAP and the overall resilience of the City. This step involves a RVA, supported by inputs from a diverse range of stakeholders. The analysis articulates the City's risks and vulnerabilities, including those affecting exposed assets and populations. Risk is defined as the product of the interaction between three components: hazard, exposure and vulnerability, as shown in Figure 2. All three components must be assessed as part of the RVA. A map showing the types and locations of geological and climate hazards should be generated.

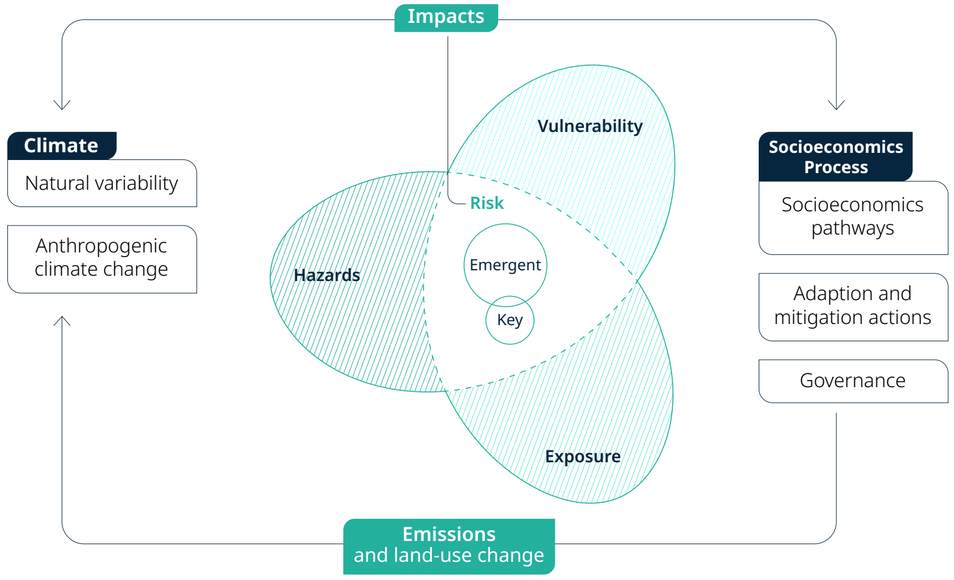


Figure 2. Risk and Vulnerability Analysis

The RVA follows the process illustrated below. This is not intended as a comprehensive guide to conducting an RVA; the Consultant may complement and adapt the approach as necessary. However, the guiding principles should be followed.

1 Identify hazards relevant to the City

These include environmental, physical and climatic, technological, and socio-economic or anthropogenic hazards that affect the City and its population. Not all hazards will have an impact on green outcomes; those with links to GHG emissions, climate resilience or environmental quality should be prioritised. Consider both observed (historical) and projected (future) hazards, including through the consideration of Shared Socioeconomic Pathways (SSPs), where relevant. Figure 3 provides an overview of hazard classification, as well as the assessment dimensions that should be considered in this step.

Hazard identification and assessment

Hazard classification

Environmental (physical, climatic)	Earthquake, mass movements, flooding, severe storm, wildfire, extreme temperature, extreme precipitations, drought and water stress, tsunami, insect infestation
Technological	Fire, building collapse, explosion, transport accident, gas leak, oil spill, chemical spill, poisoning, radiation, system breakdown in areas such as ICT, water, energy, health and education
Socio-economic and human-induced	Political conflict, social conflict, labour strikes or unrest, terrorism, war, economic crisis, business discontinuity, high unemployment, corruption, supply crises in sectors such as food, water, housing and energy, epidemic or pandemic, and inequality

Assessment dimensions

- → Changing conditions, such as climate projections, urbanization and socio-economic trends
- → Expected change (expressed as a range), including the baseline year(s) from which change is measured and the planning horizon year by which change is expected to occur
- → Geographical area to which each projection applies, such as a specific region or location
- → Level of confidence (degree of certainty of the projected change and justification)
- → Information source

Figure 3. Hazard identification and assessment

2 Identify impacts on critical urban systems and services

the City should identify systems (including those covered in this section, such as buildings and transport, and any modules addressed in the specific GCAP), services, assets and infrastructure that are already under stress or likely to be affected by future stresses and shocks. These critical areas should then be mapped against the current and future hazards identified in the previous step, to identify those that are highly exposed. Examples of critical urban systems include GCAP sectors covered in the subsections of this chapter, as well as other systems deemed critical, such as public health, food systems and education. Consider evidence from past events, including the number of deaths, missing persons and directly affected persons, as well as direct economic losses and damage to critical infrastructure attributed to disasters.

3 Assess vulnerabilities

Vulnerability concerns the characteristics of exposed elements (systems, assets, people) that may either increase or reduce the impacts of a hazard. Vulnerability comprises sensitivity (the magnitude of the expected impact) and adaptive capacity (the ability to respond or recover). The output of this step is the vulnerability matrix. Refer to Info Box 7 for a step-by-step guide.

4 Analyse and prioritise risks and vulnerabilities

Prioritise the risks in a risk matrix by considering their extent or scope of impact and their likelihood of occurring. Refer to Info Box 7 for a step-by-step guide. Create a summary Hotspot Map by identifying which parts of the City's territory will be most affected by each high-risk system or service vulnerability. Consider existing disaster risk reduction strategies, emergency plans, cross-scale redundancy, early-warning systems and investment requirements. This final step should result in a clear prioritisation and consolidation of risks that the City should consider when defining priority challenges and developing its Green City Actions.

This assessment should also evaluate how these factors may translate into financial risks for the City, including potential impacts on municipal budgets and locally collected revenues, infrastructure costs and long-term economic sustainability.

Tbilisi, Georgia

Info Box 7

Risk and vulnerability matrices

Vulnerability Matrix

Step 1

Adaptive capacity

Assess the adaptive capacity of impacted systems and services created earlier. Rate each system or service from low to high in terms of its ability to adjust to the projected changes with minimal cost and disruption. Consider criteria such as: the presence of economic resources (private and public), access to technology, availability of information and skills, access to social capital (private), institutional or governance structures (public) and equitable access to resources (publicly facilitated).

Step 2

Vulnerability of communities

Identify and evaluate the vulnerability of communities and their locations based on their adaptive capacity and sensitivity. Consider criteria such as: access to economic and technological resources, access to social capital, availability of information and skills, availability of institutional and community support systems, political and social inequality. access to natural resources and services, pre-existing exposure to stresses, risks or disadvantages.

Assess the degree of sensitivity of people in these communities to the risks identified, including potential disruptions to urban systems and services. Consider how, and to what extent, they will be positively or negatively impacted by these changes. Again, rate each from low to high.

Document the results in a vulnerability matrix that shows adaptive capacity and sensitivity. The Consultant may refer to the RAMSES Training Package for further guidance.

Risk Matrix

Use the results from the vulnerability matrix to produce a risk matrix that prioritises risks. Assign a score for the likelihood of occurrence (for instance, High=3, Medium=2, Low=1) and a score for the consequence if it occurs (for instance, Catastrophic=3, Moderate=2, Insignificant=1). The consequence should be weighted according to the evaluated vulnerability of each exposed element, taking into account impacts on vulnerable populations. Multiply the scores to obtain a shortlist of priority risks.

Document the scores on a risk matrix that consolidates the evaluation (that is, the assigned ratings) of:

- → **identified hazards**
- → **exposed elements and impacts**
- → **vulnerability of exposed elements (including adaptive capacity and sensitivity)**

Tools are available to combine and present this information, such as the United Nations Office for Disease Risk Reductions (UNDRR) Quick Risk Estimation (QRE) tool.

2.2.4 Buildings

The buildings assessment focuses on evaluating the performance and sustainability of the City's building stock, with an emphasis on all City-owned or -operated buildings. This includes an analysis of energy efficiency, building design and the integration of green technologies across both residential and commercial structures. The assessment aims to identify opportunities for improving energy performance, reducing carbon emissions and minimising the overall environmental impact of buildings, while also enhancing the resilience of the City's building stock.

This section corresponds to the Pressure indicators and responses for buildings. In addition to the PSR framework, the Consultant shall follow the additional guiding information specified in the sectoral guidance in Annex I. A map should be generated showing significant building assets such as social housing stocks, newly approved or constructed large commercial buildings and major residential developments. This spatial analysis will provide critical insights into the geographic distribution of key building assets and potential areas for targeted interventions.

2.2.5 Transport

The transport assessment examines the sustainability and efficiency of the City's urban transportation systems. This includes evaluating the availability, accessibility and environmental impact of different transport modes, as well as their alignment with the City's broader sustainability and resilience goals. It focuses on identifying opportunities to improve public transport, promote active mobility, reduce emissions and enhance connectivity within and beyond the urban area.

This section corresponds to the Pressure indicators and responses for transport. In addition to the PSR framework, the Consultant shall follow the additional guiding information specified in the sectoral guidance in Annex I. A map should be generated showing the location of main transport assets, including major roads, public transport routes, stations, bus stops, depots, bicycle lanes and other mobility infrastructure. This spatial analysis, to the extent possible, should also highlight gaps in coverage and potential areas for improvement, particularly in underserved or vulnerable neighbourhoods.

2.2.6 Energy

The assessment of the City's energy systems includes energy production, distribution and consumption patterns. It assesses the efficiency, sustainability and resilience of the energy infrastructure, with a focus on reducing carbon emissions, promoting renewable energy sources, enhancing climate resilience and improving energy efficiency across sectors. The assessment identifies opportunities for enhancing energy performance and integrating innovative solutions to meet the City's long-term sustainability and climate goals.

This section corresponds to the pressure indicators and responses for energy. In addition to the PSR, the Consultant shall follow the additional guiding information specified in the sectoral guidance in Annex I. A map should be generated showing the location of main energy assets, including areas with potential renewable energy generation in and around the City.

2.2.7 Water

The water assessment evaluates the City's water systems, including water supply, wastewater and stormwater management. This chapter assesses wider water management, water use and the state and efficiency of the water sector's infrastructure. The assessment aims to identify opportunities to reduce water consumption, improve water quality, enhance the efficiency and resilience of water systems and address vulnerabilities related to water.

This section corresponds to the pressure indicators and responses for water. In addition to the PSR, the Consultant shall follow the additional guiding information specified in the sectoral guidance in Annex I. A map should be generated showing the locations of the main water sector assets, such as water treatment plants, reservoirs, wastewater treatment facilities and highlight areas with water-related risks.

Tbilisi, Georgia

2.2.8 Solid Waste

The solid waste assessment focuses on evaluating the City's waste management systems and their environmental impact. This includes assessing waste generation, collection, recycling, disposal practices and opportunities for reducing waste through circular economy approaches. The chapter aims to identify areas for improvement in waste reduction, recycling rates and resource recovery, while also addressing the environmental and social challenges related to waste management.

This section corresponds to the pressure indicators and responses for solid waste. In addition to the PSR, the Consultant shall follow the additional guiding information specified in the sectoral guidance in Annex I. A map should be generated showing the locations of main waste management assets, such as recycling centres, waste treatment plants, landfills and transfer stations.

2.2.9 Land Use

The assessment of land use involves an overview of how land is currently utilised within the urban environment and how its future development or regeneration can be positively influenced. This includes assessing zoning, urban density, green space availability and the consideration of nature and biodiversity. The chapter aims to identify opportunities to optimise land use, reduce urban sprawl, enhance green areas and promote sustainable development patterns that improve liveability and environmental outcomes.

This section corresponds to the pressure indicators and responses for land use. In addition to the PSR framework, the Consultant shall follow the additional guiding information specified in the sectoral guidance in Annex I. A map should be generated showing important land use-related elements in the City, including urban sprawl, population density, public spaces, nature and potential urban regeneration sites.

2.2.10 Natural Capital Baseline

- → Determine the extent of ecosystem types within the City boundary using land cover data. This may include forests, water, cropland, wetland, urban green spaces, etc.
- → Identify the most material ecosystem services flowing from the above ecosystem types and calculate their benefits to the City in both physical and monetary terms. This may include water supply, climate regulation, water quality, recreation, fish provisioning, flood provisioning, etc.
- → Display the monetary value per ecosystem service type and total value of all ecosystem services provided to the City.
- → As informed by the above and other sources, conduct a nature-related risk assessment for the City and display the results in a "heat map" charting key nature-related risks against their anticipated impact and likelihood. Use these results to inform Green City Challenges and Green City Actions.

Al Ghabawi, Jordan

Ulaanbaatar, Mongolia

2.3
Green City Challenges

The traffic light indicator screening, developed as part of the technical assessment, provides a high-level picture of a City's environmental and resilience performance. The next step is to conduct a more detailed technical assessment to uncover the reasons behind the indicator results and to understand why risks and vulnerabilities may exist.

Following the technical assessment, the City should identify challenges at the sectoral level to ensure comprehensive coverage, and then prioritise across sectors to focus on the most critical barriers. These challenges form the foundation of the GCAP, directing attention and resources to areas requiring immediate intervention or offering opportunity for transformative solutions with significant impact. The identification and prioritisation should be guided by:

Data analysis

Leveraging baseline assessments, environmental indicators and performance benchmarks

Stakeholder engagement

Incorporating perspectives from local authorities, communities, businesses and other key stakeholders

Policy alignment

Ensuring coherence with national strategies, international commitments and the City's overarching vision

Priority challenges should address areas of concern with respect to the current quality of environmental assets, potential future pressures from development, climate change, opportunities to improve the City's resilience and gaps in sectoral policies or strategies.

Info Box 8

Stakeholder Engagement Activity 2# Setting Priority Challenges

At this stage, a stakeholder consultation session is recommended to present the findings from the baseline assessment. Experts and citizen representatives involved should confirm or contest the relevance of Green City challenges that have been identified.

To guide this process, a first draft of Green City priorities can be developed based on the technical assessment. Challenges stemming from core and elective indicators marked in red in the traffic light screening should take priority. Challenges related to indicators marked amber but trending towards red can also be prioritised. While the traffic light approach can help guide the prioritisation of Green City challenges, ultimately the City and local stakeholders should confirm key challenges and identify issues that are absent from the GCAP analysis thus far.

The engagement format can be multidimensional, incorporating interactive workshops, online surveys, structured and semi-structured interviews as well as focus group discussions.

Vilnius Stakeholder Engagement Workshops

2.4
Baseline Completion

The results of the activities in this chapter constitute the Green City baseline, capturing the City's current environmental performance, key challenges and vulnerabilities, as well as the governance and policy frameworks that influence them. The Green City baseline concludes with the identification of a set of Green City challenges and a high-level list of priority environmental challenges that the City commits to address through its GCAP.

As a final step of this phase, the baseline should be reviewed and confirmed by the City's GCO and Steering Committee, ensuring buy-in from key stakeholders and experts. The Green City baseline does not necessarily require formal council approval at this stage, but it still offers a platform for political debate, review and recommendations to guide the development of the targets and actions. A summary of its findings, including a snapshot of the urban framework, technical assessments and priority challenges, shall be presented in the final GCAP to provide a concise and actionable foundation for implementation.

03/ Action Plan

Inception

Baseline

Action Plan

Implementation and monitoring

This section represents the core of the GCAP, translating the City's vision into actionable steps to address its priority challenges. The proposed actions provide a clear roadmap for sustainable transformation, designed to deliver measurable environmental, climate, social, gender and economic benefits while aligning with the City's strategic objectives. By emphasising clarity, feasibility, and inclusivity, this section ensures that all actions are practical, impactful and supported by stakeholders. It lays the foundation for realising the City's green vision through targeted and well-structured interventions.

3.1
Strategic Goals

Strategic goals serve as essential intermediary steps between the City's identified challenges and its measurable targets. Typically qualitative in nature, these goals articulate the overarching priorities that the City must address to overcome the challenges identified in the previous stage and to achieve its vision. By focusing on 'what is next', strategic goals lay the groundwork for the development of measurable targets and a coherent, actionable plan.

These goals should be developed collaboratively through stakeholder engagement workshops, where stakeholders are presented with the main findings of the baseline assessment and priority challenges. Stakeholders, alongside the City and the Consultant, will articulate the necessary improvements that align with the prioritised challenges. This inclusive approach ensures that the GCAP reflects the City's priorities, incorporates diverse perspectives and fosters ownership among stakeholders.

Strategic goals guide the development of GCAP by bridging the gap between challenges and targets. For instance, if poor air quality is identified as a challenge, the corresponding strategic goal would be to improve air quality– leading to a target such as reducing the annual average concentration of PM2.5 below 10 micrograms per cubic meter within five years. Other examples of strategic goals may include enhancing urban mobility, reducing energy consumption in municipal buildings or increasing the resilience of water infrastructure to climate impacts.

To ensure all identified challenges are addressed, it is recommended that each priority challenge be linked to at least one strategic goal and categorised under relevant municipal sectors and modules, where applicable.

3.2
Targets

Once the City's vision is defined and its priority challenges and strategic goals are identified, the next step is to establish achievable and traceable targets. These targets, tailored to the City's unique circumstances, represent realistic yet ambitious outcomes that directly address the identified challenges and the strategic goals.

To ensure their effectiveness, targets must be clear, to the extent possible, measurable and quantifiable, enabling progress to be tracked and outcomes to be evaluated during the monitoring stage. Targets should consolidate and align with the City's existing commitments, such as those made under green action plans, frameworks, national or local strategies or other sustainability goals. By integrating and harmonising these commitments into a unified structure, the GCAP facilitates streamlined implementation and ensures a comprehensive and coherent approach to advancing the City's vision.

Much like strategic goals, targets can be structured according to the municipal sectors outlined in the PSR indicators (for example, urban transport, water or buildings) and any modules addressed in the relevant GCAP (for example, logistics or coastal management). Each sector or module may include zero, one, or multiple targets, depending on the challenges identified, the vision set and the City's priorities. This flexibility ensures that targets remain context-specific and tailored to the City's unique needs. Targets may align with the indicators used in the baseline assessments conducted during the GCAP development process or may adopts alternative indicators better suited the City's vision and goals.

The number of targets will vary across GCAPs, depending on the number of identified priority challenges, the City's capacity to implement actions and its level of ambition. Each target must be explicitly linked to at least one action to be developed in the subsequent stage of the GCAP. This ensures a coherent and focused approach, where every intervention contributes directly to overcoming the City's priority challenges and achieving its vision.

Target timelines typically align with the City's vision horizon and strategic goals, ranging from short term to long term (up to 20-25 years). For targets extending beyond five years, interim milestones should be established at five-year intervals to track progress, maintain accountability and allow for recalibration if needed. For example, a target to achieve carbon neutrality by 2050 (25 years from 2025) would include interim reduction milestones for 2030, 2035, 2040, and 2045.

Quantifiable targets are especially important. In addition to facilitating performance tracking, they may serve as Key Performance Indicators (KPIs) for financing mechanisms such as Sustainability-Linked Bonds (SLBs) and Sustainability-Linked Loans (SLLs). This allows the GCAP to function as an SLB or SLL framework if required, enhancing its potential as a tool for attracting green finance.

Info Box 9

Stakeholder Engagement Activity 3#: Strategic Goals and Targets

At this stage, a stakeholder consultation session should be organised to discuss and define strategic goals and targets. During this session, stakeholders are guided by the main findings of the baseline assessment and the identified priority challenges. In collaboration with the City and the Consultant, stakeholders will identify the necessary improvements to address the priority challenges. Each strategic goal should respond to at least one identified priority challenge.

The session should engage a diverse group of stakeholders and be interactive, collaborative and cross-sectoral in nature. The format may be multidimensional, incorporating interactive workshops, online surveys and focus group discussions.

3.3
Actions

Following the definition of strategic goals and targets, the next step is for the City to identify and define Green City actions with the Consultant's support. Before developing a list of new actions, it is essential to compile existing responses and initiatives that address the identified priority challenges. This compilation should be based on the baseline assessment and include investment, policy and other initiatives the City has already planned for the next five years and beyond, where applicable.

Actions must reflect the City's unique socio-economic, environmental, climate and governance contexts. They should take into account the City's existing capabilities, resources and level of ambition to ensure they are both realistic and actionable. Each action should be linked to one or more priority challenges, as well as to the strategic goals and targets it is designed to support.

Green City actions may be categorised as follows:

Investments

Actions focused on capital expenditures to improve the performance of local infrastructure

Policy

Actions related to legislative, regulatory or standard-setting measures

Initiatives

Actions involving partnerships, outreach campaigns and other efforts that contribute to the achievement of strategic goals and targets

Hard measures (investment actions) should be location-specific and include estimates of size, implementation timeline and scale to accurately determine costs and anticipated impacts. These actions should also quantify environmental benefits, such as reductions in GHG, water savings, enhancements to natural capital and energy savings. Additionally, the gender and human capital co-benefits these measures are expected to deliver upon full implementation should be clearly identified and described.

Soft measures (policy actions and initiatives) should focus on achieving strategic goals and targets, or on supporting the implementation or preparation of hard measures, while also raising awareness of the City's commitments and goals. To the extent possible, actions should be implementation-oriented, and the development of additional action plans should be avoided.

Thorough consideration should be given to the scope of each action and the entity responsible for implementation. While most actions should fall within the geographic and political jurisdiction of the local administration, some may target the national or regional level, if applicable. Each action, once developed, shall be assigned to a municipal department, a government agency or other organisation (public and/or private) for implementation. The final list of actions should be feasible and aligned with available financing to support the defined scope of activities.

3.3.1 Longlist

Following the assessment of existing responses and policy gaps, an initial longlist of actions is developed. This comprehensive compilation captures a wide range of ideas, ensuring that all opportunities are explored and no viable solutions are overlooked, before narrowing the focus to high-priority actions. The longlist of actions should be informed by diverse and comprehensive sources, including:

→ **Existing strategies**

planned and committed actions from the City's strategic documents, masterplans and mayoral campaigns

→ **Regional and national context**

strategic documents from national government, ministries, regional governments or other agencies

→ **Data-driven insights**

expert recommendations and analysis based on the City's baseline conditions, sectoral diagnostics and thematic indicators

→ **Global best practices**

proven solutions and innovative approaches adapted from similar contexts globally

→ **City recommendations**

input from City departments, GCAP Steering Committee members and Technical Committee members

→ **Stakeholder contributions**

recommendations from local businesses, civil society organisations (CSOs), communities and academia gathered through workshops, one-on-one meetings and engagement activities

→ **Public input**

ideas sourced through surveys, social media, outreach campaigns and public workshops

→ **Institutional guidance**

recommendations from the EBRD and other partner institutions

The longlist of actions should be prepared through inclusive and transparent processes that emphasise capturing a broad spectrum of ideas, innovative solutions and proven methods to address challenges. Where proposed actions share similar scopes or objectives, they may be grouped or merged for clarity, but no suggestion should be excluded at this early stage. If a module is included in the GCAP, the longlist shall present measures that address the relevant subject and align with the baseline assessment of that theme.

When developing the longlist, the Consultant should ensure that gender equality and human capital development considerations identified in the baseline phase are addressed through dedicated actions or integrated components.

To ensure the list is both comprehensive and actionable, stakeholders advising on the longlist must have access to summaries of the Technical Assessment Report and baseline information. This ensures their input is informed by the City's existing conditions and challenges. Furthermore, the list must include at least one action tailored to each of the priority challenges identified in the Technical Assessment Report, guaranteeing that all critical issues are addressed.

Each action included in the longlist should be documented with the following details:

1. **Brief description**
   explain the action in a few words
2. **Sectoral, modular or thematic area tag**
   indicate one or more relevant action tags from the predefined table of sectors or themes
3. **Priority challenges addressed**
   link the action to the specific challenges identified in the baseline assessment
4. **Potential target supported**
   demonstrate how the action contributes to achieving one or more strategic targets
5. **Action category**
   classify the action as an investment, policy or initiative
6. **Preliminary cost**
   provide high-level estimates of CAPEX (capital expenditure) and OPEX (operational expenditure)
7. **Estimated impact**
   include a preliminary assessment of the action's potential environmental, climate, gender equality and human capital[5] benefits
8. **Key stakeholders and partners**
   identify the main actors within and outside the City

5. Benefits may include improved access to services (including for women and underserved groups); enhanced safety; the creation of employment and skills development opportunities (also inclusive of women and underserved groups); and increased representation in decision-making structures.

Brčko, Bosnia and Herzegovina

Indicative List of Thematic Area Tags
(additional tags can be created if needed)

Impact related	Sector related	Cross-cutting themes / Other
#Air Quality	#Urban Transport	#Smart Technologies
#Water Quality	#Logistics	#Nature-based Solutions
#Climate Change Adaptation	#Energy	#Private Sector
#Climate Change Mitigation	#Heating and Cooling	#Gender Equality
#Biodiversity	#Buildings	#Human Capital
#Water Availability	#Solid Waste	#Renewable Energy
#Green Public Space	#Water and Wastewater	#Resilience
#Natural Capital	#Industries	#Safety
#Soil Quality	#Land Use	#Green Procurement
#Marine Environment	#Street Lighting	#Capital Markets
#Noise Pollution	#Urban Regeneration	#PPP
#Light Pollution		

Figure 4. Indicative list of thematic area tags

3.3.2 Shortlist

The shortlist of actions represents a refined and focused selection of prioritised measures that the City will commit to developing and implementing as part of its GCAP. This selection balances ambition with practicality, ensuring the identified actions are both impactful and achievable within the GCAP's scope.

The prioritisation process should involve a wide range of stakeholders, including the City administration and officials, GCAP steering and Technical Committees, local businesses, CSOs, academia and residents. Workshops and scoring exercises should be conducted to encourage collective ownership of the shortlisted actions and alignment with the City's vision. Tools such as multi-criteria assessment or cost-effectiveness analysis may be employed to enhance objectivity. The process must remain transparent and fair, with reasons for selecting or excluding actions from the longlist recorded and made available upon request.

The process of selecting and shortlisting actions consists of the following steps:

Public survey or opinion poll

gather views from residents and community members to understand their priorities and concerns

Multi-criteria assessment

analyse the benefits, contribution to targets, costs and other influencing factors for each action

Stakeholder engagement workshops

include external experts from public agencies, think tanks, utility operators, local businesses and CSOs to provide input

Consultation with EBRD experts

discuss the proposed actions with EBRD experts to ensure feasibility and alignment with the goals of the EBRD Green Cities programme

Technical Committee review

reflect the selection of actions in discussions with the Technical Committee

Steering Committee approval

confirm final selections through the Steering Committee

Info Box 10

Stakeholder Engagement Activity 4#: Action Prioritisation

Once the initial longlist of Green City actions has been developed, the City, with the support of the Consultant, should conduct stakeholder consultations to assess the relevance of the proposed actions and refine them.

The format of these consultations should be tailored to the City's needs and context. In some cases, bilateral meetings may be necessary to discuss specific actions, while in others, a larger stakeholder workshop, or a combination of both, may be more appropriate. Regardless of the chosen format, stakeholder engagement consultations should engage a diverse range of participants.

There is no fixed limit on the number of actions that can be included in a GCAP. However, the number and type of actions are influenced by the nature of the targets, the identified priority challenges and various feasibility factors. Key selection criteria include:

- → **Environmental and climate benefits**
  estimated impacts, such as GHG emission reductions, based on tools like the GHG emission trajectory tool
- → **Co-benefits**
  delivered improvements in gender equality and human capital
- → **Jurisdiction and capacity**
  compatibility with the City's jurisdiction, technical capabilities and resource capacity
- → **Financial constraints**
  total cost of actions versus available budget

Shortlisted actions must be both financially and politically feasible. A balanced approach ensures coherence between the City's vision, priority challenges, targets and actions. Each action should deliver sufficient environmental benefits to address priority challenges and make a meaningful contribution to achieving the defined targets. Refer to Info Box 11 for the assessment framework on action feasibility and impact.

Info Box 11

Feasibility and impact of actions

The feasibility and impact of each action from the longlist are assessed using the criteria below. Other considerations may be included where relevant to the City's context.

Action Feasibility

Implementation

- → Alignment with existing national or local policies, regulatory framework or contexts
- → Alignment with the technical and administrative capacity of the City
- → Already prioritised by the City
- → Potential to begin implementation within the next five years

Financial

- → Potential to generate the required income to repay project costs within a reasonable timeframe
- → Availability of alternative funding sources (such as, IFI long term funds, donor contributions, government payments, or household and enterprise contributions), or general affordability
- → Suitability for private sector involvement (such as, public-private partnerships (PPPs) or energy service companies (ESCOs))

Action Impact

GCAP alignment

- → Compatibility with the identified priority challenges
- → Alignment with the GCAP's strategic goals and targets

Alignment with cross cutting themes

- → Benefits related to gender equality and human capital
- → Provision of opportunities for smart maturity and innovation
- → Climate-resilient improvements

Socio-economic outcomes

- → Promotion of participation from NGOs, academia, and other relevant stakeholders
- → Creation of jobs and business opportunities
- → Strengthening of institutional capacity or improvements in governance
- → Enhanced inclusive access to physical and social infrastructure and services

3.3.3 Action Cards

Once the actions selected for inclusion in the GCAP are agreed, action cards should be developed to include the full details of an action. The following information should be provided for all the shortlisted actions.

Overview

Action code	Allocate a unique code or number for identification. Do not group actions by sector; use sectoral or thematic tags instead.
Action title	Use a clear, concise title that summarises the action.
Action tags	Indicate relevant municipal sectors, modules, and/or thematic areas. Select from the table in Figure 4
Baseline	Briefly describe the current state of infrastructure or conditions in the City and explain how the action addresses the relevant priority challenges.
Prioritisation	Provide a short rationale for selecting the action.
Origin	State whether the action derives from existing plans or is a new recommendation developed through the GCAP process. Name the source document if applicable.
Priority challenge	Specify which challenge(s) the action is intended to address.
Target	Specify the target(s) this action is intended to support.
Category	Identify the action as an investment, policy or initiative.
Action type	Select from construction, modernisation, rehabilitation, expansion, acquisition of physical assets or policy-related activities (such as legal, regulatory or digitisation measures).
Link to other actions	List related actions from the GCAP or other strategic documents.
Link to other commitments	Highlight links to local, regional or national commitments (such as NDC or NECP targets) and quantify contributions where possible.
Description	Provide a detailed description of the action.
Timeline	Provide the implementation schedule.
Location	Specify the location, including site features and land title.
Scale	Indicate the area, length, size of investment or number of fleets.
Technology	Detail smart technologies that can be integrated into the action.
Responsible institution/ department	Name the organisation, institution or department responsible for leading or implementing the action.
Stakeholder mapping (responsibility)	Include a diagram detailing the stakeholders' roles for implementation.

Financial

CAPEX	Provide total capital expenditure in local currency and its EUR equivalent.
CAPEX breakdown	Provide a breakdown of CAPEX, including calculations and assumptions.
Financing and funding structure (preparation and implementation)	Explain how preparation and implementation will be funded.
Stakeholder mapping (preparation and implementation)	Include a diagram detailing stakeholder roles and financial flows during preparation and implementation.
OPEX	Annual operating expenditure in local currency (and EUR equivalent).
OPEX breakdown	Provide a breakdown of OPEX, including calculations and assumptions.
Financing and funding structure (operation)	Explain how ongoing operations will be funded. At least two potential options for how CAPEX and OPEX can be funded shall be presented.
Stakeholder mapping (financial flows)	Include a diagram detailing stakeholder roles and financial flows during operation.
Preparation cost	List project preparation tasks and costs not included in CAPEX.
Miscellaneous	Identify any other costs associated with the action.
Revenues	Indicate whether the action will generate revenues [yes/no].

Benefits

GHG reduction	Indicate if the action reduces GHG emissions [yes/no] and provide the quantity (in tCO2e).
Increased natural capital value	Indicated if the action increases natural capital value [yes/no] and provide the quantity of increased natural capital value (in Net Annual NCV Impact) and breakdown of values in each ecosystem service.
Climate adaptation	Indicate if the action supports climate adaptation [yes/no] and describe how. Quantify climate resilience benefits, if any.
Resource efficiency	Quantify water, material and energy savings.
Other environmental benefits	List improvements in air, water, and soil quality, energy efficiency, ecosystems and natural capital enhancements. Include quantities and units.
Indicator (1)	Specify the primary indicator this action aims to improve.
Indicator (3 ,2, ...)	Identify secondary indicators that may also be positively impacted.
Gender equality and human capital co-benefits	Describe how the action addresses barriers to gender equality and enhances human capital development, including: improved access to services, increased employment and skills development opportunities and greater representation in decision-making. Include gender-disaggregated data on expected beneficiaries where possible.
Economic and good economic governance co-benefits	Describe how the action strengthens governance and efficiency at the City level - for example, but not limited to: by improving procurement practices to promote a level playing field and transparency; by implementing tariff reforms to ensure cost recovery; by strengthening accountability, transparency and commercial behaviour of utility enterprises; by introducing Public Service Contracts (PSCs) to enhance the quality of public services; and fostering public-private partnerships (PPP), including, where possible, quantifiable estimates.
SDG tag	List the SDG indicators this action supports.
Direct beneficiaries	Number of individuals that may directly benefit from the action.

Implementation steps

Studies/plans	List studies and plans to be prepared before implementation or during project preparation.
Milestone (3 ,2 ,1, ...)	Outline the process, duration, outcomes, stakeholders' roles and actions required for each step.

Visual

Site map	Include a location map and site diagram.
Image	Add pictures or examples from the City or similar relevant projects to showcase best practices.

Osh, Kyrgyzstan

3.4
Draft GCAP

Findings from the Green City action planning process and the baseline assessment should be compiled into the final GCAP. The language of the GCAP should emphasise that it is a City-owned document.
While a GCAP can be tailored to meet the City's specific needs and preferences, it is recommended that the following sections be included in all GCAPs.

Section	Description
Foreword	A foreword from the City's mayor or an equivalent authority, highlighting the significance of the GCAP for the City.
Executive summary	A concise overview of the document, summarising the key challenges, targets and proposed actions, providing readers with a high-level understanding of the GCAP's purpose.
Introduction	A brief overview of the Green City concept, highlighting its significance for the City and its residents and stakeholders. This section should provide details on the GCAP development process, emphasising collaboration and the specific approach adopted in each City. It should also explain how stakeholder feedback was gathered and incorporated into the GCAP and should avoid repeating the GCAP methodology to maintain focus on the City's unique context and journey.
City context	An analysis of the City's current priority challenges, existing plans and strategies for GCAP implementation and monitoring. This section should draw substantially on the baseline assessment.
Targets	The City's long-term vision and strategic goals, along with specific, measurable targets linked to priority challenges and aligned with the GCAP's objectives.
Actions	A detailed list of proposed actions, including their descriptions, expected outcomes and alignment with the City's strategic goals and targets.

To enhance accessibility and engagement, the GCAP should be visually supported by relevant images, flowcharts, diagrams, tables and figures. These visuals may include images of the City, proposed technologies or depictions of challenges and solutions. It is recommended that the GCAP align with the visual identity of the City's other publications to ensure consistency. Given that certain information might be sensitive, the Consultant team should work closely with the City to finalise the document's contents. Additionally, actions should be presented in worksheet format, facilitating integration into digital tools or platforms for improved tracking and implementation.

Cairo, Egypt

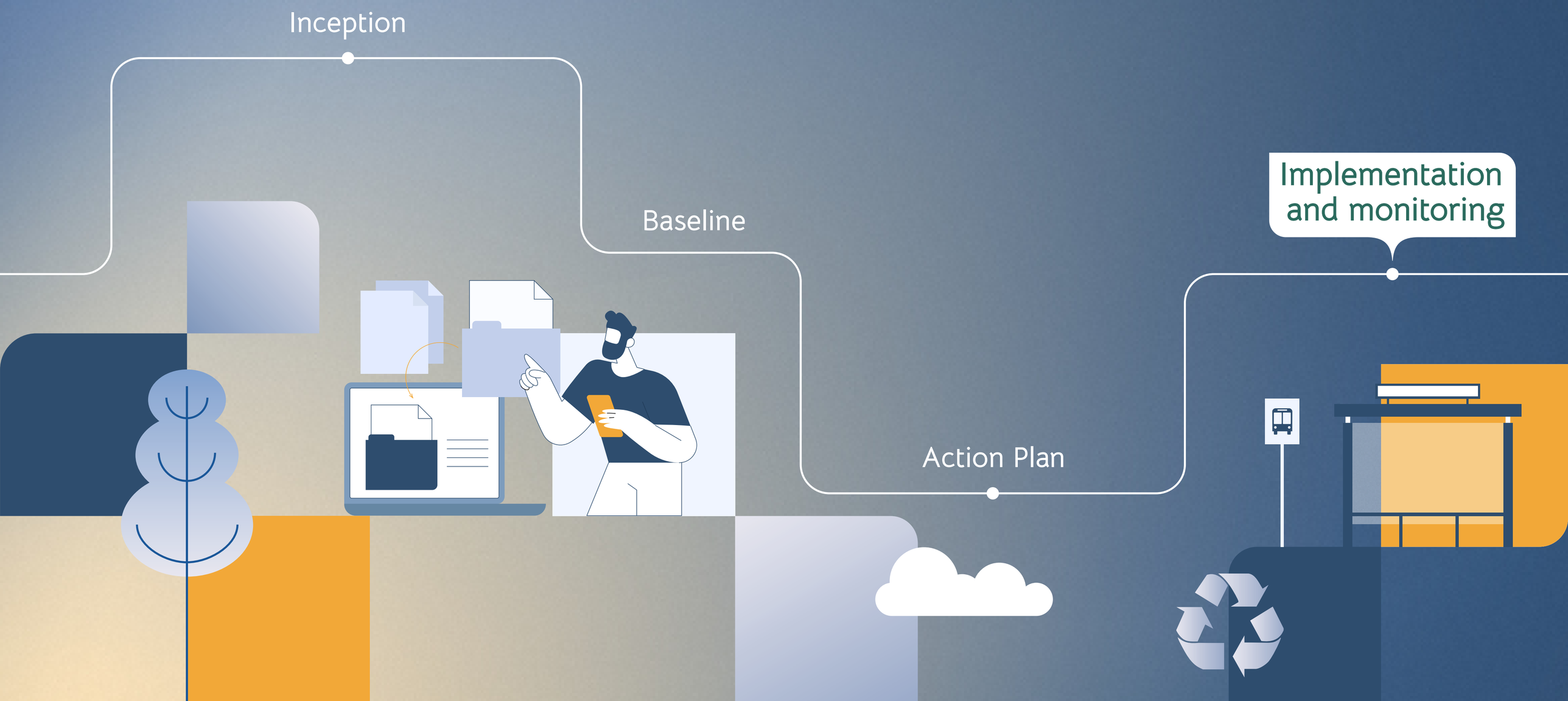
3.5
Approval process

All GCAPs must be submitted for approval to the City council or an equivalent governing body. Appropriate steps should be taken to ensure the GCAP meets all necessary requirements for approval. This may include preparing a clear and concise slide deck summarising the proposed actions for presentation to the City council and its relevant committees. These steps, along with their timelines and formats, should be identified and included in the plan well in advance—ideally during the inception stage of the GCAP process.

In many cases, public disclosure of the GCAP for comment is required. This ensures transparency and provides an opportunity for community input. The final GCAP should be published on the City's website and on the EBRD Green Cities website for public access. The GCAP should include a brief summary of how public comments from the disclosure period have been addressed and incorporated into the final version. This step is crucial for securing buy-in from stakeholders and the public for the proposed Green City actions. Following the approval and publication process, the City can transition to the implementation and monitoring phase of the GCAP.

Alexandria, Egypt

04/ Implementation And Monitoring



GCAPs provide cities with a blueprint for transforming their local urban environment and addressing their most pressing challenges. After defining its Green City vision, strategic goals, medium-term targets and actions, the City is now ready to implement the GCAP and monitor its impacts.

Continuous monitoring of all projects and measures in the GCAP is an integral part of implementation. By regularly tracking all Green City actions and their impacts, the City can determine whether the GCAP is progressing as planned and contributing as expected to the established goals and targets.

Successful monitoring requires two key components:

- → **Implementation monitoring plan**
  tracking the status and progress of the GCAP actions being implemented
- → **Impact monitoring plan**
  tracking the environmental and climate-related impact of the GCAP actions[6] and continually observing the risk and vulnerability landscape, including the extent to which GCAP actions are contributing towards resilience

The implementation and monitoring structure should be integrated into the GCAP and reviewed and approved by the City as part of the overall GCAP package.

An overview of the steps and elements of the GCAP implementation and monitoring framework is provided below. The Consultant shall ensure that the process is adapted to the City's governance structures and processes.

4.1 Responsibilities

To ensure effective GCAP implementation, it is advisable that the City appoints an Implementation and Monitoring Coordinator (IMC), responsible for overseeing all GCAP actions. Preferably, the GCO, who has the mandate to coordinate with all relevant municipal departments and agencies throughout the GCAP development, should take on this role.

The IMC should facilitate the consideration of the GCAP in other relevant City planning instruments, with the endorsement of the GCAP Political Champion.

Within each entity responsible for the implementation of GCAP actions (department, agency or municipal company), it is advised that at least one member of staff should be appointed to

- → oversee the implementation of specific actions
- → report on the progress of implementation
- → collect the required impact data

The assigned departmental staff should provide regular reports on implementation progress and impact to the City's IMC. This is intended to inform the planning of subsequent stages of each action's implementation, including any necessary amendments to timescales and resources.

Relevant departmental staff should also aim to align GCAP monitoring with other relevant activities and initiatives to prevent duplication of efforts. For example, the results from the GCAP monitoring can be used for urban planning, disaster risk reduction and sustainability plans or to inform other reporting requirements.

4.2 Monitoring Plan

Implementation monitoring should be conducted on both a short-term and long-term basis. The implementation monitoring plan should list all GCAP actions and clearly indicate action status (no action, in preparation, under implementation, completed) and milestones. In parallel, progress towards the related targets should also be monitored, at the action, sector or GCAP level (depending on how objectives and targets are set in each specific GCAP).

The plan provides an opportunity to assess implementation by:

- → comparing implementation efforts with original goals and targets
- → determining whether sufficient progress is being made towards achieving expected results
- → determining whether implementation is progressing according to schedule or if it is deviating from the planned direction

District Heating, Balti, Moldova

6. While, in this instance, impact is intended mainly from an environmental and climate perspective, cities should also closely monitor the progress towards socio-economic goals, as relevant to the GCAP.

4.3
Impact Monitoring Plan

While implementation monitoring tracks the progress of GCAP actions, impact monitoring measures how effectively the City has been performing to achieve its targets and goals. These targets and goals derive from the challenges identified and prioritised during the GCAP development, based on the application of the PSR framework.

The PSR framework provides a useful model for categorising indicators in the impact monitoring plan. For example, the following PSR indicators could be employed when monitoring the effectiveness of extending a local bus system:

- → **pressure:** has private transport decreased?
- → **state:** has air pollution decreased?
- → **response:** how many buses and new connections have been introduced?

For each of the indicators to be tracked, the impact monitoring plan should also identify the municipal department responsible for providing the required data. The Consultant shall note all data sources and proxies used at the baseline stage so that they can be easily accessed for monitoring purposes.

The impact monitoring plan should specifically track gender-disaggregated indicators and progress toward gender equality and human capital objectives. Indicators related to access to services, employment in infrastructure sectors and representation in decision-making should be systematically monitored. The evaluation should assess whether implemented actions have delivered the anticipated gender equality and human capital development benefits.

It is important to note that while some impacts can be detected immediately, others—such as improved air quality and GHG emissions—can only be monitored in the long term. It should also be noted that progress in the implementation of GCAP actions is not directly linked to the City's performance on selected impact indicators, given the influence of activities that are beyond the City's control, such as national-level infrastructure investments or major industrial investments by the private sector.

4.4
Data Collection Standards

To help City officers manage data correctly the IMC should set guidelines for the recording and storage of data.[7] Since the GCAP indicators are measured against global benchmarks, the data guidelines and indicators should also include definitions of terms within the local context and clarify data privacy principles.

Data should be collected across all relevant PSR indicators for each action and target to measure progress relative to the Green City baseline. Relevant indicators for each action will have been identified in the GCAP, but they may be expanded as new indicators and data collection tools become available. A full list of all indicators can be found in Annex I.

When drafting the monitoring and implementation plans, the Consultant should use the templates developed by the EBRD.

4.5
Evaluate and Adapt

Unexpected events may affect the implementation of the GCAP and its timeline. For instance, extreme weather events, natural disasters or public health crises may require the City to temporarily prioritise urgent infrastructure repairs or expansions over planned GCAP investments.

Similarly, changing financial, political or economic circumstances may lead the City to adjust the timeline or scope of certain actions. For example, rather than purchasing 100 electric buses as initially planned, the City may opt to procure 50 in the first phase and defer the remainder to a later stage.

The IMC is responsible for updating and revising the implementation and impact monitoring plans to reflect such changes. In collaboration with the GCO, they should engage relevant departments and stakeholders to ensure that any modifications receive the necessary approvals.

The path to becoming a green City is a continuous process. Through periodic progress monitoring, the City can transparently communicate achievements to the public and refine its visions, strategic goals, targets and actions as needed to stay aligned with evolving priorities.

Tuzla, Bosnia and Herzegovina

7. The Consultant shall ensure that proper training is provided to the relevant City officers to ensure they can monitor the GCAP independently during its implementation.

Annex 01/

PSR Framework And Sectoral Guidance

Pressure-State-Response (PSR) Framework for Green Cities

Green City indicators are structured according to the Pressure–State – Response (PSR) framework. In total, there are 98 indicators, 35 of which are core indicators. An additional sub-classification between core indicators and elective (optional) indicators is proposed for the state and pressure categories only. This is to narrow down the number of indicators used for the benchmarking and prioritisation process. The core indicators are in blue, and the optional indicators corresponding to each core indicator are in white and listed in terms of priority. If Indicator 1 is not available, Indicator 1.1 should be the first choice to replace it, then 1.2 and so on.

For each indicator, it is important to collect multiple years of data to assess and document whether the trend is upward, neutral or downward.

Please note that the analysis of responses within the PSR framework is of a qualitative nature and therefore not subject to the traffic light scoring. The analysis of responses is captured within the sectoral guidance provided in the second part of this Annex I. Note that the sectoral guidance does not represent an exhaustive list. The Consultant is encouraged to investigate additional issues based on expert judgement.

State Indicators

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Quality of Environmental Asset							
Air Quality		**Refer to the sectoral guidance for examples of additional indicators and information**					
1	Average annual concentration of $PM_{2.5}$	Particulate matter in suspension, with a diameter smaller than 2.5 µm; annual average. The data should be collected twice a month using sensors in multiple locations of the City and averaged. Locations should reflect the diversity of urban areas, such as residential, roadside, industrial and park zones.	µg/m3	<10 (annual)	10-20 (annual)	>20 (annual)	WHO http://www.who.int/mediacentre/factsheets/fs313/en/
1.1	Average annual concentration of PM_{10}	Particulate matter in suspension, with a diameter smaller than 10 µm; annual average. The data should be collected twice a month using sensors in multiple locations of the City and averaged. Locations should reflect the diversity of urban areas such as residential, roadside, industrial or park zones.	µg/m3	<20 (annual)	20-50 (annual)	>50 (annual)	
1.2	Average daily concentration of SO_2	Sulphur dioxide in suspension, 24-hour average. The data should be collected twice a month using sensors in multiple locations of the City and averaged. Locations should reflect the diversity of urban areas, such as residential, roadside, industrial or park zones.	µg/m3	<20 (24 hour)	20-50 (24 hour)	>50 (24 hour)	
1.3	Average annual concentration of NO_x	Nitrogen dioxide in suspension; annual average. The data should be collected twice a month using sensors in multiple locations of the City and averaged. Locations should reflect the diversity of urban areas, such as residential, roadside, industrial and park zones.	µg/m3	<40 (annual)	40-80 (annual)	>80 (annual)	

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Water bodies, drinking water		**Refer to the sectoral guidance for examples of additional indicators and information**					
2	Biochemical Oxygen Demand (BOD) in rivers and lakes	BOD indicates the amount of dissolved oxygen required to decompose organic matter present in water. The data should be collected in several locations along each river or lake, twice a month.	mg/L	<2	2-4	>4	**EEA** http://www.eea.europa.eu/data-and-maps/indicators/freshwater-quality/freshwater-quality-assessment-published-may-2
2.1	Ammonium (NH_4) concentration in rivers and lakes	Ammonium concentrations are normally raised as a result of organic pollution caused by discharges from wastewater treatment plants, industrial effluents and agricultural runoff. The data should be collected in several locations along each river or lake, twice a month.	µg/L	<150	150-200	>200	
2.2	Bathing waters meeting minimum standards	Percentage of designated bathing water quality (inland and coastal) meeting minimum standards. For non-EU countries, the following WHO guidelines and selected regulatory levels should be used to determine minimum standards.	%	>95%	95-70%	<70%	**EEA / WHO** https://www.eea.europa.eu/themes/water/europes-seas-and-coasts/assessments/state-of-bathing-water/bathing-water-directives
3	Water samples complying with national potable water quality standards	The data should be collected in several locations of the water supply network. Ideally the quality of water should be measured frequently (once a week) to avoid health hazards.	% in a year	>97	90-97	<90	**IADB's ESCI**
Soil		**Refer to the sectoral guidance for examples of additional indicators and information**					
4	Contaminated sites	The term contaminated site (CS) refers to a well-defined area where the presence of soil contamination has been confirmed, presenting a potential risk to humans, water, ecosystems or other receptors. Risk management measures, such as remediation, may be needed depending on the severity of the risk of adverse impacts to receptors under the current or planned use of the site. Sensitive areas, such as industrial zones and solid waste disposal sites, should be covered, and sources of soil contamination should be identified.	CSs / 1000 inh.(or km_2)	<10	10-20	>20	**EEA** http://www.eea.europa.eu/data-and-maps/indicators/progress-in-management-of-contaminated-sites-3/assessment
4.1	Concentration of mercury in soil	Concentration of (a) mercury, (b) cadmium and (c) zinc in soil. Other heavy metals that could be measured include chromium, arsenic, lead, copper and nickel. The data should be collected in multiple locations of the City, twice a month. Sensitive areas, such as industrial zones and solid waste disposal sites, should be covered. Benchmarks follow standards set by the Dutch Ministry of Housing, Spatial Planning and the Environment.	mg/kg	<0.3	0.3-10	>10	**EEA/ the Dutch Ministry of Housing, Spatial Planning and the Environment.** http://www.eea.europa.eu/data-and-maps/indicators/progress-in-management-of-contaminated-sites-3/assessment
4.2	Concentration of cadmium in soil		mg/kg	<0.8	0.8-12	>12	
4.3	Concentration of zinc in soil		mg/kg	<140	140-720	>720	
4.4	Concentration of mineral oil in soil (using infrared spectroscopy)	The data should be collected twice a month in multiple locations of the City. Sensitive areas, such as industrial zones should be covered. Benchmarks follow standards set by the Dutch Ministry of Housing, Spatial Planning and the Environment.f mineral oil in soil (using infrared spectroscopy)	mg/kg	<50	50-5000	>5000	

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Availability of Resources							
Water use		**Refer to the sectoral guidance for examples of additional indicators and information**					
5	Water Exploitation Index	The Water Exploitation Index Plus (WEI+) measures total water use as a percentage of renewable freshwater resources in a given territory and time scale.	%	<20	20-40	>40	**EEA** http://www.eea.europa.eu/data-and-maps/indicators/use-of-freshwater-resources-2/assessment-1
Open Space		**Refer to the sectoral guidance for examples of additional indicators and information**					
6	Open green space area ratio per 100,000 inhabitants	Hectares of permanent green space per 100,000 City residents.	Hectares	>10	7-10	<7	**IADB**
6.1	Share of open green space area within urban limits	This indicator measures the percentage of green, blue and vacant land within the urban limits of the City.	%	>50	30-50	<30	**OECD/ICLEI**
6.2	Accessibility to parks	Population of City living within 400 m from a park or green space (minimum size 0.5 hectares) ÷ total population of City × 100%	%	>70	70-30	<30	**CBD Singapore Index (Indicator 13)** https://www.cbd.int/doc/publications/cbd-ts-98-en.pdf **European Common Indicators 3.6 Indicator 4**
Biodiversity and ecosystem services		**Refer to the sectoral guidance for examples of additional indicators and information**					
7	Natural Areas	This indicator measures the percentage of area of natural, restored and naturalised areas of total area of the City	%	>20	20-7	<6.9	**CBD Singapore Index (Indicator 1)** https://www.cbd.int/doc/publications/cbd-ts-98-en.pdf
7.1	Tree Canopy Cover	(Tree canopy cover) ÷ (Total terrestrial area of the City) × 100%	%	>50	50-10	<10	**CBD Singapore Index (Indicator 11)** https://www.cbd.int/doc/publications/cbd-ts-98-en.pdf
7.2	Connectivity of natural area	This indicator requires calculating ecological connectivity using satellite images. Equation is included in the source.	%	>60	60-20	<20	**CBD Singapore Index (Indicator 2)** https://www.cbd.int/doc/publications/cbd-ts-98-en.pdf

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Climate Change							
Mitigation (GHG emissions)		**Refer to the sectoral guidance for examples of additional indicators and information**					
8	Annual CO_2 equivalent emissions per capita	CO_2 emissions of the City, divided by the City population. This indicator controls for the size of City population. Estimates of CO_2 emissions must first be made within each sector (such as transport or electricity) and averaged. The data should be compiled monthly.	Tonne / year / capita	<5	5-10	>10	IADB
8.1	Annual CO_2 emissions per unit of GDP	CO_2 emissions, divided by the GDP of the City. The data should be compiled monthly.	Tonne / USD of GDP	<0.35	0.35-0.8	>0.8	IADB
Adaptation (resilience to natural disaster risks)		**Refer to the sectoral guidance for examples of additional indicators and information**					
9	Estimated economic damage from natural disasters	This indicator should measure overall losses (not only uninsured losses) from floods, droughts and earthquakes as a share of GDP. Usually, the City already has such data. Otherwise, the information may be found in the EM-DAT database or the NatCatService database. If such data are not available, data on past damages may be used (as an average of damages over the past 10 years).	%	<0.5	0.5-1	>1	OECD / ICLEI http://www.eea.europa.eu/data-and-maps/indicators/direct-losses-from-weather-disasters-1/assessment
9.1	Percentage of public infrastructure at risk	Percentage of public infrastructure vulnerable to natural disasters due to inadequate construction or placement in areas of non-mitigable risk. This requires the identification of urban areas exposed to a disaster (such as low-lying zones or areas exposed to landslides), along with information about the quality of housing in those areas. The data should be collected based on a selected climatic or geological event (such as a 10-year flood, if flooding is the most common type of disaster that affects the City). The data should be collected biannually.	%	<10%	10-20%	>20%	IADB
9.2	Percentage of households at risk	Percentage of households vulnerable to natural disasters due to inadequate construction or placement in areas of non-mitigable risk. This requires an identification of urban areas exposed to a disaster (such as a low-lying zones or areas exposed to landslides), along with information about the quality of housing in those areas. The data should be collected based on a selected climatic or geological event (such as a 10-year flood, if flooding is the most common type of disaster that affects the City). The data should be collected biannually. The data should be collected biannually.	%	<10%	10-20%	>20%	IADB

Pressure Indicators

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Transport							
Energy efficiency and type of energy used		**Refer to the sectoral guidance for examples of additional indicators and information**					
10	Average age of car fleet (total and by type)	The data should be compiled annually from the vehicle registration database of the City.	Years	<6	6-12	>12	**IADB**
10.1	Percentage of diesel cars in total vehicle fleet	The data should be compiled annually from the vehicle registration database of the City.	%	<20	20-30	>30	**EEA** http://www.eea.europa.eu/data-and-maps/indicators/size-of-the-vehicle-fleet/size-of-the-vehicle-fleet-2
10.2	Fuel standards for light passenger and commercial vehicles	Adoption of latest EURO standards or equivalent for light passenger and commercial vehicles.	n/a	EURO 6	EURO 5	EURO 4 or below	**OECD / ICLEI**
10.3	Share of total passenger car fleet run by alternative energy (total and by type)	Alternative energy here refers to electric, hybrid fuel cell, Liquefied Petroleum Gas (LPG) and Compressed Natural Gas (CNG). The data should be compiled annually from the vehicle registration database of the municipality.	%	>3	1-3	<1	**EEA** http://www.eea.europa.eu/data-and-maps/indicators/proportion-of-vehicle-fleet-meeting-4/assessment
Choice of transport mode		**Refer to the sectoral guidance for examples of additional indicators and information**					
11	Transport modal share in commuting	The number of commuters working in the City who use each mode of transport (cars, motorcycles, taxi, bus, metro, tram, bicycle, pedestrian) divided by the number of commuting trips to work. Surveys are a common data collection method. The data should be collected biannually.	%	Private transport <30%	Private transport = 30–50%	Private transport >50%	**OECD / ICLEI**
11.1	Transport modal share in total trips	The number of commuters working in the City who use each mode of transport (cars, motorcycles, taxi, bus, metro, tram, bicycle, pedestrian) divided by the number of all trips in the City. Surveys are a common data collection method. The data should be collected biannually.	%	Private transport <30%	Private transport = 30–50%	Private transport >50%	**OECD / ICLEI**
11.2	Motorisation rate	Number of private vehicles (cars, motorcycles) per capita. This is calculated by dividing the total number of vehicles (obtained from the vehicle registration database) by the population. The data should be collected biannually.	Number of vehicles per capita	<0.3	0.3-0.4	>0.4	**EEA** http://www.eea.europa.eu/data-and-maps/indicators/size-of-the-vehicle-fleet/size-of-the-vehicle-fleet-2

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
11.3	Average number of vehicles (cars and motorbikes) per household	Number of private vehicles (cars, motorcycles) per household. This is calculated by dividing the total number of vehicles (obtained from the vehicle registration database) by the number of households. The data should be collected biannually.	Number of vehicles per household	<0.5	0.5-1	>1	**OECD / ICLEI**
11.4	Kilometres of road dedicated exclusively to public transit per 100,000 population	The total centreline kilometres dedicated exclusively to busway and railway, divided by 100,000 of City population. The data should be collected annually.	km	>40	10-40	<10	**IADB**
11.5	Kilometres of bicycle path per 100,000 population (please distinguish between mixed use and dedicated)	The total centreline kilometres dedicated to bicycle path, divided by 100,000 of City population. The data should be collected annually.	km	>25	15-25	<15	**IADB**
11.6	Share of population having access to public transport within 15 min by foot	Share of population that can reach a public transport station within 15 min by foot. The data can be collected annually through surveys.	%	>80	60-80	<80	**OECD / ICLEI**
Road conditions and congestion		**Refer to the sectoral guidance for examples of additional indicators and information**					
12	Average travel speed on primary thoroughfares during peak hour	The average travel speed for all private motorised vehicles and public transit vehicles, across all locally defined thoroughfares during peak commuting hours (typically, morning and evening).	Km/h	>30	15-30	<15	**IADB**
12.1	Travel speed of bus service on major thoroughfares (daily average)	The data should be collected continuously.	Km/h	>25	15-25	<15	**EBRD**

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Resilience of transport system		**Refer to the sectoral guidance for examples of additional indicators and information**					
13	Interruption of public transport systems in case of disaster	A qualitative assessment of the ability of public transport systems to operate efficiently during a natural disaster (flood, earthquake or storm).	n/a	Bus and rail transit systems are able to run normally in case of disaster	Bus and rail transit systems are able to run in case of disaster, but with reduced efficiency	Bus and rail transit systems are not able to run in case of disaster	**OECD / ICLEI**
13.1	Efficiency of transport emergency systems in case of disaster	A qualitative assessment of the ability of emergency transport systems (firefighters, police and ambulance) to run efficiently during a natural disaster (flood, earthquake and storm)	n/a	Emergency transport systems are able to run normally in case of disaster	Emergency transport systems are able to run in case of disaster, but with limited efficiency	Emergency transport systems are not able to run properly in case of disaster	**OECD / ICLEI**
Energy							
Electricity provision		**Refer to the sectoral guidance for examples of additional indicators and information**					
14	Share of population with an authorised connection to electricity	Percentage of the City's households with a legal connection to sources of electrical energy.	%	>90	70-90	<70	**IADB**
14.1	Electrical interruptions	Average number or hours of electrical interruptions per year, per customer.	# / year / customer	<10	10-13	>13	**IADB**
14.2	Percentage of network line losses	Losses based on technical and non-technical causes, expressed as a percentage of total electricity output measured over the year.	%	<5%	5-10%	>10%	**EBRD**

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Thermal comfort by source		**Refer to the sectoral guidance for examples of additional indicators and information**					
15	Share of population with access to quality heating or cooling	Quality heating or cooling refers to meeting the required demand to achieve normative indoor temperatures. The data should be collected for all residential buildings over the year.	%	>90	70-90	<70	OECD / ICLEI
15.1	Share of households connected to district heating	Percentage of the City's households or residential building stock with a legal connection to centralised district heating. The data should be the average over the year.	%	>50%	50-25%	25%<	EBRD
15.2	Share of district heating from carbon-intensive sources	Percentage of the City's households or residential building stock connected to district heating sourced from carbon-intensive heat sources such as coal or heating oil. Use indicator 15.1 as the denominator. The data should be the average over the year.	%	<10%	10-30%	30-100%	EBRD
15.3	Share of district heating from less carbon-intensive sources	Percentage of the City's households or residential building stock connected to district heating sourced from less carbon intensive heat sources such as natural gas and LPG. Use indicator 15.1 as the denominator. The data should be the average over the year.	%	<40%	75-40%	100-75%	EBRD
15.4	Share of district heating from renewable sources	Percentage of the City's households or residential building stock connected to district heating sourced from renewable energy such as heat pumps, solar or biomass. Use indicator 15.1 as the denominator. The data should be the average over the year.	%	100-50%	50-10%	<10%	EBRD
Renewable energy		**Refer to the sectoral guidance for examples of additional indicators and information**					
16	Share of renewable energy in total energy consumption	Proportion of total energy derived from renewable sources, expressed as a share of total City energy consumption for electricity, heating and cooling and transport, measured against gross final energy consumption (in TJ; benchmark: 20%).	%	>20	10-20	<10	EEA http://www.eea.europa.eu/data-and-maps/indicators/renewable-gross-final-energy-consumption-4/assessment
Electricity network		**Refer to the sectoral guidance for examples of additional indicators and information**					
17	Power outages due to climate extremes	Share of population that experienced a power outage during the year due to climate extremes such as heatwave, wind, thunderstorms or snow. Use indicator 14.1 and/or 14.2 to calculate this data.	%	<10	10-25	>25	OECD / ICLEI

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Buildings							
Electricity consumption		**Refer to the sectoral guidance for examples of additional indicators and information**					
18	Electricity consumption in buildings	Average electricity consumption of all building types per square metre measured over the year.	kWh / m²	<47	47-75	>75	Odyssee, CIBSE, IEA IEA Energy Efficiency Market Report 2015, Odyssee-Mure database, CISBE Guides 19, 72, 286
18.1	Electricity consumption in residential buildings	Electricity consumption in urban residential buildings per square metre measured over the year.	kWh / m²	<21	21-26	>26	EBRD
18.2	Electricity consumption in commercial buildings	Electricity consumption in urban non-residential buildings per square metre measured over the year.	kWh / m²	<122	122-213	>213	EBRD
18.3	Electricity consumption in public buildings	Electricity consumption of all public buildings per square metre. The definition of public buildings should follow national or local standards. See link for examples.	kWh / m²	<122	122-213	>213	EBRD
Thermal comfort by building type		**Refer to the sectoral guidance for examples of additional indicators and information**					
19	Fossil fuel consumption for heating and cooling	Average fossil fuel consumption for heating and cooling in all building types per square metre measured over the year.	kWh / m²	<104	104-148	>148	Odyssee, CIBSE, IEA IEA Energy Efficiency Market Report 2015, Odyssee-Mure database, CISBE Guides 19, 72, 286
19.1	Fossil fuel consumption for heating and cooling in residential buildings	Annual fossil fuel consumption for heating and cooling in urban residential buildings per square metre.	kWh / m²	<96	96-126	>126	EBRD
19.2	Fossil fuel consumption for heating and cooling in commercial buildings	Annual fossil fuel consumption for heating and cooling in urban commercial buildings per square metre.	kWh / m²	<127	127-210	>210	EBRD
19.3	Fossil fuel consumption for heating and cooling in public buildings	Annual fossil fuel consumption for heating and cooling in public buildings per square metre. as the definition of public buildings should follow national or local standards. See link for examples.	kWh / m²	<127	127-210	>210	EBRD
Building Standards		**Refer to the sectoral guidance for examples of additional indicators and information**					
19.4	Share of new buildings with green certification	Total value of projects with green building certification as a share of the total value of projects granted a building permit per year.	%	>50	25-50	<25	OECD / ICLEI
19.5	Share of buildings with energy performance certificates (EPC)	Share of buildings with energy performance certificates (EPC) over total building stock.	%	>50	25-50	<25	EBRD

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Industries							
Industrial electricity consumption		**Refer to the sectoral guidance for examples of additional indicators and information**					
20	Electricity consumption in industries, per unit of industrial GDP	This indicator measures the electricity productivity of industries.	kWh / 2010 USD	<0.3	0.3-0.4	>0.4	OECD / ICLEI
Industrial Heat Consumption		**Refer to the sectoral guidance for examples of additional indicators and information**					
21	Heat consumption in industries, per unit of industrial GDP	This indicator measures the heat productivity of industries.	MJ / 2010 USD	<0.1	0.1-0.25	>0.25	OECD / ICLEI
Consumption of fossil fuels in industrial processes		**Refer to the sectoral guidance for examples of additional indicators and information**					
22	Heavy metals (Pb) emission intensity of manufacturing industries	This indicator illustrates the emission intensity of manufacturing industries, expressed as the amount of pollutant discharged in water per unit of production of the manufacturing industries (one million USD gross value added). It shows a decoupling of economic growth (GVA) from environmental impact (pollutant emission).	kg heavy metals equivalent released per million USD GVA	<0.02	0.02-0.04	>0.04	EEA
22.1	Fossil fuel combustion in industrial processes, per unit of industrial GDP	This indicator measures the fossil fuel use productivity of industries.	MJ / USD	<1.4	1.4-2.2	>2.2	OECD / ICLEI
22.2	Share of industrial energy consumption from renewable energy	Share of energy consumption from renewable energy in all industrial activities of the City, measured over the year.	%	>20	10-20	<10	OECD / ICLEI
Industrial Waste Treatment		**Refer to the sectoral guidance for examples of additional indicators and information**					
23	Share of industrial waste recycled	Share of industrial waste recycled as a percentage of total industrial waste produced. A green benchmark is set at 90%.	%	>95% (90%)	80–95% (90%)	<80%	OECD / ICLEI
Industrial Wastewater		**Refer to the sectoral guidance for examples of additional indicators and information**					
24	Percentage of treated industrial wastewater	Percentage of industrial wastewater that is treated according to applicable national standards.	%	>60	40-60	<40	OECD / ICLEI

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Water							
	Water consumption, supply, production and storage	**Refer to the sectoral guidance for examples of additional indicators and information**					
25	Domestic water consumption per capita	Annual consumption of water per capita of people whose homes have a water connection to the City's network. The data can be obtained from the utility agency supplying the water. The data should be collected several times per year, as seasonal climate variation may result in different water consumption levels.	L / day / capita	120-200	80–200 or 200-250	<80; >250	IADB
25.1	Non-revenue water	Percentage of treated water that is lost before reaching the customer. This is water that enters the distribution system but does not generate revenue because it is lost either physically (for example, due to leaking pipes) or commercially (for example, due to broken or missing water meters, or illegal connections). Calculated as the ratio of non-revenue water to total water production.	%	0-30	30-45	>45	IADB / OECD (2014), Green Growth Indicators 2014
25.2	Daily number of hours of continuous water supply per household	Data should be calculated as the average number of hours of continuous water supply to residential buildings over the year.	h/day	>20 h/day	12–20 h/day	<12 h/day	EBRD
25.3	Energy used for urban water production and supply	Amount of electricity used for the production, storage and distribution of water supply per cubic metre. The data should be calculated as the average of all the water production and distribution facilities over the year.	Kwh/m³	<0.35	0.35 to 0.5	>0.5	EBRD
25.4	Potable water storage	Amount of potable water stored in reservoirs, expressed in terms of the average daily volume of water consumed. The data should be calculated as the annual average across all reservoirs and water storage facilities serving the urban area.	Days	>1 day	½ day	<½ day	EBRD
25.5	Water consumption per unit of City GDP	This indicator measures water resource productivity. The data can be obtained from the utility agency supplying the water. The data should be collected several times per year, as seasonal climate variations are likely to affect water consumption levels.	L / day / USD	<0.022	0.022–0.055	>0.055	OECD (2014), Green Growth Indicators 2014
25.6	Share of Industrial water consumption	Share of Industrial water consumption as a percentage of total urban water consumption. This indicator is used to flag whether industrial water consumption represents a larger share than international norms. Industrial water consumption marked as 'green' may still present efficiency challenges, but total urban water consumption remains within international norms. The data should be obtained from the municipal water supply utility.	%	<17%	17-50%	50%	EBRD

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Wastewater conveyance, treatment, and sludge		**Refer to the sectoral guidance for examples of additional indicators and information**					
26	Percentage of residential and commercial wastewater treated	Percentage of residential and commercial wastewater that is treated in accordance with applicable national standards.	%	>60	40-60	<40	IADB
26.1	Percentage of buildings (non-industrial) equipped to reuse grey water	Percentage of buildings connected to facilities that treat wastewater from sinks, showers, bathtubs, and washing machines. Data should be collected through surveys, annually.	%	>80	60-80	<60	OECD (2013) Green Growth in Cities
26.2	Percentage of treated wastewater from energy generation activities	Percentage of wastewater from energy generation activities that is treated in accordance with applicable national standards.	%	>60	40-60	<40	OECD / ICLEI
27	Sewer network integrity (Pipe break)	Average length of sewer pipe breakages or malfunctions recorded each year.	Break / km / year	<2	2-10	>10	EBRD
27.1	Energy used for wastewater collection and treatment	Amount of electricity consumed for the collection and treatment of wastewater, including sludge treatment, per cubic metre. The data should be calculated as an average across all wastewater collection and treatment facilities over the year.	Kwh/m^3	<0.75	0.75 to 1.0	>1.0	EBRD
27.2	Sludge safely treated, disposed of or safely used.	Percentage of sludge that is treated and either safely disposed of (in accordance with national standards) or safely used (for example, in power generation or agriculture). The data should be calculated as an average across all wastewater collection and treatment facilities over the year.	%	>80%	50-80%	<50%	EBRD
Wastewater conveyance, treatment, and sludge		**Refer to the sectoral guidance for examples of additional indicators and information**					
28	Percentage of dwellings damaged by the most intense flooding in the last 10 years	Percentage of dwellings affected, in terms of assets and health, by the most intense flooding event in the past 10 years. The data should be collected through surveys. Estimates may be derived from sample populations which should be representative of different types of urban areas in the City (for example, areas of high and low elevation, proximity to water bodies, and so on).	%	<0.5	0.5-3	>3	IADB
28.1	Annual number of stormwater /sewerage overflows	Annual number of stormwater or sewerage overflows per 100 km of network length. The data should be collected by monitoring the number of overflows in selected areas of the City and extrapolating to derive an estimate for the entire system. Calculations should be based on an average of multiple measurements taken over the year.	Number of events per year	<20	20-50	>50	OECD / ICLEI

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
Solid Waste							
Solid waste generation and collection		**Refer to the sectoral guidance for examples of additional indicators and information**					
29	Total municipal solid waste generation per capita	Mixed waste and separately collected waste from households and other sources where the waste is similar in nature and composition to household waste. This does not include waste from industrial production, agriculture, forestry, fishing, septic tanks, sewage network and treatment (including sewage sludge), end-of-life vehicles, or construction and demolition waste.	Kg / year / capita	<300	300-500	>500	OECD/ ICLEI
30	Waste collection service coverage rate	The data should be calculated either as the ratio of municipal solid waste collected to municipal solid waste generated, or as the percentage of households or population with access to regular waste collection services.	%	>90%	80-90%	80%<	EBRD
30.1	Proportion of dry recyclables	Proportion of dry recyclables separated at the source or extracted from the mixed municipal solid waste stream. This includes paper and cardboard, glass, ferrous and non-ferrous metals, packaging waste, textiles and wood. The data should be calculated as a percentage of municipal solid waste collected.	%	>35%	15-35%	<15%	EBRD
30.2	Proportion of organic waste	Proportion of organic waste separated at the source or from the mixed municipal solid waste stream. The data should be calculated as a percentage of municipal solid waste collected.	%	>20%	5-20%	5%<	EBRD
Solid waste treatment and disposal		**Refer to the sectoral guidance for examples of additional indicators and information**					
31	Municipal solid waste treated in sorting, processing and treatment plants	Municipal solid waste treated in sorting, processing and treatment plants, including material recovery facilities, mechanical-biological treatment plants, composting facilities and energy recovery (such as biogas plants and mass-burn solid waste incineration). The data should be calculated as a percentage of municipal solid waste collected,	%	>75%	25-75%	<25%	EBRD
31.1	Municipal solid waste disposed of in open dumps	Percentage of the City's municipal solid waste disposed of in open (non-engineered) dumps. The data should be calculated as a percentage of municipal solid waste collected.	%	<10	10-20	>20	IADB
31.2	Municipal solid waste disposed of in EU-compliant/equivalent sanitary landfills	Percentage of the City's municipal solid waste disposed of in sanitary landfills. Waste sent for recovery (such as composting or recycling) is excluded. To be considered sanitary, the landfill should have leachate and landfill gas collection and treatment systems. The data should be collected from estimates produced at each landfill and averaged over multiple measurements taken throughout the year in order to obtain data that are representative of long-term patterns. The data should be calculated as a percentage of municipal solid waste collected.	%	90-100	80-90	<80	IADB

	Indicator	Description	Unit	Benchmarks			Sources for indicator / benchmark definitions
32	Remaining life of current landfill(s)	Remaining useful life of the site of the sanitary or controlled landfill, based on the City's municipal solid waste generation projections (in years). The data should be collected bi-annually.	Years	>8	5-8	<5	IADB
Land Use							
Density / Integrated land use		**Refer to the sectoral guidance for examples of additional indicators and information**					
33	Population density on urban land	People living in the urbanised area of the municipality, measured per km² of urbanised land. The data should be collected biannually.	Residents / km²	4000-7000	2500-4000; 7000-12000	<2500; >12000	EBRD
33.1	Average commuting distance	Average distance travelled by all commuters to work. The data should be collected annually through surveys.	km	>5	5-10	<10	OECD / ICLEI
33.2	Average commuting time	Average time spent commuting by all commuters. The data should be collected annually through surveys.	Min	<30	30-60	>60	OECD / ICLEI
33.3	Population living within 20 minutes to everyday services	Proportion of the population living within 20 minutes to everyday services, such as grocery stores.	%	>75	50-75	<50	OECD / ICLEI
Urban Sprawl		**Refer to the sectoral guidance for examples of additional indicators and information**					
34	Growth rate of built-up areas	Average annual growth rate of the areal urban built-up areas (excluding green space and vacant land) within the City's official limits. The data should be collected annually from the building permits database.	%	<3	3-5	>5	IADB
34.1	Share of brownfield development	Proportion of urban development that occurs on brownfield land compared to development on greenfield land at the urban fringe. The data should be collected annually from the building permits database.	%	>40	20-40	<20	OECD / ICLEI
Use of existing built up areas		**Refer to the sectoral guidance for examples of additional indicators and information**					
35	Vacancy rates of commercial buildings	Percentage of office buildings that are vacant out of the total office stock. The data should be collected annually through surveys.	%	<6%	6-10%	>10%	OECD / ICLEI
35.1	Vacancy rates of residential buildings	Percentage of residential buildings that are vacant out of the total office stock. The data should be collected annually through surveys.	%	<6%	6-10%	>10%	OECD / ICLEI

Sectoral guidance

Sphere of influence

The assessment of certain baseline sections requires an overview of their respective governance structures. The matrix below and associated assessment criteria describe the City's control over policy-setting and investment decisions across key sectors.

City sphere of influence

Sector / Sub-sector	Own and operate	Set and enforce policies	Budget and revenue control	Vision-setting	City's investment and policy-setting power	Public stakeholders with strong influence
Sub-sector 1						
Sub-sector 2						
Etc.						
Colour Code	No Control		Partial Control		Full Control	

Environmental assets

Sectoral analysis

Overview

- → General condition of each environmental asset (air quality, water bodies, drinking water, soil, water use, open space, biodiversity and ecosystem services)
- → Existing national-level targets and visions for each environmental asset
- → Existing subnational-level targets and visions for each environmental asset
- → Existing and proposed infrastructure projects and policy measures at the City level relating to environmental assets
- → Include the names of relevant policies and regulations in your response

Governance

- → Describe the structure and governance arrangements for each environmental asset
- → Describe the City's authority in setting policy and making investments
- → Cover each environmental asset: air quality, water bodies, drinking water, soil, water use, open space, biodiversity and ecosystem services

Technical guidance

Air

- → Concentrations of CO and O3
- → Mortality rate attributed to household and ambient air pollution
- → Sources of air pollution (percentage by particle pollutant type: PM10, PM2.5, SO2, NOx)

Water

- → Sources of water pollution (surface and groundwater), including major point sources
- → Proportion of water bodies (rivers, lakes and groundwater) with good ambient water quality
- → Average monthly rainfall
- → Sources of water supply
- → Capacity and location of reservoirs
- → Total water consumption and abstraction
- → Water consumption by sector (domestic, commercial, industrial and agriculture)
- → Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

Soil

- → Sources of soil contamination, including major point sources
- → Proportion of land that is degraded
- → Level of soil contamination and remediation progress

Open space, biodiversity and ecosystem services

- → Share of population within 15 minutes' walk of open green space
- → Publicly accessible green or open space in the City (locations and total area)
- → Accessibility of such spaces disaggregated by sex, age and persons with disabilities
- → Sources of biodiversity degradation
- → Percentage of green, brown and blue rooftops and/or vertical gardens within the total built-up infrastructure
- → Connectivity measures or ecological networks to counter fragmentation
- → Approximate area of natural space in the City
- → Types of nature or ecosystems present
- → Description of connections between natural spaces
- → Proportion of invasive alien species
- → Loss of natural and semi-natural vegetated land by cover type (percentage)
- → Red List Index
- → Total area of protected areas
- → Size and distribution of protected areas
- → Presence of wetland areas
- → Economic value of natural assets and/or ecosystem services

Digital and smart

- → Connected sensors used to monitor environmental assets
- → Databases and digital models of environmental assets
- → Use of satellite imagery or aerial vehicles, such as drones, to monitor environmental assets
- → Proportion of environmental asset data accessible to the municipality or executive body of the City
- → Website or open-data platform, with data sharing protocols or APIs, through which the data is publicly accessible

Gender equality and human capital

- → Differentiated impacts of air, water, and soil pollution on women, children, the elderly and other underserved groups
- → Gender-differentiated roles in natural resource management (water collection, fuel gathering or urban agriculture)
- → Access to green and blue spaces, disaggregated by gender, age and socioeconomic status
- → Safety considerations affecting women's and girls' use of parks and natural areas
- → Representation of women in environmental governance structures (water committees, green space management and conservation initiatives)
- → Traditional knowledge of women and indigenous groups related to biodiversity conservation
- → Gender-disaggregated time use associated to natural resource collection and management
- → Distribution of environmental benefits and burdens across different communities
- → Differentiated vulnerabilities to environmental degradation and loss of ecosystem services
- → Women's participation in green jobs linked to nature conservation and restoration
- → Community-led environmental protection initiatives and their gender composition

Buildings

Sectoral analysis

Overview

- → State of the buildings stock (types, quality and costs) including social housing, hospitals, schools, and kindergartens
- → State of the regulatory framework and policies relating to buildings
- → Existing national, supranational and subnational targets, visions, policies and regulations
- → Ongoing and proposed infrastructure investments on public buildings
- → Ongoing and proposed policy work, strategies and regulations for this sector
- → Include the names of relevant policies and regulations in your response

Governance

- → Describe the structure and governance of the sector
- → Describe the City's control in setting policy and making investments
- → Cover at least the following subsectors: public buildings, social housing and building standards or permits

Policy responses	→ Green building principles are promoted through standards and fiscal incentives → Public and private investment in energy efficiency in buildings → Metering and billing for household and business energy use is regulated → Support schemes for building renovation are established (amounts committed) → Promotion of sustainable urban drainage systems (rainwater tanks and permeable paving) → Nature-based solutions promoted and required for new development
Climate change mitigation	→ National-level GHG emission reduction target for this sector → National-level GHG emission from this sector → Implications of the national target for subnational governments → Implications of the national target for the City
Technical guidance	→ Specific energy consumption, disaggregated by typology (especially public buildings) → Percentage of consumers using time-of-use pricing (due to tariffs or behavioural measures) → Percentage of consumers with energy storage capacity → Percentage of consumers with the ability to produce electricity (“prosumers”) → Percentage of buildings with solar water heaters installed → Percentage of buildings with solar photovoltaic panels (PVs) installed → GHG emissions from buildings → Average deep renovation rate of buildings → New construction rate (commercial, residential and public) → Share of buildings with air conditioning units → Share of floor space heated by coal, natural gas, biomass, electricity and district heating (and other relevant fuels) → Percentage of consumers connected to district heating → Share of buildings with energy performance certificates (EPCs) → Number of building inspectors employed and trained → Number of builders trained in energy efficiency improvements for buildings
Digital and smart	→ Energy and water optimisation systems in commercial and public buildings, including heating, ventilation, and air conditioning (HVAC), lighting, security and parking; percentage of public buildings equipped with such systems → Home energy optimisation using smart thermostats, devices and standby control → Residential electricity consumption tracking with feedback via app, email or text, enabling utility measurement → Digital monitoring of energy and resources consumption in public buildings → Digitalisation of building stock inventory → Usage of Building Information Modelling (BIM) in commercial and public construction → Website or platform promoting energy efficiency in residential and commercial buildings
Risk and vulnerability	→ Building construction standards incorporates natural disaster resilience, including seismic risk, and are enforced → Fire hazards are taken into account and fire and safety measures are implemented → Approval of construction permits takes into consideration risk profile of sites proposed for development
Gender equality and human capital	→ Proportion of urban population living in informal settlements or inadequate housing, disaggregated by gender, household composition and underserved groups → Barrier-free access considerations in building design and implementation, with assessment of how this impacts mobility and access for women, the elderly and persons with disabilities → Availability, quality and location of social and affordable housing by neighbourhood, and how this affects women's access to employment and essential services → Availability of housing for the elderly and people with disabilities, with gender-disaggregated data on access and utilisation → Availability of housing for students and youth, with analysis of gender-related differences in access and safety → Housing costs relative to average income by household type, with a focus on women-headed households → Affordability of essential services across genders and how this affects time use and economic participation → Availability and cost of rental housing and gender differences in access to rental markets → Status of homelessness, with gender-disaggregated data and specific vulnerabilities facing women and LGBTQI individuals → Share of infrastructure investment allocated to developing and upgrading facilities in underserved or peripheral urban areas, and how this addresses gender gaps in access to services

→ Number and share of households without heating / cooling with analysis of disproportionate impacts on women, children, and elderly

→ Gender considerations in construction permits, including access to natural light and ventilation requirements

→ Gender-responsive design and access to hospitals, schools and kindergartens per capita, and their distribution across neighbourhoods

→ Representation and participation of women in organisations, cooperatives and community groups that provide building stocks

→ Gender balance and focus areas of organisations in the City working on housing-related issues

→ Labour market participation of women and men in building-related sectors

→ Gender gaps in building-related decision-making positions and professional advancement opportunities

→ Gender-responsive facilities in public buildings that support caregiving responsibilities

→ Safety features in building design that address gender-specific security concerns

→ Gender-disaggregated access to training in green building skills and technologies

Private sector

→ Describe role of the private sector in providing quality housing stocks and improving the built environment

→ Describe how public-private partnerships (PPP) structures are used in this sector at the national level

Transport

Sectoral analysis

Overview

→ State of physical infrastructure

→ State of service provision, management and regulations

→ Existing targets and visions for this sector at national level

→ Existing targets and visions for this sector at subnational level

→ Ongoing and proposed infrastructure investments

→ Ongoing and proposed policy work, strategies and regulations for this sector

→ Include names of policies and regulations in your response

Governance

→ Describe the structure and governance of the sector

→ Describe the City's control in setting policy and making investments

→ Cover at least the following sub-sectors: road, bus, tram, rail, footpath, pedestrian safety, cycle path and delivery of goods

Policy responses

→ Sustainable Urban Mobility Plan developed and well implemented

→ High-polluting vehicles are regulated and energy-efficient vehicles are incentivised through fiscal instruments

→ Extension and improvement of public and non-motorised transport are planned and supported through investment in place

→ Public and non-motorised transport are promoted through information and awareness campaigns

→ Traffic demand is managed through measures such as congestion charges and smart technologies

→ System integration is sought and supported through integrated ticketing, user information, open data and traffic control

→ Sufficient investments, building regulations and City policies are adopted for the provision of electric vehicle (EV) chargers in residential and commercial properties, and in both on-street and off-street parking areas Integrated transport-land use planning is adopted to ensure mobility is embedded in general urban plans, urban development and regeneration areas, and other policy tools, such as land value capture, may be considered

Climate change mitigation

→ National-level GHG emission reduction target for this sector

→ National-level GHG emission from this sector

→ Implications of the national target for subnational governments

→ Implications of the national target for the City

Technical guidance

→ GHG emissions by transport mode

→ Number of electric vehicle charging stations, with type described

→ Use of hydrogen

→ Kilometres of public transport per 100,000 inhabitants (bus, tram, underground and rail)

→ Annual passenger volume of public transport (bus, tram, underground and rail)

→ Average age and condition of fleets (bus, trolleybus, tram, train and minibus)

→ Condition of pavements and high-level assessment of walkability, particularly for persons with disabilities, low-income groups, minority groups and women

→ Public transport customer satisfaction survey results, if available

	→ Description of street public transport stops, including shelter, real-time information availability, seating, internet access, inclusivity and accessibility → Ticketing system description, including types of tickets used for different modes and whether ticketing is integrated → Description of fares structures, including dynamic pricing or integration across modes → Description of any informal provision of public transport → Occupancy rate of public transport → Occupancy rate of private vehicles → Parking availability in the City centre (licenced and on-street), specifying the proportion of parking dedicated to EVs, persons with disabilities, women and the elderly → New registrations of alternative-fuel passenger cars → Share of alternative-fuel passenger cars in the total passenger car fleet → Share of alternative-fuel vehicles in the total fleet → Length of dedicated bicycle lanes → Number of bicycle-related accidents per year
Digital and smart	→ Real-time information about arrival and departure times for public transportation modes, including informal bus systems → Availability of online services and applications for route finder, payment and related services across different transport modes → Digital and contactless payment systems in public transportation enabling prepayment and faster boarding, such as smart cards and mobile payments → Sensor-based monitoring of the condition of public transit and related infrastructure (such as rails, roads and bridges) enabling predictive maintenance before breakdowns and disruptions → Use of camera imagery to monitor traffic and enforce traffic regulations; real-time information on price, time and availability of transportation options across many modes → Fees for private car use in certain areas (peak and off-peak periods), using automatic number plate recognition. → Improved overall traffic flow through dynamic optimisation of traffic lights and speed limits, increasing average road speeds and reducing stop-and-go conditions → Consideration of traffic lights pre-emption technology to prioritise emergency vehicles or public buses → Systems to guide drivers directly to available parking spaces, including demand influence through variable fees
	→ Real-time ordering of point-to-point transportation via mobile device → Pooled e-hailing involving dynamic matching of separate ride requests with compatible routes to improve vehicle utilisation (local optimisation of real-time demand) → Access to short-term car use without full ownership, including roundtrip (station-based), one-way (free-floating), peer-to-peer or fractional options → Public-use bicycles, either at docking hubs or free-floating, as alternatives to driving, public transport and private bike ownership → Online platforms that match delivery demand with available trucking capacity → On-site drop boxes located where people can retrieve packages using individual access codes sent to their mobile devices → Appropriately skilled transport operators → Labour profile in the transport sector by age, gender and background → Capacity development and identified training needs → Experience in developing and using digital traffic models Nature and capacity of public transport and traffic control rooms.
Risk and vulnerability	→ Emergency management in publicly or privately-operated public transport networks is planned and tested → Frequency of public transport service disruptions → Cause of public transport disruptions → Identified measures to mitigate or reduce disruptions
Gender equality and human capital	→ Number of transport-related fatalities per 100,000 inhabitants, disaggregated by gender and age → Number of car accidents per year, disaggregated by gender and age → Proportion of population with convenient access to public transport, by gender, age and disability status. including analysis of mobility patterns of men and women in the City → Frequent days, timing and locations of car accidents, with gender-specific safety implications → Number of bicycle accidents per year, disaggregated by gender and age → Frequent days, timings and locations of bicycle accidents → Number of public transport accidents per year, and their impact on perceptions of safety, disaggregated by gender → Frequent days, timings and locations of public transport accidents and their influence on travel choices → Access to services and leisure for youth in the City

	→ Access to services and leisure for the elderly in the City, including gender-specific constraints → Describe share of population with access to public transport, gender differences in transport mode preferences and reasons behind these preferences → Number of harassment incidents on public transport and the mechanisms to prevent, report and address such incidents, including victim support measures → Accessibility of transport modes for persons with disabilities and for women travelling with children or carrying goods → Average travel time for residents in underserved areas with gender-based analysis of time poverty → Availability of multilingual support on footpaths and public transport → Status of pedestrian safety and its influence on women's transport choices → Status of lighting in public spaces and its effect on transport safety perceptions by gender → Presence of tactile paving and other inclusive design features → Organisations in the City promoting gender-sensitive approaches to safety in particular road, public transport and cycling safety → Organisations in the City promoting walking, cycling and other active transport modes, and their inclusion of women and underserved groups → Public transportation affordability for different population groups, particularly women-headed households → Adequacy of security and lighting in buses, metro services, bus shelters, footpaths and bike lanes → Alignment of bus, metro and train schedules with the needs of all genders → Labour market participation of women and men in urban transport sectors → Representation of women in the transport supply chain workforce and in decision-making positions
Private sector	→ Describe role of the private sector in providing services → Describe role of the private sector in developing infrastructure → Describe how PPP structures are used for this sector in the country

Energy

Sectoral analysis

Overview	→ Overview of the current state of the energy sector → State of the physical infrastructure including power generation, transmission and distribution grids, storage, district heating and cooling, the distribution network, total power generation capacity and the locations of generators → State of service provision, management and regulation → Existing targets and visions for this sector at the national level → Existing targets and visions for this sector at the subnational level → Ongoing and proposed infrastructure investments → Ongoing and proposed policy work, strategies and regulations for this sector → Include the names of relevant policies and regulations in the response
Governance	→ Describe the structure and governance of the sector → Describe the City's role in setting policy and making investments → Coverage of the following sub-sectors: electricity generation and storage, renewable energy, electricity transmission and distribution, district heating and cooling
Policy responses	→ Coverage and quality of electricity and heat supply is improved through investment → Renewable energy facilities in private buildings are incentivised through fiscal instruments → Renewable energy technologies are developed and supported through public and private investment → Renewable energy facilities are incentivised through awareness campaigns → Implementation of feed-in tariffs → Direct and indirect incentives for fossil fuel for electricity generation and heating and cooling identified and removed
Climate change mitigation	→ National-level GHG emission reduction targets for this infrastructure sector → National-level GHG emission from this sector → Implications of the national target for subnational governments → Implications of the national target for the City
Technical guidance	→ Renewable energy potential within the City and in its vicinity (solar, wind, geothermal, biomass, hydro including pumped storage and marine energy sources) → Largest groups of energy users in the City are identified → Share of coal in electricity generation

	→ Collection rates of energy utilities → Comparison of planning and operational criteria with the latest available grid data → Share of substations with automated protection, control, monitoring and communications systems → Degree of electricity distribution grid automation → Percentage of power storage relative to overall power demand → Capacity of electricity grids to accommodate electric vehicle charging stations → Average annual cost of energy per capita, compared to the percentage share of average annual income per capita → Share of light-emitting diode (LED) street lights → Type and scale of potential power generation from renewable sources, including biomass → Current capacity of the distribution grid to scale up renewable energy → Rooftop solar PVs for residential and commercials buildings promoted and incentivised → Regulations on hybrid uses of renewable energy, such as agrivoltaics and floating solar technologies → Electricity consumption for essential services → Percentage of industrial consumers with energy storage ability → Percentage of industrial consumers capable of producing electricity (prosumers) → Rooftop solar PVs for industrial buildings promoted and incentivised → Annual growth of district heating, compared to the rate of growth in new building construction → Sources of heating and cooling → Trends in heating and cooling demand and their impact on the local electricity networks → Potential clean sources for the heating and cooling of buildings → Number of engineers trained to install and maintain solar PV systems → Number of engineers trained to install and maintain wind turbines → Number of policymakers trained to promote sustainable energy
Digital and smart	→ Percentage of residential and public buildings equipped with smart meters (electricity and heat) and type of smart meters → Percentage of industrial consumers using smart technologies (smart meters, machine automation, automated demand flexibility or similar) → Nature, extent and usage of Geographic Information Systems (GIS) → Connected and sensor-equipped energy-efficient streetlights (including LED) that optimise brightness and reduce maintenance needs → Dynamic adjustment of electricity prices to shave peak-time demand and reduce electricity generation cost → Different types of smart grid technologies, including fault detection, isolation and restoration (FDIR), monitoring and diagnostics (M&D), Volt/Var control and substation automation to optimise energy efficiency and power grid stability → Platform and online services to promote renewable energy in residential and commercial buildings → Use of Customer Relationship Management (CRM) tools and digital channels to manage client relationships and queries (state of e-services in the sector)
Risk and vulnerability	→ Frequency and causes of blackouts → Availability of backup electricity generators → Dependency of energy supply on import → Dependency of energy on nuclear energy and safety measures
Gender equality and human capital	→ Per capita electricity consumption of the City compared to the national average with household consumption patterns, disaggregated by gender → Per capita fossil fuel consumption for electricity and heating/cooling of the City compared to the national average, disaggregated by gender → Affordability of electricity for different household types, particularly female-headed households → Affordability of heating and cooling with gender-specific vulnerability analysis → Share of population without access to electricity, disaggregated by gender and household composition → Share of population without access to heating and cooling with gender-specific impacts on health and productivity → Share of streets without street lighting at night and implications for women's safety and mobility → Share of population considered to live in energy poverty, disaggregated by gender → Cooperatives and community groups owning and managing renewable energy, microgrid and biogas facilities or undertaking other forms energy-related activities and women's participation in their governance → Organisations in the City working on supporting vulnerable households and communities related to access to energy and heating/cooling with gender-responsive approaches

	→ Gender roles in household energy management: whether women or men are primary energy users and decision-makers regarding electricity and heating use → Labour market participation of women and men in the energy sector (production, distribution, retail and policy) → Representation of women in energy sector supply chains and decision-making positions → Gender gaps in energy-related education and training programmes → Women's engagement in renewable energy entrepreneurship and green jobs → Gender-responsive energy planning and policy development
Private sector	→ Describe role of the private sector in providing services → Describe role of the private sector in developing infrastructure → Describe how PPP structures are used for this sector in the country

Water and wastewater

Sectoral analysis

Overview	→ State of physical infrastructure → State of service provision, management and regulation → Existing targets and visions for this sector at the national level → Existing targets and visions for this sector at the subnational level → Ongoing and proposed infrastructure investments → Ongoing and proposed policy work, strategies and regulations for this sector → Include names of policies and regulations in your response
Governance	→ Describe the structure and governance of the sector → Describe the City's control in setting policy and making investments → Cover at least the following sub-sectors: water supply and wastewater
Policy responses	→ Water management plan developed and well implemented → Metering and billing for water use is regulated → Water saving and reuse is encouraged through awareness campaigns
	→ Coverage and efficiency of water supply networks is improved through plans and investment → Buildings' access to wastewater collection and treatment systems is improved through plans and investment → Wastewater treatment is promoted through regulations and fiscal incentives → Wastewater billing is regulated → Drinking water treatment is enhanced through plans and investment → Drainage facilities are developed through plans and investment → Business and community resilience is encouraged through awareness campaigns
Climate change mitigation	→ National-level GHG emission reduction target for this infrastructure sector → National-level GHG emission from this sector → Implications of the national target for subnational governments → Implications of the national target for the City
Technical guidance	→ Describe main water sector assets and their links (number, location, treatment capacity, treatment technologies) → Water sources (location, type and capacity) → Potable water treatment (location, treatment technology and capacity) → Water distribution (conveyance by gravity or pumping and network length) → Wastewater connections (connectivity rate, onsite treatment, unserved population and conveyance by gravity or pumping) → Wastewater treatment (fate of wastewater, receiving water body, location, status and technologies at WWTPs, applied standards and effluent compliance) → Prevalence of droughts → Water network integrity (volume of water lost) → Rate and characterisation of non-revenue water (NRW) → Supply resilience (actual or potential water production) → Sewer network integrity (blockages) → Status of faecal sludge management (septic tanks or pit latrines) → Percentage of groundwater utilised for municipal supply → Proportion of domestic and industrial wastewater that is safely treated → Reliability of compliance data (drinking water or wastewater effluent quality) → Rate of revenue collection → Capital maintenance expenditure (amount of investment allocated or spent to sustain infrastructure service)

	→ Utilisation of renewable energy (water and wastewater) → Infiltration of unwanted water into the sewer system → Impervious surface area within urban area → Awareness and preparedness for natural disasters → Engineers trained to operate and maintain networks and treatment plants
Digital and smart	→ Coverage with smart water meters allowing utility companies to measure consumption remotely, reducing labour costs for manual meter reading and enabling potential for dynamic pricing → Remote monitoring of pipe conditions using sensors and control of pump pressure to reduce or prevent water leakage and to enable predictive maintenance (early identification can prompt actions from relevant City departments and utility companies) → Nature, extent and usage of GIS and digital models of the network → Development and use of a dynamic hydraulic model or distribution network modelling for optimization and simulation. → Fleet trackingdemand and event management systems to optimise interventions → Data-driven optimisation of irrigation using information such as local weather, soil conditions and plant types → Real-time monitoring of water quality (in water systems and natural water bodies) with alerts delivered to the public via mobile app, email or text → Feedback (via mobile app, email or text etc.) on residents' water consumption to increase awareness and reduce consumption → Use of CRM tools and digital channels to manage client relationships and queries (state of e-services in the sector) → Data-sharing practices with the public and the municipality regarding water consumption and water quality
Risk and vulnerability	→ Preparedness of water supply for droughts → Preparedness of water supply for earthquakes, storms or floods → Preparedness of water supply for blackouts
Gender equality and human capital	→ Share of population with access to drinking water, disaggregated by gender → Effects of industrial pollution on marginalised areas, and gender-differentiated exposure and impacts → Cooperatives and community groups involved in water management, and women's participation in governance structures → CSOs in the City promoting water conservation through awareness-raising
	→ Gender roles in household water collection, storage and management → Time spent by women and girls collecting water and its impact on education and economic participation → Accessibility and safety of public water points and sanitation facilities for women and girls → Affordability of water services for female-headed households → Labour market participation of women and men in the water and wastewater sector → Representation of women in water-related technical and decision-making positions → Gender-sensitive design of water and sanitation facilities in public spaces → Gender-responsive water policy development and implementation
Private sector	→ Describe role of private sector in providing services → Describe role of private sector in developing infrastructure → Describe how PPP structures are used for this sector in the country

Solid waste

Sectoral analysis

Overview	→ State of physical infrastructure → State of service provision, management and regulation → Existing targets and visions for this sector at the national level → Existing targets and visions for this sector at the subnational level → Ongoing and proposed infrastructure investments → Ongoing and proposed policy work, strategies and regulations for this sector → Include names of policies and regulations in your response
Governance	→ Describe the structure and governance of the sector → Describe the City's control in setting policy and making investments → Cover at least the following sub-sectors: collection, treatment, recycling, landfills and commercial or industrial

Policy responses	→ Solid waste management plan is developed and well implemented → Reduction of material consumption or solid waste generation is promoted through awareness campaigns → Coverage of solid waste collection system is improved through plans and investment → Littering and non-compliance with sorting systems isdiscouraged through fines and penalties → Composting, recycling and waste-to-energy facilities are developed through plans and investment → Solid waste reuse, sorting and recycling is promoted through information and awareness campaigns → Overcapacity issues in landfills are addressed through plans and investment
Climate change mitigation	→ National-level GHG emission reduction target on this infrastructure sector → National-level GHG emission from this sector → Implications of the national target for subnational governments → Implications of the national target for the City
Technical guidance	→ For the assessment of solid waste management plans, consider the following: City-level, regional and national plans; zoning affecting the study area; binding timelines for waste prevention, recycling, and landfill diversion; technology prescriptions → Share of non-residential waste generation as a percentage of the municipal solid waste (MSW) collected → Share of MSW generated that is collected by formal operators (private companies, public utility companies or other entities formally in charge of waste collection services) → Other collection/disposal practices (including illegal dumping, backyard burning, animal feeding or informal waste picking.) as a proportion of MSW generated → Waste composition and seasonal variation of MSW (indicate data sources and methods) → Seasonal variations in the waste composition, especially in cold climates and depending on the heating system, shall be assessed (for instance, in winter, waste may be burned in stoves or there may be higher ash content) → Reliable estimates of dry recyclables and organic waste content → Food waste contribution to organic waste production, including value chain observation to identify potential hotspots → Quantities and composition of other waste streams that may put pressure on the system due to generated quantities or qualities, such as hazardous waste → Describe other waste, qualitatively or quantitatively depending on data availability, and include among others: construction and demolition waste, industrial waste, hazardous waste, hospital waste, batteries and accumulators, electrical waste and electronic equipment and end-of-life vehicles. → Proportion of MSW streams separated at the source or sorted out of the mixed MSW stream: dry recyclables (paper, cardboard, glass, ferrous and non-ferrous metals, packaging waste, textiles, wood), organic waste, hazardous waste (healthcare waste, batteries and accumulators, electrical waste and electronic equipment), bulky waste, construction and demolition waste,. → Information on whether waste streams are separated at the source or sorted out of the mixed waste stream → Final products and uses of organic waste treatment (iforganic waste is separated at the source or out of the mixed MSW stream) → Use of waste materials for energy production, (including landfill gas utilization, anaerobic digestion, RDF usage and incineration and mass-burn solid waste incineration → Costs of waste management system (such as total costs per inhabitants with access to services) and whether costs are recovered through tariffs → Include financial sources to cover the costs of the system and include information on actual tariffs → Experts trained to educate citizens on sorting and collection systems
Digital and smart	→ Digitally enabled pay-as-you-throw systems, including user feedback (via mobile app, email or text) delivered to users to raise awareness and reduce waste → Use of sensors inside bins to measure waste volume and direct the routes of garbage trucks → Fleet management system and route optimisation solutions → Nature, extent and use of GIS → Use of CRM tools and digital platforms to manage client relationships and queries (state of e-services in the sector) → Data-sharing practices with the municipality regarding waste
Risk and vulnerability	→ Fire hazard at landfills → Pollution from landfills and illegal dumping (into waterways and soil) → Illegal dumping
Gender equality and human capital	→ Working conditions in landfills and waste collection, with gender-specific safety concerns → Treatment of chemical, industrial and electronic waste, disaggregated by gender

	→ Illegal dumping and backyard burning → Citywide availability of waste collection services → Location of landfills in relation to residential areas, including informal settlements and gender implications for nearby communities → Effects of industrial pollution on marginalised areas → Cooperatives and community groups involved in solid waste management and women's participation in their governance → CSOs in the City promoting circular economy and reduction of waste generation through awareness raising and their inclusion of gender perspectives → Gender roles in household waste storage, sorting and recycling activities → Waste collection schedules and how they affect men and women, particularly those with caregiving responsibilities → Labour market participation of women and men in the solid waste sector → Representation of women in the waste management supply chain and decision-making positions → Gender breakdown among formal and informal waste pickers → Safety considerations for women involved in waste picking activities and gender-sensitive design of safety equipment and practices → Gender dynamics in formal versus informal waste economy participation → Opportunities for women's entrepreneurship in waste recycling and upcycling businesses
Private sector	→ Describe role of private sector in providing services → Describe role of private sector in developing infrastructure → Describe how PPP structures are used for this sector in the country

Land use

Sectoral analysis

Overview	→ State of land use and built environment: density, sprawl, provision of public spaces, preservation of nature and biodiversity → State of urban planning, land use control and enforcement of rules → Existing targets and visions for this sector at the national level → Existing targets and visions for this sector at the subnational level → Ongoing and proposed investments related to land use (urban development, neighbourhood upgrades and urban nature) → Ongoing and proposed policy work, strategies and regulations, including targets for regeneration of brownfield sites and commitments not to expand on greenfield sites → Include names of policies and regulations in your response
Governance	→ Describe the structure and governance of the sector → Describe the City's control in setting policy and making investments → Cover at least the following sub-sectors: land use, urban development, parks, green space, urban sprawl and density
Policy responses	→ Master plan (land use plan) is developed and well implemented → Urban sprawl is controlled through adequate planning → Transit-oriented development is promoted → Local biodiversity strategy and action plan is developed and well implemented → Policies and incentives for applying nature-based solutions are developed and well implemented → Concept of compact City (15-minute City) is reflected in urban planning policies → Neighbourhood upgrade is planned and implemented
Climate change mitigation	→ National-level GHG emission reduction target on this infrastructure sector (land use, land use change and forestry) → National-level GHG emission from this sector (land use, land use change and forestry) → Implications of the national target for subnational governments → Implications of the national target for the City
Technical guidance	→ Average rent for commercial property/sq m compared with national average or average wage → Average rent for residential property/sq m compared with national average or average wage

	→ Share of multi-storey apartments in the total housing mix (compared with single detached houses) → Share of multi-storey apartments in the total housing mix (compared to single detached houses) → Share of brownfield development versus greenfield development → Vacancy rate for commercial, residential and industrial buildings or sites → Expansion of urban areas over the past 20 years → Ratio of land consumption rate to population growth rate → Mixed-use development is promoted through zoning regulations or incentives → Total park area, average park size, accessibility and connectivity of parks → Total area of publicly accessible space and green space in the City → Location and size of open spaces → Total natural area within the City boundary → Connectivity of natural spaces → Capacity of the City to manage urban regeneration projects → Capacity of the City to protect and enhance urban nature
Digital and smart	→ Digitisation and automation of the application process for land-use and construction permitting, reducing approval time and increasing transparency → Degree of cadastre digitalisation → Nature, extent and use of GIS for land-use purpose → Use of satellite imagery and aerial vehicles to monitor land use → Publicly available, comprehensive land parcel database with open-data platform and data-sharing protocols or APIs
Risk and vulnerability	→ Discuss locations where built environment is exposed to natural and climate-related disaster risks → Discuss distribution of green spaces and nature, including their suitability to mitigate potential impacts of natural and climate-related disasters on the built environment → Discuss distribution parks and open spaces, and whether their location is effective as part of emergency response and recovery → Discuss any potential vulnerabilities due to land use patterns of the City
Gender equality and human capital	→ Average share of the built-up area accessible to the public, disaggregated by gender, age and persons with disabilities → Public perception of safety in parks and public spaces, disaggregated by gender
	→ Consideration of access to services, employment and education in new residential developments → Consideration of access for employees and customers in new commercial developments → Consideration of physical and mental health impacts in land use and development permits → Organisations in the City protecting and maintaining public and green spaces, and women's participation in their governance → Organisations in the City leading temporary street closure events or innovative public space solutions → Labour market participation of women and men in this sector (employment and unemployment rates) Women's representation in the supply chain workforce of this sector
Private sector	→ Describe how the City collaborates with public sector to upgrade neighbourhoods, enhance public space and promote transit-oriented development → Describe types of national-level structures used for urban regeneration and development (such as development cooperation or joint ventures)

Annex 02/
Modules

This annex includes module descriptions that illustrate examples of thematic deep dives that can be used to enhance a GCAP. A module is especially useful for cities seeking in-depth guidance and support on a high-priority area or for those looking to strengthen an existing GCAP by integrating a new strategic focus. For example, the heat resilience module may be particularly relevant for cities prone to heat waves or cities where utilities and basic services struggle to cope during extreme heat events.

The list below is not exhaustive, and additional modules can be developed to tailor the GCAP to the specific needs of cities. Future iterations of the methodology are expected to expand and refine the available modules in response to evolving urban challenges.

Module: **Heat resilience**

Brief description: As a result of climate change, EBRD's countries of operation face gradually rising temperatures and increasingly frequent extreme heat waves. This module supports the development of climate resilience investments against extreme urban heat, in line with relevant local and national adaptation strategies and informed by other social, sustainability and long-term development objectives. The goal is twofold: a) to deliver a taxonomy of heat resilience investment projects that the City might choose to invest in; and b) to scope and assess the feasibility of a concrete heat resilience investment package for the City, combining different project typologies to cool the City and deliver on other objectives in balance. The GCAP actions resulting from this work should leave the City with a proposed set of heat resilience investments of sufficient financial scale and resilience impact to present to potential investors.

Tasks include:

- → Preliminary analysis: hazard assessment
- → Development of cooling typologies and prefeasibility assessment
- → Development of investment package with associated economic analyses
- → Targeted stakeholder engagement and capacity building

Module: **Green bond framework**

Brief description: The module develops a Green Bond Framework for the issuance of a Green Bond instrument, based on the GCAP as the sustainability strategy of the City. The Framework will include all relevant sections and outline key components as specified in the most up-to-date ICMA Green Bond Principles, namely: use of proceeds, the process for project evaluation and selection, management of proceeds, and reporting. Where applicable, it will also reflect Climate Bond Initiative (CBI) or EU standards. The Framework shall reflect market best practice, incorporating inputs and recommendations from engagement with the City and its stakeholders.

Tasks include:

- → Background on the City and its sustainability strategy
- → Use of proceeds
- → Project evaluation and selection process
- → Management of proceeds
- → Reporting
- → External review

Module: **Sustainability-linked financing framework**

Brief description: The module develops a Sustainability-Linked Financing Framework for the issuance of sustainability-linked bond (SLB) and sustainability-linked loan (SLL) instruments, based on the GCAP as sustainability strategy of the City. The framework will include all relevant sections and outline key components as specified in the most up-to-date ICMA and LMA applicable standards. The framework shall reflect market best practice, incorporating inputs and recommendations from engagement with the City and its stakeholders.

Tasks include:

- → Background on the City and its sustainability strategy
- → Developing KPIs
- → Calibration of the sustainability performance targets (SPTs)
- → Reporting
- → Verification
- → Guidance on external review for second-party opinion (SPO)

Module: **Digital transformation and smart integration of municipal infrastructure and services**

Brief description: The goal of the module is to integrate short "Roadmaps to Digital Transformation" in each GCAP sector and design investment packages and policy measures that support the digital transformation of the municipality and the smart integration of its infrastructures and services. The aim of the digital cities module is twofold: a) to offer a sectoral digital deep dive across all municipal infrastructure sectors; and) to offer a municipal digital deep-dive across the City Authority's functions. Across both, the module will provide a digital maturity benchmark in the context of the Green City baseline assessment to identify digital investment opportunities as part of Green City actions that can help achieve the City's recognised strategic goals.

Tasks include:

- → Digital maturity assessment of the City utilities
- → Assessment of the digital systems of the Municipality and the capacity of the municipality to foster transversal actions supporting digital transformation and smart integration (fit-for-purpose assessment)
- → Development of a high-level 'Roadmap to Digital Transformation' for each GCAP sector and framing of investment packages that support digital transformation of the sector (sector specific)
- → Design of actions that support the digital transformation of, and smart integration in, the Municipality (municipality-focused)

Module: **Nature and biodiversity**

Brief description: The overall objective of this module is to support the City in identifying opportunities to enhance urban nature and biodiversity, and the ecosystem services provided by urban green and blue infrastructure. Some of the key actions that the City can take to deliver on these opportunities include:

- → Creating or enhancing green and blue spaces
- → Creating green corridors
- → Restoring river and wetlands
- → Enhancing permeability and climate resilience with sustainable urban drainage systems (SUDS)
- → Integrating green roofs and walls
- → Combatting threats to urban biodiversity through appropriate policy actions

The actions will enhance the attractiveness of the City as a place to live, work and invest, considering the quality of urban spaces and amenities, and the stability of the business environment, while supporting local and global goals for biodiversity recovery.

Tasks include:

- → Review and consolidation of existing City-specific data and resources
- → Workshop on urban nature monitoring and enhancement
- → Baseline assessment using approaches such as land-use mapping, identification of priority natural features, assessment of pressures and drivers of loss and/or natural capital valuation
- → Identification and development of priority actions using cost-benefit analysis

Module: **Urban Regeneration**

Brief description: Urban regeneration is a key driver of economic growth and climate action in cities, boosting quality of life for urban residents. The regeneration of under-utilised urban land is a complex, multi-stakeholder and multi-sectoral process involving local and national governments, regulatory bodies, planning authorities, utilities, real estate developers, service providers, investors, construction and design professionals, and local communities.
Urban regeneration projects vary based on context and policy objectives, including but not limited to: transit-oriented development (TOD), housing development, adaptive reuse of industrial sites and historic heritage preservation.
The aim of this module is to: a) identify urban regeneration opportunities in underused brownfield sites with high socio-economic potential; b) develop at least two regeneration scenarios for a prioritised site; and c) further refine and advance at least one selected scenario. Ultimately, the module will define a structured investment package for urban regeneration, illustrating the implementation framework and associated costs.

Tasks include:

- → Mapping and prioritisation of underutilised urban brownfield sites, including assessment of land ownership and any environmental and social safeguards considerations
- → Assessment of the planning and regulatory framework, including master plan provisions and availability of land value capture (LVC) mechanisms
- → Identification of key stakeholders across public and private sectors
- → Scenario development, defining at least two potential regeneration approaches
- → Selection of at least one scenario and formulation of the related CAPEX investment package, including analysis of benefits (such as socio-economic integration, nature and biodiversity, environment and climate)
- → Definition of an implementation and governance structure for project delivery
- → Training for City officials and other relevant stakeholders

Module: **Urban Transport**

Brief description: This module allows cities to explore emerging trends in urban transport and to define concrete actions to implement them. Tailored to the specific needs of each City, the module will focus on the key topic a City is interested in exploring to enhance its urban transport sector. Examples of such topics include:

- → **E-mobility:** Examining the transition to electric vehicles, including infrastructure development for EVs and strategies to enable an EV ecosystem, including the private sector
- → **Active mobility:** Promoting walking, cycling, and other non-motorised transportation options to reduce carbon emissions and improve public health
- → **Green logistics:** Investigating sustainable practices in freight and delivery systems to reduce pollution, congestion, and the environmental impact of goods movement
- → **Station area development:** Focusing on the integration of transit hubs with surrounding areas to create more accessible, mixed-use, and sustainable neighbourhoods
- → **Urban enhancement areas:** Identifying spaces for improvements in public transport, green spaces, and infrastructure that enhance the liveability and environmental performance of urban areas

Module: **Climate Governance**

Brief description: Cities own assets and manage budgets in the context of climate change. Through its Corporate Climate Governance Facility and the Green Cities programme, the EBRD supports cities in identifying and managing climate-related risks, impacts and opportunities, through enhanced governance, access to finance, disclosures and climate-resilient strategies. The approach aligns with the pillars established under the disclosure standards of the International Sustainability Standards Board (ISSB) - governance, strategy, risk management, metrics and targets – adapted to the specific context of local governments. The approach also draws on best practices recognised by leading international networks such as Local Governments for Sustainability (ICLEI), C40 Cities and others. The module's activities require close collaboration and engagement with the relevant departments, particularly those responsible for finance, spatial planning, infrastructure, and climate and environment.

Each module will be tailored to the specific ISSB pillars that the City wishes to focus on.

Tasks include:

- → Assessment of the City's climate governance practices, development of a gap analysis across one or more of the ISSB pillars, and identification of key areas for action (ideally to be integrated into the GCAP) in consultation with the City
- → Identification and assessment of financial climate risks (both transition-related and physical) and their impacts on the City's revenues and its ability to access private and public finance for investments in sustainable urban infrastructure. Based on the risk assessment, support for the integration of climate risk considerations in the City's budgeting and financial planning will be provided
- → Development of climate proofing procedure for investments in sustainable infrastructure, with related guidance, to be embedded in the existing governance structures and operations of the City, based on best practice and international standards (for example, the EU Technical guidance on climate proofing for infrastructure)
- → Support for the preparation of high-quality climate-related disclosures on dedicated platforms, such as, the CDP-ICLEI Track, ensuring adequate capacity is developed for subsequent rounds of reporting

Module: **Public-Private Partnerships**

Brief description: The infrastructure gap in the EBRD's countries of operation is significant and cannot be addressed by the public sector alone. To bridge this gap, it is crucial to mobilise private sector expertise and capital to complement the public sector's efforts. This module is designed to scope GCAP actions that have been identified as having potential for a PPP and to conduct their prefeasibility study to assess their viability as a PPP. The goal of this module is twofold: (a) to preliminarily assess the technical, environmental, social, commercial, financial and legal feasibility of the selected actions from a PPP perspective; and (b) to support the City's decision-making process on procuring an action under the PPP model. The actions resulting from this work could enable the City to progress to the next stage of full-fledged PPP project preparation.

Tasks include:

- → Assess the legal and institutional framework
- → Identify the actions with the highest PPP potential
- → Scope the selected actions into well-defined projects
- → Conduct preliminary technical, environmental, social, commercial, financial and legal assessments of the scoped projects
- → Recommend whether a project should be pursued as a PPP
- → Presentation of findings to relevant stakeholders

Annex 03/
Recommended Resources

The following list of online resources is intended to support the data collection for the technical assessments.

Links	Organisation	Relevance
European Air Quality Index	EEA	Air quality
Air Quality Standards Database	WHO	Air quality
AQI+	IQAir	Air quality
Real-time Air Quality Index	WAQI Project	Air quality
World Air Map	AccuWeather	Air quality
Climate Trace GHG Emissions Tracking	Climate Trace	Cross-cutting
EEA Greenhouse Gases	EEA	Energy
SDG Indicator 9.4.1	UNECE	Energy
Global Solar Atlas	World Bank Group	Energy
Global Wind Atlas	DTU	Energy
Global Atlas for Renewable Energy	IRENA	Energy
Aqueduct Water Risk Atlas	WRI	Water and wastewater
GEMStat Data Portal	UNEP	Water and wastewater
SDG Indicator 6.3.2	UN Water	Water and wastewater
Freshwater Resources	OECD	Water and wastewater
World Bank Water Data	World Bank Group	Water and wastewater, gender and inclusion
AQUASTAT	FAO	Nature and environment, water and wastewater, land use
EEA Green Infrastructure	EEA	Nature and environment, land use

Links	Organisation	Relevance
Urban Atlas Land Cover / Land Use	EU CLMS	Nature and environment, land use
EEA Percentage of Green Space	EEA	Nature and environment, land use
Global Human Settlement Layer	EU CEMS	Land use, gender and inclusion
Urban Atlas	EEA	Land use
KBA Data	KBA	Nature and environment
Global Forest Watch Map	Global Forest Watch	Nature and environment, land use
ESA WorldCover 2020	ESA	Nature and environment, land use
GEDI	GEDI Ecosystem Lidar	Nature and environment, land use
Red List of Ecosystems Database	IUCN	Nature and environment
Protected Planet Data Explorer	Protected Planet	Nature and environment, land use
River Plastic Pollution	Ocean Cleanup	Nature and environment
Humanitarian Data Exchange	UN OCHA	Cross-cutting
Vehicle Fleet Sizes	EEA	Transport
Electric Vehicle Registrations	EEA	Transport
Climate Watch Online Platform	Climate Watch	Climate
Systems Change Data and Research	Systems Change Lab	Cross-cutting
Renewable Energy Consumption	EEA	Energy

EBRD GREEN CITIES

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