

Funding Proposal

FP086: Green Cities Facility

Multiple Countries | European Bank for Reconstruction and Development (EBRD) | Decision B.21/34

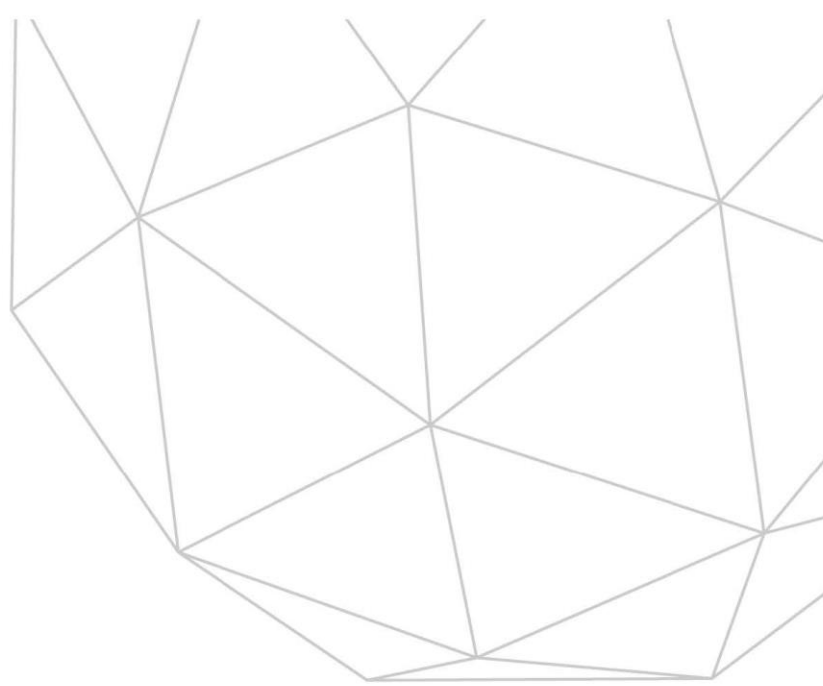
28 November 2018



GREEN
CLIMATE
FUND



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CLIMATE FUND Date of Submission: 26/02/2018



Funding Proposal

Version 1.1

The Green Climate Fund (GCF) is seeking high-quality funding proposals.

Accredited entities are expected to develop their funding proposals, in close consultation with the relevant national designated authority, with due consideration of the GCF's Investment Framework and Results Management Framework. The funding proposals should demonstrate how the proposed projects or programmes will perform against the investment criteria and achieve part or all of the strategic impact results.

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Note to accredited entities on the use of the funding proposal template

- Sections **A, B, D, E** and **H** of the funding proposal require detailed inputs from the accredited entity. For all other sections, including the Appraisal Summary in section F, accredited entities have discretion in how they wish to present the information. Accredited entities can either directly incorporate information into this proposal, or provide summary information in the proposal with cross-reference to other project documents such as project appraisal document.
- The total number of pages for the funding proposal (excluding annexes) is expected not to exceed 50.

Please submit the completed form to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

"[FP]-[Agency Short Name]-[Date]-[Serial Number]"

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Acronyms

ADB	Asian Development Bank
AE	Accredited Entity
AEB / EBRD Agreement	Agreement Establishing the European Bank for Reconstruction and Development
AMA	Accreditation Master Agreement
AML	Anti-money Laundering
AP	Availability Payments
BOD	Biological Oxygen Demand
CAPEX	Capital Expenditures
CCAP	Climate Change Action Plan
CFT	Countering of Financing of Terrorism
COO	Countries of Operation
CSO	Civil Society Organisations
CTF	Clean Technology Fund
DCF	Donor Co-finance
DOC	Degradable Organic Carbon
DSCR	Debt Service Coverage Ratio
E&S	Environmental and Social
E2C2	Energy Efficiency and Climate Change
EBRD	European Bank for Reconstruction and Development, "the Bank"
EnPC	Energy Performance Contracts
ESCO	Energy Services Company
ESD	Environmental and Social Department
ESDD	Environmental and Social Due Diligence
ESMS	Environmental and Social Management System
ESP	Environmental and Social Policy
ESSF	Environmental and Social Sustainability Framework
EvD	Evaluation Department
FAA	Funded Activity Agreement
GCAP	Green City Action Plans
GCF	Green Climate Fund
GCoM	Global Covenant of Mayors
GET	Green Economy Transition
GHG	Greenhouse Gas
GIP	Good International Practice
GJ	Gigajoules
GrCF	Green Cities Facility
IADB	Inter-American Development Bank
ICLEI	International Council for Local Environmental Initiatives
IFI	International Financial Institutions
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
MEI	Municipal and Environmental Infrastructure
MENA	Middle East and North Africa
MoV	Means of Verification
MRV	Monitoring, Reporting and Verification
NAMA	Nationally Appropriate Mitigation Actions
NAP	National Adaptation Plan

NAPA	National Adaptation Programme of Action
NDA	Nationally Designated Authorities
NDC	Nationally Determined Contributions
NEEAP	National Energy Efficiency Action Plan
OAD	Operation Administration Department
OCCO	Office of the Chief Compliance Officer
OECD	Organisation for Economic Cooperation and Development
OGC	Office of General Council
PD	Procurement Department
PIU	Project Implementation Unit
PM2.5	Particulate Matter
PP&R	Procurement Policies and Rules
PPP	Public Private Partnerships
PRs	Performance Requirements
PV	Photovoltaic
QALY	Quality Adjusted Life-Years
RO	Resident Offices
SDG	Sustainable Development Goals
SEAP	Sustainable Energy Action Plan
SPV	Special Purpose Vehicle
TC	Technical Cooperation
tCO ₂ eq	Tonnes of Carbon Dioxide Equivalent
The Facility	Proposed Green Cities Facility
The Facility's region	9 beneficiary countries included under the Green Cities Facility
The Framework	EBRD Green Cities Framework approved by the EBRD Board on 30 November 2016 and covering all Countries of Operations
The Special Fund	GCF-EBRD Special Fund
ToC	Theory of Change
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention of Climate Change

A – Programme Summary

A.1. Brief Project / Programme Information		
A.1.1. Project / programme title	Green Cities Facility	
A.1.2. Project or programme	programme	
A.1.3. Country (ies) / region	<p>9 countries eligible to receive GCF funding in the Caucasus, the Middle East and North Africa, Central Asia and south-eastern and eastern Europe (See Annex 1).</p> <ul style="list-style-type: none"> • The Caucasus and Moldova: Armenia, Georgia and Moldova • The Middle East and North Africa: Jordan and Tunisia • Central Asia: Mongolia • South-eastern Europe: Albania, FYR of Macedonia and Serbia 	
A.1.4. National designated authority (ies)	NDAs as designated on the GCF website	
A.1.5. Accredited entity	European Bank for Reconstruction and Development (EBRD)	
A.1.5.a. Access modality	<input type="checkbox"/> Direct <input checked="" type="checkbox"/> International	
A.1.6. Executing entity / beneficiary	<p>Executing Entities will comprise:</p> <ul style="list-style-type: none"> • European Bank for Reconstruction and Development (The consultants for the implementation of green city infrastructure investments will be procured and managed by the EBRD) • National governments municipalities, state or municipal utility companies owned by municipalities or the national government, special purpose vehicle (in the case of PPPs), or energy service companies (ESCO).special purpose vehicles of a public private partnership, or energy service companies. <p>Beneficiaries:</p> <ul style="list-style-type: none"> • Municipalities, municipal or state utility companies, special purposes vehicle of a public private partnership, or energy service companies <p>Final beneficiaries:</p> <ul style="list-style-type: none"> • Participants of the stakeholder (incl. civil society) engagement processes as part of green city action planning • All citizens affected by the improved urban services and infrastructure 	
A.1.7. Project size category (Total investment, million USD)	<input type="checkbox"/> Micro (≤ 10) <input type="checkbox"/> Small ($10 < x \leq 50$) <input type="checkbox"/> Medium ($50 < x \leq 250$) <input checked="" type="checkbox"/> Large (> 250)	
A.1.8. Mitigation / adaptation focus	<input type="checkbox"/> Mitigation <input type="checkbox"/> Adaptation <input checked="" type="checkbox"/> Cross-cutting	
A.1.9. Date of submission	26 February 2018	
A.1.10. Project contact details	Contact person, position	<p>Jan-Willem van de Ven, Head of Climate Finance and Carbon Markets, Energy Efficiency and Climate Change</p> <p>Lin O’Grady, Deputy Head, Municipal and Environmental Infrastructure</p> <p>Nigel Jollands, Lead Policy Products, Energy Efficiency and Climate Change</p>
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Mailing address	One Exchange Square, London EC2A 2JN, United Kingdom
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A.1.11. Results areas *(mark all that apply)*

Reduced emissions from:

- Energy access and power generation**
(E.g. on-grid, micro-grid or off-grid solar, wind, geothermal, etc.)
- Low emission transport**
(E.g. high-speed rail, rapid bus system, etc.)
- Buildings, cities and industries and appliances**
(E.g. new and retrofitted energy-efficient buildings, energy-efficient equipment for companies and supply chain management, etc.)
- Forestry and land use**
(E.g. forest conservation and management, agroforestry, agricultural irrigation, water treatment and management, etc.)

Increased resilience of:

- Most vulnerable people and communities**
(E.g. mitigation of operational risk associated with climate change – diversification of supply sources and supply chain management, relocation of manufacturing facilities and warehouses, etc.)
- Health and well-being, and food and water security**
(E.g. climate-resilient crops, efficient irrigation systems, etc.)
- Infrastructure and built environment**
(E.g. sea walls, resilient road networks, etc.)
- Ecosystem and ecosystem services**
(E.g. ecosystem conservation and management, ecotourism, etc.)

A.2. Project / Programme Executive Summary (max 300 words)

Please provide a brief description of the proposed project/programme, including the objectives and primary measurable benefits (see [investment criteria in section E](#)). The detailed description can be elaborated in [section C](#).

Cities in the EBRD’s countries of operation play a critical role in the global response to climate change. However, their climate-investment needs are significant, with municipalities facing budgetary constraints and limited capacity to structure and deliver ‘bankable’ projects. In response, the EBRD proposes to establish a Green Cities Facility (or “Facility”) to address cities’ climate change challenges while building the market case for private-sector investment in sustainable urban infrastructure.

The Facility is based on a country-driven and evidence-based approach that systematically prioritises and then finances transformational municipal climate-related infrastructure investments. The Facility addresses multiple barriers to climate action through four components that: (1) deliver policy and strategy support to cities to assist them to prioritise actions; (2) facilitate green city infrastructure investments; (3) build capacity of key stakeholders; and (4) facilitate and provide a pathway for cities to access green finance and capital markets.

This systematic approach is based on a well-developed and tested methodology to develop a Green City Action Plan (GCAP). Municipalities use the GCAP to steer their own green urban planning initiatives and investments and to guide monitoring, reporting and further planning.

The Facility will make available concessional financial instruments. These instruments will be calibrated to address the incremental costs of low-carbon and climate-resilient infrastructure, which include higher upfront capital costs compared to baseline market-entry barriers arising from climate technologies’ underrepresentation in local municipal sectors and climate externalities. Overall, the GCF funding will allow the Facility to take on more ambitious investments, more effectively target innovative solutions in new market segments, and further incentivise market participants by reducing financing costs and risks.

The Facility’s investments will focus on urban infrastructure in six sectors: low-carbon and climate resilient buildings, water and wastewater, solid waste, urban transport, municipal energy systems (district heating / cooling) and street lighting.

To ensure a paradigm shift is realized, cities' access to capital beyond public finance will be critical. The Facility will therefore work with a range of stakeholders, from cities to national agencies, to develop the tools and skills that cities need to attract private sector finance for green investments, particularly in local capital markets.

Over the next 5 years, the Facility will help at least 10 cities to plan for and implement comprehensive green city actions. More than 11 million tCO₂eq will be avoided, and beneficiaries will exceed 23 million individuals. Moreover, the Facility will foster transformational low-carbon, climate-resilient urban development in participating cities while catalysing a regional paradigm shift to sustainable urban development.

A.3. Project/Programme Milestone

Expected approval from accredited entity's Board (if applicable)	30/11/2016
Expected financial close (if applicable)	Not applicable. The GrCF is a multi-user facility with different financial closures for the projects under it.
Availability period	Start: Date of Effectiveness of the Facility Funded Activity Agreement End: Five years after the date of Effectiveness of the Facility Funded Activity Agreement
Estimated implementation period start and end date	Start: Date of Effectiveness of the Facility Funded Activity Agreement End: 10 years after the end of the Availability Period
Project/programme lifespan	23 years, including 5 year availability period to originate and sign financing transactions

B – Financing / Cost Information

B.1 Description of Financial Elements of the Project / Programme

B.1. Description of Financial Elements of the Project / Programme

The proposed Facility supports the development of low-carbon, climate-resilient infrastructure in cities. The Facility will leverage EBRD and GCF finance to attract sovereign, local government and other donor contributions to support investments and technical assistance. The Facility will also provide cities with the tools to attract private sector capital.

The expected scale of the Facility, including investment projects that are developed by EBRD banking staff in close cooperation with local municipal clients and national governments, is estimated to be in the range of EUR674m to EUR744m. The Facility is designed to deliver on targeted projects in the Bank's pipeline for the Facility's specified period as well as future expected projects. The total value of the GCF concessional finance and grants would be EUR228 million. Of this, EUR210m (EUR180m loan, EUR30m grant) would finance between 32 to 36 per cent of the Green City infrastructure investment costs. The EBRD will provide EUR350m from the Bank's ordinary capital resources. EBRD's financing will constitute between 49 and 54 per cent of investment costs. An additional EUR18m of GCF financing would support Green City Action Plans (GCAPs), technical assistance and capacity building and Green Capital Market Roadmaps. The remaining funding will come from municipalities and an additional EUR 36m will be provided by other donors. Table 1 specifies the financial elements of the Facility by component and provides a breakdown by financing sources, amounts and instruments.

Table 1. Financial Elements of the Green Cities Facility

Component	Total Amount (EUR m)	GCF Financing		EBRD Financing		Local Contributions / Donor Financing	
		Amount (EUR m)	Financial Instrument	Amount (EUR m)	Financial Instrument	Amount (EUR m)	Financial Instrument
1. Green City Action Plans and Policy Dialogue	5.7	4	Grant	0	Grant	1.7	Donor Grant
2. Green City Infrastructure Investments							
2.1 Green City Infrastructure Loans and Co-finance	598 – 668	180	Senior Loans	350 ²	Senior Loans	60 – 130 ³	Local Contributions
2.2 Green City Infrastructure Grants	51.5	30	Grant	0	Grant	8	Donor Finance
3. Technical Assistance and Capacity Building	13.8	9 ¹	Grant	0	Grant	4.8 ⁴	Donor Grant
4. Green Capital Market Roadmaps	5	5	Grant	0	Grant		Donor Grant
Total cost (EUR)	674 -744	228		350		96 - 166	

¹ EBRD has significant experience with the exogenous risks associated with financing municipal sector projects. The budget for technical assistance and capacity building incorporates the market risks associated with municipal finance and the potential attrition of investments as they develop.

² EBRD's funding will be available through the EBRD's board approved Green Cities Framework. To date, EUR250 million in EBRD has been approved for the Bank's Green Cities Framework, which is the funding basis for this proposal. Given the demand for the Framework, it is envisaged that its size will be increased. The EUR350 million designated as EBRD finance is indicative of the potential increase to the Framework.

³ EBRD seeks to maximize the local contribution on its projects. These contributions can take a range of forms, and typically include VAT, local taxes and in some instances land acquisition. Based on the Bank's experience in the municipal sector in the Facility's region, these contributions

on average range between 10 – 20 per cent of total project costs. In addition, for any technical assistance projects, clients, in addition to paying for VAT, provide in-kind contributions in the form of office space, communication connections, etc., for the consultants to work.

⁴ EBRD has received donor support from SIDA in Sweden to organise a Green Cities forum that brought together city representatives from the Facility and EBRD region. The conference was part of the Facility's planned knowledge platform efforts, and was an opportunity for sharing best practice between city stakeholders. More information on the conference and the Facility's knowledge platforms is in Sections C.3, E.2.1 and E.2.2. Additional donor resources support the development of feasibility studies, and technical and financing due diligence.

Calculation of Facility's scale

The scale of the GrCF and EBRD and GCF's respective contributions are estimated as follows.

Total Facility value

The total Facility value of EUR674m-EUR744m is based on the investment, technical assistance, donor and local contribution expectations in the Facility countries over the next 5 years. The estimate is based on a combination of:

- an historical analysis of the Bank's Municipal and Environmental Infrastructure team's portfolio
- an understanding of the forthcoming investment project pipeline
- the level of scaling-up expected as a result of GCF co-finance and increased ambition
- past experience with delivering policy and technical assistance support to municipalities.

This analysis was extensively discussed across the Bank, and expert judgement applied to ensure the robustness of the estimated volume. Based on the judgement of internal experts, their knowledge of the market, and through discussions with relevant local counterparts, the Bank considers the Facility size of between EUR674m-EUR744m is realistic and achievable.

GCF's contribution to the Facility – investment support

In terms of total investment volume of the Facility, a review of the current and forthcoming pipeline has identified an indicative list of 20 projects across all 9 countries over the Facility's five year availability period with a total project value¹ (TPV) of around EUR650m. EBRD has calculated GCF's contributions to this investment volume as follows:

- i) GCF concessional co-finance contribution. Based on past experience, the EBRD estimates that donor concessional co-finance contributions of up to 30 per cent of TPV are necessary to deliver transformational municipal climate investments. Therefore, we estimate that EUR 180 million (28% of TPV) of GCF co-financing is needed.
- ii) GCF investment grants (i.e. grants used for investment capital expenditures and not technical assistance). The EBRD estimates that a grant intensity of between 4 to 5 per cent of TPV is needed to deliver the investment ambition of the Facility. Considering other donor contributions of EUR10m, the Facility identifies the need for a grant of EUR30m from GCF (4.6% of TPV).

Note that all investments considered for GCF support under the Facility, and the size and type of GCF support provided within a specific project, will always be assessed on a case-by-case basis. EBRD will apply the principle of least concessionality to all projects financed under the GrCF, in line with GCF's policies and procedures and EBRD's internal policies governing the use of concessional finance. How EBRD performs this assessment is described further in Section F.1.

GCF's contribution to the Facility – technical assistance support

A total of EUR18m of technical assistance support is requested from the GCF for the Facility. This covers Green City Action Plans, technical assistance for project implementation, gender and stakeholder action plans, capacity building and Green Capital Market Roadmaps. This is made up as follows:

- i) Component 1 (GCAPs and policy dialogue: EUR4m from GCF): GCAPs can range in cost from EUR 300 – 500 thousand, depending on a city's size or complexity, scope of the GCAP and availability of existing information. The total GCAP and policy dialogue costs listed reflects the Facility's output of 10 GCAPs along with policy support.
- ii) Component 3 (Technical assistance and capacity building: EUR9m from GCF): GCF support for Component 3 reflects the costs of due diligence, capacity building and knowledge building the Facility will combine with its investments. For project technical assistance and implementation support, we estimate that around EUR 337,500 would be directly related to climate finance - thus 20 projects requires EUR6.75m. In addition, we estimate a need for EUR 1m

¹ Where TPV is defined as the sum of all investment components (contributions from EBRD, GCF (concessional lending and grant), bilateral donors and local contribution. This definition does not include potential co-finance from peer financial institutions).

- for knowledge sharing and capacity building and a further EUR1.25m for gender related aspects. A more detailed description of the scope of these activities is provided in Section C.3.
- iii) Component 4 (Green Capital Market Roadmaps: EUR5m from GCF): The scale of funding requested for the Facility's Green Capital Market Roadmaps reflects the hands-on approach envisaged as a part of Component 4. At least 8 cities will be supported with extensive trainings, readiness assessments, tools and implementation plans to enable them to attract green finance for continued investment in their low-carbon and climate-resilient development. Support for each city is envisaged to cost approximately EUR 625,000.

In summary, the GCF is requested to provide EUR 228million through GCF concessional co-financing, GCF investment grants and GCF grants for technical assistance. In addition, the EBRD will provide EUR 350 million, and EUR96-166m of local contributions and donor financing.

Other donors contributions to the Facility

The EBRD will mobilise co-financing from other donors to maximise the impact of the Facility and crowd in other sources of donor finance. EBRD is committed to mobilise at least EUR 36 million to co-finance green cities investments in Facility countries in the form of investment grants, concessional co-financing and technical assistance. EBRD has secured donor support for GCAPs from multiple bilateral donors for on-going projects including from Austrian, Japanese and Swedish institutions, and the EBRD Special Shareholders Fund. Investment support for green cities investments in Facility countries has recently been mobilised, or is envisaged from the European Union, the Eastern European Energy Efficiency and Environmental Partnership and the Taiwan International Cooperation and Development Fund. The EBRD has also signed a memorandum of understanding with the Korean Ministry of Strategy and Finance to further explore opportunities to mobilise donor resources and cooperate on the EBRD Green Cities Framework.

Multi-country portfolio approach

The Facility supports transformative low-carbon, climate-resilient investments across multiple countries, cities and investment projects. A multi-country portfolio approach is necessary given the scale of climate change challenges facing cities and the critical need to deliver transformative change at scale. By taking a portfolio approach the EBRD will:

- Use Facility resources efficiently by allocating resources within a city to highest priority investment projects across countries, cities and sectors. This cannot be achieved with a piecemeal, project-by-project approach.
- Capitalise on synergies and lessons learned across countries, cities, investment projects by operating the Facility
- More effectively ensure transfer of knowledge and capacity building between beneficiary cities and countries
- Efficiently manage the portfolio of technical assistance and investments rather than dealing with projects in a piecemeal fashion.

Across the nine countries in the Facility, no country will receive more than 25 per cent of GCF's finance unless approved jointly with the GCF.

Rationale for the choice of financial instruments to overcome barriers to climate change investment

Barriers to investment in climate change

Access to finance for climate-focused infrastructure investments is one of the most significant barriers faced by cities in the EBRD countries of operations (see section C.2 for a more detailed description of all barriers). To finance infrastructure, cities have commonly looked to their own or national governments' resources, along with support from IFIs, commercial banks and in some instances the private sector. While budgetary contributions from national governments typically represent 60 to 65 per cent of urban infrastructure investment in developing countries, these resources are still insufficient to meet cities' growing infrastructure needs. Further exacerbating the issue, the responsibility for raising capital for urban infrastructure is shifting more towards municipal administrations. In general, this kind of shift is welcomed if combined with adequate capacity and legal competence. However, many municipalities lack the fiscal authority, regulatory environment and/or capacity to engage in significant infrastructure investment on their own. Additionally, municipal services are often under-priced with tariffs/fares below cost recovery levels.

Even when they do show an interest from their side, cities have difficulty accessing capital markets² for several reasons. First, only a small number of Cities in the Facility's region are investment-grade and have sufficient internal capacity and experience to meet the expectations of capital markets in terms of use of proceeds discipline, particularly in the case of green assets (screening,

² Leveraging cities: Toward a sustainable urban development fund. Brookings, 2015.

tracking, monitoring and reporting). Second, their respective Ministries may not necessarily endorse a move to tap local capital markets. Third, there is no guarantee of sufficient interest from local capital markets. That said, the emergence of a green bonds and/or green finance market could provide cities with a much-needed source of revenue to support investment in addressing climate change.

Climate-focused infrastructure investments often face the barrier of higher upfront costs than traditional technologies, as well as long return periods. With already constrained budgets and limited access to finance in cities, concessional financial instruments are needed. GCF concessional finance made available through the proposed Facility is critical to help to reduce the cost of capital enough to offset the municipalities' first-mover additional costs, mitigate the risks from initiating climate investments in challenging markets and to offset the additional costs associated with the introduction of necessary climate change adaptation measures. The GCF is the only source of significant affordable climate finance available to the countries that are participating in this Facility.

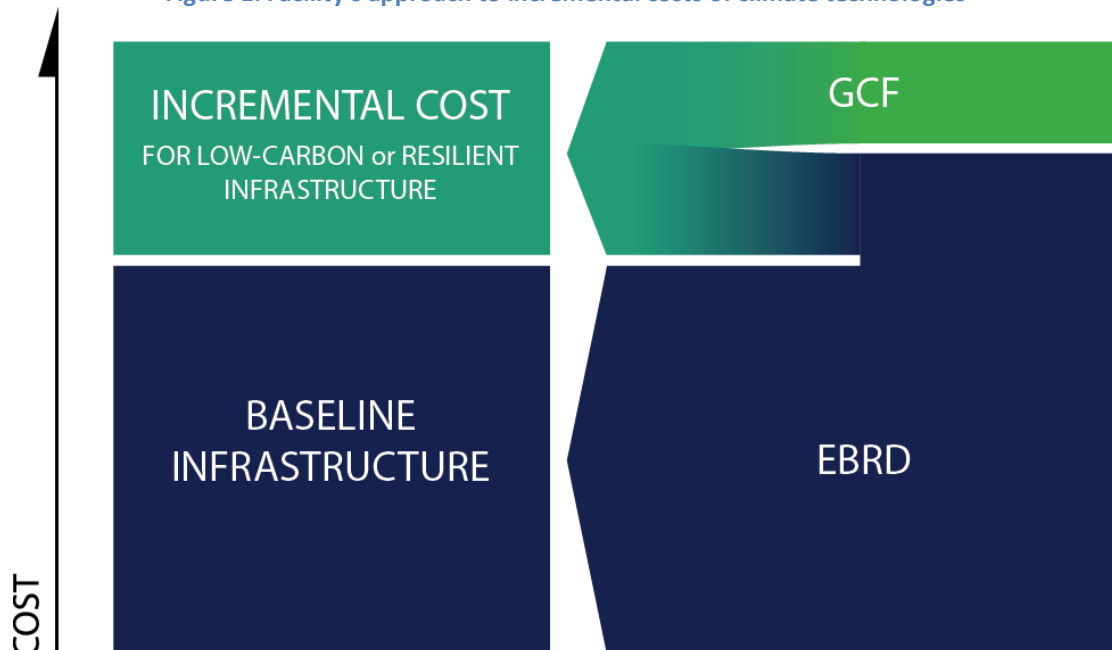
Why concessional finance from GCF?

The Facility's concessional instruments, including grants, will be calibrated to address the incremental costs of low-carbon and climate resilient infrastructure which includes the higher capital costs of compared to baseline, market entry barriers arising from climate technologies' underrepresentation in local municipal sectors, and climate externalities. These issues are most pronounced for adaptation investments, which can lack the revenue generation potential of mitigation technologies. The process by which the EBRD determines the need for concessionality in an investment is outlined in section F.1.

GCF's concessional terms will be offered to municipalities, where justified, to compensate for the higher cost of investing in transformative climate mitigation and adaptation technologies. This enables the Facility to take on more ambitious investments; more effectively target innovative solutions in new market segments, and further incentivise market participants by reducing financing costs and risks. The higher upfront costs of transformative mitigation and adaptation investments may make such projects unviable if financing is extended to the municipality on purely commercial terms. GCF's ability to offer concessional terms in investments enables prospective clients to invest in transformative sustainable infrastructure that they would otherwise not be able to do with EBRD finance alone.

The concessional element of GCF's funding may be provided in two forms: as a grant, or as finance at lower than market pricing. The repayment schedule (amortization profile) of GCF finance is proposed to be flexible, to enable borrowers to invest in GrCF projects without overstressing limited municipal resources. This flexibility is particularly innovative as it broadens the field of eligible and transformative investments that may be funded under the GrCF. GCF is otherwise afforded the same terms as EBRD (e.g. creditor ranking, securities, guarantees, DSCR covenants, maturity) and is fully repaid its share of principal and interest at final maturity date.

Figure 1. Facility's approach to incremental costs of climate technologies



The GCF's and EBRD's relative contributions to the cost of transformative investments under the GrCF are shown in the above figure. EBRD Operation Leaders are responsible for justifying the need for GCF's concessional funding to be provided. Such requests will be assessed by relevant EBRD departments in line with the EBRD's approach to minimum concessionality. This process is described in Section F.1. The terms of GCF's contributions will be determined on a case by case basis, in line with the terms and conditions to be agreed with the GCF and only where justified and approved by EBRD in line with EBRD's Guidelines for the Use of Concessional Finance.

By offering GCF's resources in combination with the Bank's finance, the Facility enables municipalities to fund transformative investments that they would otherwise not be able to achieve on commercial terms, and to do so at scale across all participating countries. GCF's contributions will be matched by an additional EUR 350 million in commercial financing from the EBRD and EUR 60m to 130m in local contributions along with EUR 36m in additional donor support, representing a ratio of 1:1.96-2.26 for every euro of GCF financing.

The need for flexibility

The Facility's provision of flexible financial instruments is necessary to respond to the context-specific priorities set out by the cities through the Green City Action Plans. The ability to tailor the financial terms of individual transactions ensures that the effectiveness of limited GCF funding can be maximised and the transaction costs of securing climate finance can be minimised. The Facility's range of concessional loans and grants offers municipalities the flexibility to respond to and target a diverse range of barriers to investment to address climate change.

Flexibility is also needed when developing municipal investment projects due to inherent sectoral risks. By applying the GCAP process, the Facility will develop a list of multiple priority investments for each city. By taking this approach we diminish the risk of political interference should a single project not proceed as would be the case in a project-by-project approach.

The need to link finance with technical and policy assistance

Investments alone are insufficient to achieve the transformation in climate action needed at the urban level. To deliver a transformation, investments must to be integrated with strategic planning, policy reform, technical assistance and capacity building. The GCF, with the goal of supporting paradigm shifts in climate action, is the only source of sufficient funding for the policy and technical assistance aspects of the Facility's transformative approach. Furthermore, the GCF will facilitate the development and sharing of best practices, across the Facility region and beyond, in areas such as urban environmental benchmarking and investment planning. In this way, GCF funding will catalyse the implementation of future GCAPs by cities outside the Facility's region and independent of GCF funding.

Overall, the Facility will demonstrate the financial viability of investments in climate-focused urban services in the Facility's region as well as the credit capacity of the borrowers. Over time and beyond the Facility's lifetime, these market examples will help to attract additional finance from new and diverse sources, including private sector finance for green investments particularly in local capital markets, and in doing so, provide a sound exit strategy for the GCF and the EBRD.

B.2 Project Financing Information

B.2. Project Financing Information							
	Financial Instrument	Amount	Currency	Tenor	Pricing		
(a) Total project financing	(a) = (b) + (c)	674 – 744	million euro (€)				
(b) GCF financing to recipient	(i) Senior Loans	180	million euro (€) --	--	--		
	(ii) Subordinated Loans	--		() years	() %		
	(iii) Equity	--	<u>Options</u>				
	(iv) Guarantees	--	<u>Options</u>				
	(v) Reimbursable grants *	--	<u>Options</u>				
	(vi) Grants *	48	million euro (€)				
Please see section F.1 for economic and financial justification for the concessionality that GCF is expected to provide, including grants.							
	Total requested (i+ii+iii+iv+v+vi)	228	million euro (€)				
(c) Co-financing to recipient	Financial Instrument	Amount	Currency	Name of Institution	Tenor	Pricing	Seniority
	<u>Senior Loans</u>	350	million euro (€)	EBRD			<u>senior</u>
	<u>Grant</u>	16	million euro (€)	Donors			<u>Options</u>
	<u>Options</u>	60 – 130	million euro (€)	Local contributions			<u>Options</u>
	<u>Grant</u>	10	million euro (€)	Donors			<u>Options</u>
<u>Senior Loans</u>	8	million euro (€)	Donors			<u>Options</u>	
Lead financing institution: European Bank for Reconstruction and Development							
* Please provide a confirmation letter or a letter of commitment in section I issued by the co-financing institution.							
(d) Financial terms between GCF and AE (if applicable)	GCF Special Fund (See the details in Section C.7) In line with Article 10 of the Agreement Establishing the EBRD (AEB), the GCF resources are ‘special resources’ of EBRD. The AEB provides that ‘special resources’ from GCF and EBRD’s ‘ordinary capital resources’ will at all times and in all respects be held, used, committed, invested or otherwise disposed of entirely separate from each other. To facilitate the management of GCF resources, EBRD has established the GCF Special Fund (‘the Special Fund’) through which all payments from the GCF and repayments to the GCF will pass. GCF resources from the Special						

Fund will not be comingled with EBRD's ordinary capital resources or other donor resources. GCF resources benefit from the privileges and immunities afforded to EBRD under the AEB.

Treatment of GCF resources

GCF resources will be made available to beneficiaries through the GrCF window of the GCF Special Fund. The Facility's investments will comprise an EBRD-financed tranche and a GCF-financed tranche (in the case of a loan) or a GCF-financed capital grant (in the case of a grant). Borrowers will draw down on GCF resources in line with the provisions of the Funded Activity Agreement, loan/grant legal agreements and standard EBRD operations procedures.

The terms of loan tranches financed with EBRD's ordinary capital resources will be determined on a case by case basis by applying sound banking principles and undertaking analysis of each borrower's credit worthiness in the context of the envisaged project. The terms of the GCF-financed tranche or capital grant will be determined in line with the Funded Activity Agreement, EBRD Guidelines for the Use of Concessional Finance Products in EBRD Operations, and the EBRD Operations Manual. The use of GCF resources in each GrCF investment is scrutinised by the EBRD's Operations Committee (or equivalent) and thereafter the Board to ensure that the Bank's principles of least concessionality, additionality and guidelines for investment grant co-financing are applied. This is described further in Section F.1.

Repayments by borrowers of GCF resources, and interest or fee payments by borrowers on GCF-financed loan tranches, will be paid into the GCF Special Fund. Such payments, along with any unused GCF resources remaining at the end of the implementation period of the Facility – defined as a five year period to originate and sign projects - will be reflowed to the GCF in line with the provisions of the Funded Activity Agreement.

Fees to EBRD

EBRD undertakes GrCF implementation, supervision, completion, evaluation and reporting activities on a cost recovery basis. The costs of such activities are recovered from the GCF through Accredited Entity fees, as to be agreed between GCF and EBRD. EBRD will recover these costs in accordance with the Funded Activity Agreement, and GCF Board decision B.11/10 and subsequent GCF Board decisions relating to Accredited Entity fees.

B.3 Financial Markets Overview

B.3. Financial Markets Overview (if applicable)

Infrastructure spending is projected to represent almost five per cent of global GDP annually through 2030, or roughly USD 57 to 67 trillion in total.³ Despite the scale of projected investment, there is a significant and growing gap in infrastructure finance, particularly in urban areas. The global urban infrastructure deficit in emerging and developing countries is estimated to be approximately USD 6.3 trillion cumulatively or about USD 400 billion per annum over the next 15 years.⁴ With three-quarters of infrastructure spending occurring in cities, such a gap in infrastructure financing prevents cities from investing in the measures they need to address their most pressing challenges, including climate change.

As noted in section B.1., cities have mainly looked to their own or national governments' resources to finance infrastructure despite these resources being insufficient to meet cities' growing infrastructure needs.⁵ Municipal governments are increasingly responsible for raising capital for urban infrastructure yet lack the fiscal capacity to collect sufficient taxes and are unable to access debt or equity markets.

Throughout EBRD countries of operations, there is little commercial finance available for municipal infrastructure, either through loans or through the bond markets. Cities rely on national budget funding allocations and, where they are capable of taking on debt, direct finance institutions to finance the key infrastructure required for them to deliver their services to the population. This is exacerbated by the fact that most IFI lending is provided in hard currency, exposing municipalities to foreign exchange risk as revenues are denominated in local currency.

The challenges of accessing finance for climate infrastructure investments are even more pronounced. Low-carbon emission and climate-resilient municipal infrastructure typically tend to be capital-intensive, have higher up-front costs than business-as-usual alternatives and deliver economic, environmental and social benefits in the long term. In the context of short-term planning/political horizons and prohibitive borrowing costs, such climate investments often face difficulty attracting the capital needed. Under current public procurement practices, the lowest bidder often receives the tender, independent of climate benefits that appropriately chosen solutions could provide. This is partially due to a lack of understanding of climate measures available to municipalities and the associated capacity needed to implement them. The relative weakness of financial markets in the beneficiary countries also has a direct impact on cities' ability to invest in infrastructure that contributes to local, national and global climate mitigation and adaptation objectives.

Below are short summaries of the financial markets and municipal lending in each participating country. These summaries are informed by the EBRD's Country Assessments, which reflect the EBRD's current experience and insights.

Albania: Provision of municipal services remains highly centralised in Albania. A key challenge is the need to foster and improve the financial autonomy of municipalities and municipal utilities under effective regulation. Fragmentation of the municipalities and absence of fiscal autonomy have hindered engagement in the municipal infrastructure sector. This situation is, however, beginning to change as the government is implementing a far-reaching territorial reform programme, supported by the international community. The ability to finance municipal projects is often a function of political accord between municipal clients and the central government. Moreover, capacity at the municipal level remains very low, with limited ability to plan and implement investments. IFIs are an important source of financing in Albania, but initiatives focused specifically on the municipal sector have been limited, with the exception of the capital Tirana. The majority of IFI initiatives focus on national level reforms, large transport infrastructure and the energy sector.⁶

Armenia: There is limited financing for municipal infrastructure projects in Armenia, and cities rely on the central government backing, although the ultimate debt service is typically borne by the City or the Utility Company. Non-sovereign opportunities in

³ Handbook on Urban Infrastructure Finance. New Cities Foundation, 2016.

⁴ Steering urban growth: governance, policy and finance. LSE, 2014

⁵ Financing the Urban Transition for Sustainable Development: Better Finance for Better Cities. NCE, 2016.

⁶ Strategy for Albania. EBRD, January 2016

Yerevan are starting to emerge. The IMF confirmed that Armenia's public debt remained sustainable while remaining at an elevated level over the medium term limiting investment opportunities. Local banks also cannot offer loans matching the economic life of the infrastructure assets. Access to finance in general remains constrained: the banking sector lacks some important funding tools (e.g., a functioning interbank market, better developed capital markets infrastructure) and is not effectively supplemented by non-banks, nor supported by institutional investors. A number of IFIs and bilateral institutions are active in the country and play an important role in providing finance, many with a high proportion of concessional funding, in order to meet IMF concessionality requirements. Fiscal space constraints are creating a need for the country to come up with financeable strategies to receive IFI support particularly in the public utility and infrastructure sub-sectors. This is becoming an imperative as public borrowing becomes more limited due to debt sustainability considerations.⁷

FYR Macedonia: Long-term financing in the maturities required for municipal projects is unavailable from commercial banks in FYR Macedonia. Municipalities' fiscal decentralisation process was launched in 2007, when regulations for local borrowing were established, and municipalities were allowed to borrow for capital investments. However, the Ministry of Finance approval is required, and the total debt may not exceed the previous year's total revenues. For large complex projects, the main borrower is the Government via sovereign loans or sovereign guarantees, with more than half of total municipal debt owed to IFIs. The main IFI creditors in FYR Macedonia are the World Bank and KfW. Key challenges in the municipal sector include the need to improve the financial autonomy of municipalities and municipal utilities companies under effective regulation, developing decentralised financing solutions to improve cost recovery and commercial discipline (mainly in waste management and public water utilities), together with capacity building at the level of the local administration. The need for infrastructure investments is also significant, but is a challenge given the current lack of private sector interest to invest in infrastructure projects in FYR Macedonia.⁸

Georgia: There is a very limited market for long-term municipal borrowing for municipalities and municipal utility companies in Georgia. Local banks cannot offer loans matching the economic life of municipal infrastructure assets as the Georgian banks lack "contractually" long-term stable funding. Their balance sheets are primarily deposit funded (about 64 per cent); however, over 80 per cent of client accounts are short-term leading to maturity mismatches and increasing refinancing risks. Furthermore, the main borrower is the Government, with a centralised model being favoured. Municipalities are restricted to borrow directly once they exceed set limits, and in general are unable to borrow without the consent of Ministry of Finance of Georgia, even if no sovereign guarantee is being considered. IFIs are very active in Georgia with finance focused on the MSME, transport and energy sectors.⁹

Jordan: Long-term financing in the maturities required for municipal projects is unavailable from commercial banks in Jordan. Furthermore, limited resources, complex tendering processes and the absence of legal frameworks delay and block municipal projects with private-sector involvement. There is very limited borrowing capacity in municipalities without a sovereign guarantee, except in Amman. The refugee crisis has also strained the situation further, and has had a severe impact on both the national and city budgets. At the same time, the crisis is presenting an opportunity to modernise infrastructure in cities in a manner that is climate-resilient and consistent with a low-carbon development pathway during the investments required to cope with the increased demands. IFIs and donor agencies has a significant presence in Jordan, helping to secure grant or subsidised financing that benefits multiple sectors including large infrastructure, municipal investments, energy and finance.¹⁰

Moldova: There is a very limited market for long-term municipal borrowing for municipalities and municipal utility companies in Moldova. IFI finance in Moldova is prevalent across both public and private sectors, but the organisations commonly recognise the need for banking sector rehabilitation related to their weak governance. Local banks cannot offer loans matched to the economic life of the infrastructure assets, limiting availability of finance to IFIs operating in the country, or the national budget. In 2015 a new law on public finance was introduced with the implication that cities transfer a large share of their revenue to the State budget, while in return, cities receive ear-marked transfers for items such as social insurance programmes, cultural activities and education. The net result of the new Law is that cities' budgets are strengthened. Chisinau, the main city in Moldova, can borrow in its own

⁷ Strategy for Armenia. EBRD, November 2015

⁸ Strategy for the Former Yugoslav Republic of Macedonia. EBRD, May 2013

⁹ Strategy for Georgia. EBRD, December 2016

¹⁰ Strategy for Jordan. EBRD, October 2014

right. The City's debt service capacity would be preserved under the new law as the current surplus/debt service ratio is expected to remain around 3.2x at the lowest in 2020 and the Debt/Current Surplus ratio should not exceed 4.5x in 2019. Outside Chisinau, support from the State through either a sovereign or sovereign guaranteed loan is required.¹¹

Mongolia: Long-term financing in the maturities required for municipal projects is unavailable from commercial banks in Mongolia. The banking system is heavily concentrated on the loans in the mining sector and therefore any unfavourable price movements in the commodity market (like those seen over the previous few years) pose substantial risk for the financial sector. This results in the increase of non-performing loans and reduced financing across all sectors. The infrastructure projects in Mongolia outside of the mining sector had been financed largely by the IFIs with the loans provided strictly on the sovereign level. IFI involvement is significant, supporting initiatives in multiple sectors, where the financial sector, SMEs and infrastructure are of particular focus. Despite such support, finance for municipal infrastructure remains insufficient. At the moment, the country has little fiscal space, so sovereign projects are scrutinised and only a few top priority projects are selected. The Mongolian budget law was amended in 2013 and now opens a window for the municipalities to borrow directly from financial institutions subject to certain procedures and requirements and approval by the Ministry of Finance. At present, only Ulaanbaatar is creditworthy with a sovereign guarantee.¹²

Serbia: Outside of the capital Belgrade, the borrowing capacity of the Cities is extremely limited, as a consequence of limited fiscal decentralisation, which in recent years has been accelerated. Identifying the appropriate financing mechanisms for municipal infrastructure in medium-sized cities remains a challenge due to fiscal constraints. While commercial debt is available this is not typically at the maturities required for municipal infrastructure and infrastructure projects in general. As a consequence, much of the debt is sovereign (outside of Belgrade) backed, with the main creditors being EBRD, EIB and KfW. In Belgrade it is a different story, with both the City and the respective utility companies able to borrow in their own right, which has been the main business model pursued by EBRD since it started operations there in 2001. Moreover, there is also active engagement with PPP and a number of projects are in an advanced stage of preparation, including a waste to energy plant.¹³

Tunisia: State-owned banks currently pose a systemic risk for the market and create pricing distortions. The local currency is underdeveloped as well as capital markets – both key for sustained growth. The state remains dominant in the infrastructure sector, with little experience in non-sovereign financing. Projects carried out through municipal expenditures are dominated by spending in municipal solid waste and street networks. Challenges in the municipal sector similarly include developing decentralized financing solutions to improve cost recovery and commercial discipline, notably in urban transportation (mass transit systems and bus operations) and in public water and wastewater utilities. Decentralisation is extremely limited, and municipalities have little to no borrowing capacity as well as very few human resources, all of which hinder loans to municipalities. Any sovereign loan in Tunisia must also be approved by the Ministry of International Cooperation.

¹¹ Strategy for Moldova. EBRD, November 2017

¹² Strategy for Mongolia. EBRD, June 2017

¹³ Strategy for Serbia. EBRD, February 2018

C - Programme Description

C.1 Strategic Context

Please fill out applicable sub-sections and provide additional information if necessary, as these requirements may vary depending on the nature of the project / programme.

C.1. Strategic Context

Cities are critical to delivering climate change mitigation and adaptation action. The most recent IPCC assessment found that urban areas account for approximately 70 per cent of global energy consumption and about three quarters of emissions¹⁴. Part of these climate impacts can be linked to urban infrastructure and development patterns and decisions by city administrations¹⁵. Cities also host most of the infrastructure vulnerable to the impacts of climate change, requiring significant investments in climate change adaptation measures. Furthermore, energy and resource use in cities creates major environmental concerns ranging from the quality of air, to pressure on water resources and loss of green areas due to land use change. Urban activities and how they are organised are a key determinant of GHG emissions, the resilience to climate change and wider environmental health, and deeply affect overall quality of life of urban populations.

Co-ordinated city-led climate action at the global and regional level is nascent, but some important global coalitions and initiatives have been formed of relevance to the EBRD region. At least 140 cities in the EBRD region have joined the Global Covenant of Mayors for Climate and Energy, committing to developing emissions profiles and adaptation strategies that establish mitigation and adaptation targets for 2030. ICLEI - a leading global network of more than 1,500 cities – is another example of a global initiative with participation from the EBRD's region.

National and sub-national policy and strategic context

National governments in the EBRD region are putting in place policies and strategies that emphasize the important role of cities in achieving climate and sustainable development goals. National level support for sub-national (city) action is essential to ensure that policies and strategies relevant to green investments are in place, and that coordination and meaningful buy-in at the decision maker level is enabled. Key aspects of the national strategic context for each country are summarized below.

Albania – Albania is a contracting party of the Energy Community Treaty which aims to extend the EU internal energy market to South East Europe and beyond on the basis of a legally binding framework, leading to adoption of important energy efficiency policies such as Energy Performance in Buildings Directive.¹⁶ Other important strategic frameworks at the national level include the General National Plan (2015 – 2030), Sector Strategy of Energy (2013-2020), NEEAP, amongst others.¹⁷ Albania transposes and implements parts of EU legislation, such as the Directive 2008/50/EC on ambient air quality and cleaner air for Europe 'CAFÉ Directive'. In terms of local governance, the law 115/2014 "On the territorial and administrative division of local government units in the Republic of Albania" was approved in 2014 and following local elections in 2015 the consolidation to 61 LGUs came into effect. These 61 municipalities have now assumed the responsibilities and challenges of managing local public matters, and creating an opportunity for the municipalities to plan and implement green city actions.¹⁸

Armenia – Key national legislation includes existing legislation on Energy Saving and Renewable Energy¹⁹, the National Program on Energy Saving and Renewable Energy²⁰, as well as the National Energy Efficiency Action Plan²¹ and the Scaling up Renewable Energy Program.²² The Armenian NDC indicates that urban development (including buildings and construction), energy (including renewable energy and energy efficiency), waste management (including solid waste), as well as transport (including development

¹⁴ Seto KC, et al. (2014) Human settlements, infrastructure, and spatial planning. Climate Change 2014: Mitigation of Climate Change: Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, Geneva, Switzerland), Chap 12, pp 923–1000.

¹⁵ Creutzig, F. et al. (2015) Global typology of urban energy use and potentials for an urbanization mitigation wedge. PNAS, v. 112, no. 20. 6283 - 6288

¹⁶ [Treaty establishing Energy Community, 2006](#)

¹⁷ National Energy Efficiency Action Plan (NEEAP) of Albania, 2010-2018

¹⁸ [Law 115/2014 "On the territorial and administrative division of local government units in the Republic of Albania"](#), 31.07.2014

¹⁹ [The Law of the Republic of Armenia "On Energy Saving and Renewable Energy", 2004](#)

²⁰ [National Program on Energy Saving and Renewable Energy of Republic of Armenia, 2007](#)

²¹ [National Energy Efficiency Action Plan \(NEEAP\) for Armenia, 2010](#)

²² [Scaling Up Renewable Energy Program for Armenia \(SREP Armenia\), 2014](#)

of electrical transport) are main contributors to the mitigation contribution. In all of these areas cities play an important role in planning and implementation.²³

Georgia – Key national strategic documents of relevance include the National Environmental Action Programme (NEAP 2017-2021)²⁴ and National Energy Efficiency Action Plan (NEEAP, recently adopted).²⁵ The Association Agreement (AA) with the EU signed in 2014 is also a key driver of environment and climate change action at the national level. The Georgian government has emphasized in its NDC the significant role cities will play in reducing national GHG emissions, indicating that it will build upon the voluntary GHG emissions reduction commitments of thirteen self-governing cities and municipalities under the EU “Covenant of Mayors” (CoM) initiative.²⁶ Tbilisi has prepared several municipal level strategies and plans, and has a determination to adopt relevant environmental regulation and standards, despite that implementation has been hampered by a lack of finance and available human resources within the City government.²⁷

Jordan – The key national strategic documents of relevance include National Energy Strategy for 2007-2020 that sets ambitious targets to increase the contribution of renewable energy sources to the national energy supply. Moreover, the strategy recognises the country's great potential to reduce energy consumption through energy efficiency measures.²⁸ Other significant strategic frameworks include Jordan National Energy Efficiency Strategy for 2005-2020²⁹, Renewable Energy & Energy Efficiency Law adopted in 2012. The Law aims to provide Jordanian government with suitable tools to reach the National Energy Efficiency Strategy targets, as well as setting incentives to promote renewable energy utilisation in Jordan. In addition, the Law sets up the Jordan Renewable Energy and Energy Efficiency Fund (JREEEF).³⁰ Jordan National Energy Efficiency Action Plan was approved in 2013.³¹

Former Yugoslav Republic of Macedonia – Being a candidate country to the EU, Former Yugoslav Republic of Macedonia aims to harmonize its policies with those of the EU. This process, inter alia, includes harmonization of national legislation with EU legislation in the field of energy efficiency, renewable energy and environment, thus developing a consistent legal framework for the energy sector that provides the basis for institutional and policy reforms supporting energy efficiency and renewable energy promotion. Former Yugoslav Republic of Macedonia is also a contracting party of the Energy Community Treaty thus legally obliged to transpose important energy efficiency and renewable energy policies such as Energy Services Directive 2006/32/EC and Energy Efficiency Directive 2012/27/EU, Energy Labelling Directive 2010/30/EU and Energy Performance of Buildings Directive 2010/31/EU, as well as Directive 2009/28/EC on the promotion of the use of energy from renewable sources.³² The key strategic documents of relevance are the National Strategy for Sustainable Development adopted in 2008³³, the Energy Development Strategy until 2030³⁴, Strategy for utilization of RES until 2020³⁵ and Energy Efficiency Strategy until 2020.³⁶ The 3rd National Energy Efficiency Action Plan was adopted in 2017.³⁷ Furthermore, Renewable Energy Action Plan until 2025, with vision until 2030, was adopted in 2015.³⁸ At municipal level, the key strategic documents of relevance include Resilient Skopje – Climate Change Strategy adopted in 2017, outlining the competences of the City of Skopje and the municipalities on the territory of the City of Skopje; providing an assessment of the potential for reducing greenhouse gas emissions as well as an assessment of the vulnerability of various sectors. The strategy also highlights the good practices, and points out the recommended measures and actions to be undertaken over the next ten years for capacity building in urban resilience.³⁹ Other relevant strategic documents include Strategy for Local Economic Development of

²³ [Intended Nationally Determined Contributions of the Republic of Armenia under the UN Framework Convention on Climate Change](#)

²⁴ National Environmental Action Program (NEAP) of Georgia, 2017-2021

²⁵ Energy Governance In Georgia: Report on Compliance with the Energy Community Acquis, Energy Community Secretariat, July 2017

²⁶ [Georgia's Intended Nationally Determined Contribution submission to the UNFCCC](#)

²⁷ [Tbilisi Green City Action Plan \(GCAP\)](#), September 2017

²⁸ [Regular Review of Energy Efficiency Policies of Jordan](#), Energy Charter Secretariat, 2010

²⁹ [National Energy Efficiency Strategy of Jordan](#), 2005

³⁰ [Law on Renewable Energy & Energy Efficiency \(Law No. 13\)](#), 2012

³¹ [Jordan National Energy Efficiency Action Plan](#), 2013

³² [Treaty establishing Energy Community, 2006](#)

³³ [National Strategy for Sustainable Development, FYR Macedonia, Ministry of Environment and Physical Planning](#), 2008

³⁴ [Strategy for Energy Development until 2030](#), FYR Macedonia, Ministry of Economy

³⁵ [Strategy for Utilisation of Renewable Energy Sources by 2020](#), FYR Macedonia, Ministry of Economy

³⁶ [Energy Efficiency Strategy until 2020](#), FYR Macedonia

³⁷ [The 3rd National Energy Efficiency Action Plan](#), 2017, FYR Macedonia, Ministry of Economy

³⁸ [Renewable Energy Action Plan until 2025, with vision until 2030](#), 2015, FYR Macedonia, Ministry of Economy

³⁹ [Resilient Skopje – Climate Change Strategy](#), 2017, City of Skopje

the City of Skopje adopted in 2006, and the Action Plan for realization of the Local Economic Development Strategy of the City of Skopje, adopted in 2007.⁴⁰

Moldova – The Moldova 2020 National Development Strategy, NEEAP (2010-2018)⁴¹ and NREAP (2013-2020)⁴² are key strategic documents of relevance to the programme. These are underpinned by the EU-Moldova Association Agreement, which aims at aligning the Moldovan legislation with core EU energy and environmental legislation. At the national level, the INDC (2015)⁴³, Low Emission Development Strategy (to 2020)⁴⁴, and CCA strategy are overarching frameworks for city level climate action at the city level. An analysis of the policy framework for Chisinau revealed that the Chisinau Sustainable Energy Action Plan (SEAP) and Green Urban Development Plan for Chisinau have yet to be adopted.

Mongolia – The green approach to urban development is part of the national Sustainable Development Goals of Mongolia (2016) that declares improvement of “urban settlements” and “quality of the environment” among its core objectives. The INDC emphasises energy (transport)⁴⁵ and is supported by the National Action Programme on Climate Change (NAPCC, 2011);⁴⁶ the Urban public transport investment programme (2015) and the Nationally Appropriate Mitigation Actions (NAMA, 2010). At the City of Ulaanbaatar level, the City is committed to become a “green city that is resilient to climate change” as documented in the Ulaanbaatar Master Plan (2014). The City’s commitment to become a “green city with safe and secure living conditions for the citizens” is reiterated in the Ulaanbaatar Economic Development Strategy (2015) as one of the City’s long-term development objectives. The need to operationalise green development actions on the city level was addressed through adoption of the Ulaanbaatar Green Development and Strategic Action Plan (2016) with sector specific objectives (e.g. cleaner air) and measures (e.g. energy audits for all municipal buildings).⁴⁷ Certain measures needed to improve quality of environmental assets (such as air, water, etc.) of the City are also included in national and city programmes for specific sectors, such as the National Water Programme (2010), Integrated Water Management Plan of Mongolia (2013), Ulaanbaatar Waste Management Improvement Strategy and Action Plan 2017–2030⁴⁸, and others.

Serbia –As an EU candidate country, Serbia is in the process of harmonizing national legislation with the EU. As an Energy Community Contracting Party, Serbia is putting in place important energy related directives, such as the Energy Efficiency Directive (2012/27/EU) and Energy Performance in Buildings Directive (recast 2010/31/EU).⁴⁹ Serbia’s NDC emphasizes the importance of climate change adaptation, and highlighting the risk of increased mortality in urban areas due to extreme heat waves.⁵⁰ Serbian municipalities have yet to clearly prioritize climate change mitigation, adaptation and other green measures.

Tunisia – Tunisia’s participation in the Facility is supported by several relevant sectoral and horizontal strategies, such as the national climate change strategy (2012), the energy efficiency strategy, the national strategy for energy efficiency in the lighting sector (2013), the national energy conservation action plan, the Tunisian Solar Plan (TSP, 2012),⁵¹ and adaptation strategies for a range of sectors and fields (e.g. coast, agriculture, water resources, health, tourism). In Tunisia’s NDC (2015), in terms of energy efficiency, the NDC aims “at intensifying the promotion of energy efficiency in all consumer sectors and for all energy usages”.⁵² The building sector’s energy consumption is 22 per cent of final energy consumption, and it is at the core of Tunisia’s National Strategy against Climate Change, adopted in 2012 Among relevant adaptation measures planned by Tunisia (noted among six key sectors and ecosystems which are among the most vulnerable to the adverse effects of climate change) are those related to water supplies of large urban centres. In addition, Tunisia has developed several NAMA proposals including those focused on buildings and sanitation.

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⁴⁰ [Official portal of City of Skopje](#)

⁴¹ [The National Energy Efficiency Action Plan for 2013-2015](#), Republic of Moldova

⁴² [The National Renewable Energy Action Plan of the Republic of Moldova for 2013-2020](#)

⁴³ [Republic of Moldova’s Intended National Determined Contribution \(INDC\)](#), 2015

⁴⁴ [Low Emission Development Strategy of the Republic of Moldova to the year 2020](#), 2011, Ministry of Environment of the Republic of Moldova

⁴⁵ [Intended Nationally Determined Contribution \(INDC\) Submission by Mongolia](#), 2015

⁴⁶ The National Action Programme on Climate Change (NAPCC), 2011, Ministry of Energy, Government of Mongolia

⁴⁷ [Green Development Strategic Action Plan for Ulaanbaatar 2020](#)

⁴⁸ [Ulaanbaatar Waste Management Improvement Strategy and Action Plan 2017–2030](#)

⁴⁹ [Treaty establishing Energy Community, 2006](#)

⁵⁰ [Intended National Determined Contribution \(INDC\) of the Republic of Serbia](#), 2015

⁵¹ [Tunisian Solar Plan](#) (IEA, Policies and Measures)

⁵² [Intended National Determined Contribution \(INDC\), Tunisia](#), 2015

⁵³ [Tunisia profile on NAMA database](#)

EBRD policies and strategies to support delivery of city-led climate and development investments

The EBRD has significant experience delivering municipal infrastructure investments in the Bank's region. Since 1994, the Bank has supported more than 220 cities, representing over EUR 7 billion in EBRD finance, to improve their provision of municipal services. The EBRD launched the Green Economy Transition (GET) approach in 2015 which seeks to increase the volume of green financing from an average of 24 per cent of EBRD annual business investment in the 10 years up to 2016 to 40 per cent by 2020.

In light of the GET commitment, in 2016 the EBRD launched its Green Cities Framework. This Framework is a funding package aimed at fostering systematic, transformational sustainable urban development for cities in the EBRD region. Six projects in six different cities have been signed under the Framework to date, with a pipeline of projects developing for 2018 and beyond.

The GET approach and the Green Cities Framework have led to a mainstreaming of Green city considerations within key EBRD strategies, policies and methodologies, which play an important part in determining where EBRD's finance is directed in the countries of operation. These strategies and policies must be approved by the EBRD Board, which has as membership the 9 target countries. Examples of this mainstreaming include:

- The draft Municipal and Environmental Infrastructure Sector Strategy, covering the period of 2018 to 2022, which has a focus in part on Green Cities including giving the Green Cities Framework a prominent role.
- EBRD's Country Strategies, which cover 5 year periods and are core planning documents for EBRD investments, are increasingly explicitly prioritizing green municipal and environmental investments, with a number explicitly referencing green cities. For example, outputs from country strategies include financing for municipal investments targeting resource efficiency, as well as advisory to help municipalities prioritise their resource efficiency investments in the context of the Green Cities Framework.

Under the Green Cities Framework, a methodology was developed for the EBRD by the OECD and ICLEI for preparing a Green city baseline (see C.3 Component 1). As an input to establishing each of these city-level baselines, a full and updated overview of the national and local framework including policy / legal, economic, social and environmental areas is prepared, in advance of this consultancy driven assignment.

C.2 Programme Objective against Baseline

C.2. Project / Programme Objective against Baseline

Baseline context for the Facility

The Facility's region is characterized by inefficient use of energy, acute environmental issues such as air pollution, and high carbon intensity (tCO₂eq/GDP) - with some countries almost eight times as carbon intensive as the global average. This energy inefficiency is reflected in the poor energy performance of both public and private buildings in urban areas.

Waste management is another prevalent issue, which contributes substantially to GHG emissions through leaking methane from old landfill sites. Many cities in the EBRD region produce significantly more municipal solid waste per capita annually than the EU average. For example, in Georgia, this is about double the EU average. Much of this waste ends up in the landfills that "are simply dumpsite areas where the municipal services (or contractors) pile up or simply deposit waste"⁵⁴. In addition, recycling of waste in the Facility region's urban areas is negligible compared to an EU average of 39 per cent⁵⁵ and an EU target of 50 per cent of municipal solid waste recycling by 2020.

Access to adequate water supply and sanitation is not ubiquitous in the Facility's region. Nearly all scenarios predict decreased availability of renewable surface and groundwater resources for a significant share of the global population⁵⁶. A lack of adequate adaptation responses will lead to additional pressures on drinking water delivery systems, which are already under stress due to population growth and lack of investment in the ageing water infrastructure. In urban areas, heavy rainfall and flash floods create the risk of sewer overflows, and consequently water contamination. Such conditions can lead to public health and environmental issues associated with insufficient water and water management infrastructure. This can be further exacerbated by the effects of changing climate, which call for adaptive measures to safeguard basic consumers of water resources and consideration of innovative wastewater management such as those related to wastewater-collection and recycling measures. Further, water reuse and recycling is also lower than international standards with limited treatment at wastewater facilities, while water supply networks are often characterised by high ratios of non-revenue water. The example of water infrastructure shows how climate change impacts can exacerbate infrastructure challenges, and require strategies and investments for climate change adaptation.

Climate change can further impact the urban energy sector, by disrupting supply and increasing demand (e.g. increasing the need for cooling). It can also cause significant disruption and damages to key infrastructure (e.g. roads and buildings) in flooding events, with the design of drainage solutions not fit for current and future climate conditions. Furthermore, it can influence human health and productivity. To combat these impacts, cities need to also consider climate change adaptation in urban planning.

Residents of some cities in the region are exposed to much higher levels of urban air pollution than other populations. Per the World Bank (2015), 100 per cent of Jordan's urban population is exposed to levels of dangerous particulate matter (PM_{2.5})⁵⁷ that exceed World Health Organisation guidelines, compared to a world average of around 92 per cent.

Deteriorating or obsolete urban infrastructures in the Facility region are degrading the quality of life, exacerbating the causes of climate change, and preventing communities from adapting these.

The following section provides a brief assessment of the baseline context for each Facility country by investment sector. Information on country's context of vulnerability to climate change and priority climate resilience actions is highlighted below with more in depth detail provided in Section E.4.1. The following information is based on due diligence studies performed for the EBRD as well as other relevant studies.

⁵⁴ UNECE, Environmental Performance Review: Georgia, 2010.

⁵⁵ European Environment Agency, 2015.

⁵⁶ The IPCC findings show that each degree of global warming is projected to decrease the availability of renewable water resources by at least 20%, for additional 7% of the global population. The percentage of global population living in river basins with new or exacerbated water scarcity is also projected to increase, to as high as 13% (at 5 degrees Celsius) (IPCC 2014).

⁵⁷ [PM_{2.5} air pollution, population exposed to levels exceeding WHO guideline value \(% of total\)](#). The World Bank Data

Albania	
Municipal Energy (district heating/cooling)	There is limited district heating in Albania and is only provided within university and hospital campuses. Heating in Albania predominantly comes from electric space heating. ⁵⁸
Low-Carbon and Climate Resilient Buildings	Energy consumption in public buildings in Albania is three to four times that of EU regulation requirements in comparable climates. Poor building techniques including insufficient thermal insulation, combined with inefficient air conditioning systems during the hotter periods leads to high energy intensity and related GHG emissions. ⁵⁹
Solid Waste	High urban population growth in Albania, especially in Tirana, has increased the generation of municipal solid waste in recent years. All municipal solid waste currently goes to landfills, which do not all comply with environmental standards leading to methane emissions and potential leaching. MSW collection rates are widely varied across cities in Albania, with the 76 per cent collected in Tirana being roughly the national average. ^{60 61}
Street Lighting	There is increasing demand for investments in energy efficient street lighting in Albania and the Western Balkans region. Unfortunately, municipalities lack the budget, experience or knowledge to meet the more complex design and procurement requirements for high-efficiency LED street lamps. Energy savings of up to 80 per cent could be expected, should municipalities switch to more energy efficient lighting solutions. ⁶²
Urban Transport	The main modality of urban transport in Albania is pedestrian traffic (68%). In terms of only vehicular transport, 72.8 per cent of transport traffic is private. The vast majority of public transport is provided through bus networks, with minimal provision through minibus services. Further improvement of urban transport system and promotion of low-emission transport modes such as walking and cycling remain relevant. The large share of private transport, particularly in older vehicle models, is directly linked to local air pollution issues and GHG emissions. ⁶³
Water	Water services in Albania are insufficient, with frequent interruptions in supply despite the country having relatively abundant supplies of raw water. The urban population using basic drinking water services is 92.5 per cent but significant volumes are unaccounted for because of physical losses from deteriorated networks and illegal connections ⁶⁴ ; this is reflected in the Non-Revenue Water at 66.6 per cent of water produced. ⁶⁵ In addition, appropriate attention needs to be paid to increase the efficiency of water utilization, in the light of projected increasing water stress as a consequence of climate change.
Wastewater	Wastewater treatment practices in Albania generate large volumes of greenhouse gases in the form of methane linked to the quality of sludge processing. There is only rudimentary sludge disposal in place, diverting sludge to lagoons or sanitary landfills. These large bodies of sludge lead to methane emissions from anaerobic conditions. The country is making steps to address this issue, with its first wastewater treatment plant featuring energy production constructed in Durres. Expanding energy production strategies in wastewater facilities to other municipalities in Albania will help to address the sector's greenhouse gas emissions. Wastewater treatment levels are also very low, with only 5.1 per cent of collected, generated, or produced wastewater treated in spite of recent urbanisation. Despite these low levels of centralised wastewater treatment, access to improved sanitation facilities is high at 93.2 per cent nationally. ⁶⁶

⁵⁸ KPMG, Central and Eastern European District Heating Outlook, 2009.

⁵⁹ Energy Saving International AS. "Building Environment Sustainable Energy Market Review; Sustainable Energy Toolset 2." Prepared for EBRD. June 2012.

⁶⁰ European Environment Agency, "Municipal waste management in Albania", November 2013.

⁶¹ Government of Albania, Albanian National Waste Strategy, May 2010.

⁶² EBRD Board Documents

⁶³ Tirana Green City Action Plan, 2018

⁶⁴ WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (<https://washdata.org/data>).

⁶⁵ The International Benchmarking Network, Benchmarking Database. 2017.

⁶⁶ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacre, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

Armenia	
Municipal Energy (district heating/cooling)	There is no longer any district heating in Armenia.
Low-Carbon and Climate Resilient Buildings	Energy consumption in public buildings in Armenia is estimated to be around four times that of EU regulation requirements in comparable climates. ⁶⁷
Solid Waste	Solid waste management is underdeveloped in Armenia, with the majority of MSW deposited in open dump sites or landfills, and little to no recycling. Between 60 - 70 per cent of households benefit from regular MSW collection. Due to these conditions, solid waste management practices in Armenia are not all consistent with environmental standards and result in methane emissions at dump sites. ⁶⁸
Street Lighting	Street lighting infrastructure in Armenian municipalities has not been modernised over the past decades due to lack of funding for modern, energy efficient luminaries, with the exception of on-going investments in Yerevan. The current technologies employed contribute to energy waste and significant environmental hazard when disposed in landfills. Switching to high-efficiency LED lighting solutions can result in energy savings up to 80%. ⁶⁹
Urban Transport	Public transport in Armenian cities is prominent, with 56.4 per cent of all traffic attributed to public transit systems, followed by 27 per cent pedestrian traffic. Armenia, particularly the capital city of Yerevan, has made efforts in recent years to invest in and update their transport infrastructure. Despite these initiatives, public transit infrastructure is out-of-date, where trolleybuses are over 20 years old on average. Transit provision through private microbus services is prevalent, representing 37.2 per cent of total traffic. With a growing urban population, the reduction of pollution and GHG's from transport is a key sector the country and its cities will need to address. ⁷⁰
Water	Armenia benefits from high connectivity to water resources reflected in 99.2 per cent of the urban population ⁷¹ having access to drinking water services. Despite this high coverage, the water systems suffer from high losses with a Non-Revenue Water assessed at 75.3 per cent of the water produced. ⁷² Albania needs to address these significant losses and promote conservation of water resources in the context of increased seasonal water stress, including drought risks, driven by climate change. Climate change is projected to lead to an increase in annual mean temperatures, with a decrease in precipitation in warmer months. These conditions are expected to contribute to additional water stress in Armenia.
Wastewater	Wastewater treatment levels are low with only 11.5 per cent of collected, generated, or produced wastewater treated. Access to improved sanitation facilities could be improved as currently 89.5 per cent are covered nationally. ⁷³ The quality of wastewater treatment is also insufficient, with only mechanical treatment conducted, where the suspended and solid particles are mostly removed. There is only rudimentary sludge disposal in place, diverting sludge to lagoons or sanitary landfills. These large bodies of sludge lead to methane emissions from anaerobic conditions. Treatment of sludge for energy or fertilizer production would address the sector's emissions intensity.
FYR Macedonia	

⁶⁷ Energy Saving International AS. "Building Environment Sustainable Energy Market Review; Sustainable Energy Toolset 2." Prepared for EBRD. June 2012.

⁶⁸ United Nations Statistic Division, Environment Statistics, "[Total population services by municipal waste collection.](#)" 2018.

⁶⁹ EBRD Board Documents.

⁷⁰ Yerevan Green City Action Plan, 2017

⁷¹ WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (<https://washdata.org/data>).

⁷² The International Benchmarking Network, Benchmarking Database. 2017.

⁷³ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacre, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

Municipal Energy (district heating/cooling)	District heating in FYR Macedonia relies predominantly on heavy fuel oil for energy (75%), followed by natural gas (20%) and coal (4%). The largest system in the country is located in Skopje, which suffers from losses of over 10 per cent. ⁷⁴
Low-Carbon and Climate Resilient Buildings	Energy consumption in public buildings in FYR Macedonia is roughly three and a half times that of EU regulation requirements in comparable climates. Poor building techniques including insufficient thermal insulation, combined with inefficient air conditioning systems during the hotter periods leads to high energy intensity and related GHG emissions. While building regulations exist, the framework itself is insufficient and is exacerbated by low levels of enforcement. ⁷⁵
Solid Waste	Municipal solid waste in FYR Macedonia is predominantly deposited in landfills, with minimal (> 1%) recycling or composting. The waste sector alone accounts for approximately 7 per cent of the country's GHG emissions, with the vast majority (90%) attributed to landfills. ⁷⁶
Street Lighting	There is increasing demand for investments in energy efficient street lighting in FYR Macedonia and the Western Balkans region. Unfortunately, municipalities lack the budget, experience or knowledge to meet the more complex design and procurement requirements for LED and high-efficiency street lamps. Energy savings of up to 80 per cent could be expected, should municipalities switch to more energy efficient lighting solutions. ⁷⁷
Urban Transport	Transport in FYR Macedonia is characterised by high levels of private traffic along with ageing public transit infrastructure. 46 per cent of the country's traffic is private, with vehicle ownership rates at 330 vehicles per 1000 individuals. The public buses that are in services are more than a decade old on average. The growing challenge for such inefficient transport sector remains to be the reduction of GHG emissions. Investment in expansion and replacement of cities' transport infrastructure is needed to reduce the GHG emissions from the sector. ⁷⁸
Water	Water services in FYR Macedonia are generally well developed with 95.8 per cent of the urban population ⁷⁹ having access to drinking water services. However, water systems are characterised by high losses, with 60.8 per cent of the water produced unaccounted for. ⁸⁰ As the country is projected to experience increasing water stress linked to an increase in temperature and decrease in annual precipitation, such losses are challenges cities in FYR Macedonia will need to tackle in adapting to climate change.
Wastewater	Wastewater treatment levels are low, with only 4.4 per cent of collected, generated, or produced wastewater formally treated. Whilst access to sanitation is high at 90.9 per cent ⁸¹ , there remains further room to improve sanitation facilities nationally and to promote conservation of water resources in the contexts of increased seasonal water stress, including drought risk, driven by climate change. With few wastewater treatment facilities, those that are in place have only rudimentary sludge disposal, diverting sludge to lagoons or sanitary landfills. These large bodies of sludge lead to methane emissions from anaerobic conditions.

Georgia

Municipal Energy (district heating/cooling)	District Heating in Georgia is limited as such infrastructure is not present at the municipal level.
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⁷⁴ KPMG, Central and Eastern European District Heating Outlook, 2009.

⁷⁵ Energy Saving International AS. "Building Environment Sustainable Energy Market Review; Sustainable Energy Toolset 2." Prepared for EBRD. June 2012.

⁷⁶ European Environment Agency, "Municipal waste management in the former Yugoslav Republic of Macedonia", September 2013.

⁷⁷ EBRD Board Documents

⁷⁸ Cavoli, Celemnce. CREATE – City Report, Skopje, Republic of Macedonia. UCL Centre for Transport Studies, 2017.

⁷⁹ WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (<https://washdata.org/data>).

⁸⁰ The International Benchmarking Network, Benchmarking Database. 2017.

⁸¹ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacore, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

Low-Carbon and Climate Resilient Buildings	Energy consumption in public buildings in Georgia is roughly five times that of EU regulation requirements in comparable climates. ⁸²
Solid Waste	Georgia has recognised a need to improve its municipal solid waste management and has taken steps to plan for and invest in the infrastructure, largely as a consequence of the EU Association Agreement. The country has set targets for minimum recycling rates of common materials for 2020, 2025 and 2030. The country's Waste Management Code obliges municipalities to implement waste separation practices. Despite these positive developments, dumping in non-permitted landfills is still prevalent, resulting in methane emissions and potential leaching resulting in methane emissions and potential leaching. There are no arrangements/facilities for hazardous waste. ⁸³
Street Lighting	Georgian cities suffer from insufficient and inefficient street lighting, due to a lack of funding for modern, energy efficient luminaries. Switching to LED lighting solutions can result in energy savings up to 80 per cent.
Urban Transport	The majority of transport in Georgia's urban areas occurs in public transit networks. Private vehicles account for only 26 per cent of urban traffic. In the capital city of Tbilisi, privately operated minibus services are prevalent, along with public bus systems. Transport is the main cause of urban air pollution in Georgia, with 80% of the air pollution generated by traffic congestion stemming from out-of-date personal vehicle and bus fleets, and poor quality of local petrol. Reducing transport emissions is a key area of concern for Georgian cities, both to address local air pollution issues and reduce the sector's contributions to GHG emissions. ⁸⁴
Water	Georgia is projected to experience increased water stress linked to an increase in annual mean temperature and changes in seasonal precipitation. Water resources will become scarcer with decreases in glacial melt and glacial-fed river flow, as well as an increase in drought risk. In the face of such challenges, water services in Georgia are characterised by lack of investment and maintenance. The urban population using basic drinking water services is 98.4 per cent. ⁸⁵ Despite this high coverage, the systems' non-revenue water is estimated to be 42.7 per cent. ⁸⁶ These management issues hamper the country's ability to adapt to climate change and projected climate risks. ,
Wastewater	Wastewater treatment is present, but quality of treatment is low, with no chemical or biological treatment processes. With little sludge treatment, the sector diverts sludge to lagoons or sanitary landfills. Methane produced from these large bodies of sludge is a significant source of methane emissions. Access to improved sanitation facilities is generally high within urban areas; however, there remains further room for improvement.

Jordan

Municipal Energy (district heating/cooling)	District cooling is present in Jordan, which relies on water storage tanks cooled through electrically powered refrigeration loops. Opportunities to improve the efficiency and energy intensity of these facilities are present. ⁸⁷
Low-Carbon and Climate Resilient Buildings	Energy consumption in public buildings in Jordan is roughly one and a half times good reference practice in comparable climates. ⁸⁸
Solid Waste	Total municipal solid waste generation in Jordan is increasing. Landfilling is the predominant form of municipal solid waste management, with 90 - 100 per cent of waste being sent to landfills, about half of which is sent to landfills not meeting international standards. Recycling is currently very limited in

⁸² Energy Saving International AS. "Building Environment Sustainable Energy Market Review; Sustainable Energy Toolset 2." Prepared for EBRD. June 2012.

⁸³ Ministry of Environment Protection, National Environmental Action Programme of Georgia: 2012 – 2016, 2012.

⁸⁴ Tbilisi Green City Action Plan, 2017

⁸⁵ WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (<https://washdata.org/data>).

⁸⁶ The International Benchmarking Network, Benchmarking Database. 2017.

⁸⁷ EBRD Board Documents

⁸⁸ Energy Saving International AS. "Building Environment Sustainable Energy Market Review; Sustainable Energy Toolset 2." Prepared for EBRD. June 2012.

	public sector, with many private sector companies establishing businesses for common recyclable materials. The prevalence of non-compliant landfills in Jordan contributes to the emission of methane from dumpsites. ⁸⁹
Street Lighting	In Jordan, street lighting within cities and villages is carried out by local municipalities which typically have less budget and technical know-how than the Ministry. The street lighting system in Amman, for example, is very outdated, and annual electricity consumption and the maintenance cost are growing every year due to the large size of the city and its continued expansion. The authorities are aware of this problem but the replacement of old mercury lamps (120 W) with high-pressure sodium lamps (70 W), as indicated by national requirements, in the new residential quarter has been so far the only possible intervention in energy efficiency in this sector. Switching to more efficient street lighting technology could result in energy savings of up to 80 per cent.
Urban Transport	Transport in Jordan is limited solely to the country's road network. Public transport, thus, in Jordan is only through bus services, both within cities and connecting metropolitan areas. Minibus service is the most common, with large bus services available in the larger urban areas. Cars and taxis are the predominant mode of transport (45%), followed by pedestrian traffic (25%) and public transport (14%). To reduce the sector's GHG emissions, Jordan will need to expand its public transit network to reduce the emissions coming from an ageing private vehicle fleet. ⁹⁰
Water	Jordan is ranked as the third most water scarce country in the world. Jordan's water sector has had historically high levels of Non-Revenue Water subduing water revenue growth - both due to the administrative losses (mainly inaccurate metering and theft) and physical losses (leakages in the system). Over recent years non-revenue water (NRW) has been slowly decreasing with the average NRW across Jordan at around 36 per cent. This disguises the disparity across the country with the highest NRW levels registered in Ma'an, Balqa, Madaba, Karak and Zarqa at around 60 per cent. The lowest NRW is recorded in Aqaba at around 25 per cent. Reductions in water losses are critical for cities in Jordan to adapt to climate change. The country is considered to be high risk, both in terms of the quantity and quality of the water supply.
Wastewater	Access to improved sanitation facilities is high at 98.6 per cent, and wastewater treatment is more developed than other countries in the Facility's region at 18.6 per cent. ⁹¹ Despite these efforts, the country currently employs only rudimentary sludge disposal measures, diverting sludge to open lagoons. These large bodies of sludge lead to methane emissions from anaerobic conditions. Additionally, Jordan is a recipient nation of the recent Syrian refugee crisis; the scale of migrants now living and working in Jordan is placing further strain on existing water and services. In the context of an increased water stress, including drought and desertification risk, driven by temperature increases, higher evapotranspiration, more variable precipitation patterns, promoting water conservation measures is a key challenge for Jordan to successfully adapt to climate change.

Moldova

Moldova is one of the least urbanised countries in the Facility's region, with only 45 per cent of the country's population living in cities.

Municipal Energy (district heating/cooling)	District Heating systems in Moldova, much like many EBRD countries, were installed during the Soviet era. The local systems rely predominantly on natural gas for energy. To address both the climate impact and market competitiveness of district heating in Moldova, municipalities should consider cogeneration, renewable fuels and waste-to-energy measures. ⁹²
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⁸⁹ Aljaradin, Mohammad. Solid Waste Management in Jordan. *International Journal of Academic Research in Business and Social Sciences*. Vol. 4, No. 11. 2014.

⁹⁰ Jordan Ministry of Transport, Development of the National Public Transport System of the Hashemite Kingdom of Jordan. Amman, 2016.

⁹¹ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacre, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

⁹² KPMG, Central and Eastern European District Heating Outlook, 2009.

Low-Carbon and Climate Resilient Buildings	Energy consumption in public buildings in Moldova is roughly two times that of EU regulation requirements in comparable climates. ⁹³
Solid Waste	Local government organises municipal waste management in Moldova and is responsible for waste collection and disposal in urban areas. Currently only between 60 – 90% of municipal waste collection coverage is currently achieved in urban areas. It is projected that solid municipal waste generation will increase by 5% annually despite an expected population decrease. Waste is transported to the existing transfer station and then onto the temporary dump site in Ciocana district in Chisinau. Some plastic and glass is manually separated at the transfer station, although there is no sorting plant currently in place. The temporary dump site has been used as a short-term measure, following the closure in 2010 of the Tintareni landfill located 30 km from Chisinau. Expanding and improving Moldova’s solid waste management infrastructure is necessary to both meet the growing demand, while reducing associated GHG emissions from insufficiently managed solid waste. ⁹⁴
Street Lighting	The quality of street lighting in Moldovan cities is poor both in terms of level of coverage and efficiency of systems. Switching to more efficient street lighting technology could result in energy savings of up to 80 per cent. ⁹⁵
Urban Transport	As a lower income country, car ownership rates in Moldova are low - less than 100 vehicles per 1000 inhabitants. ⁹⁶ In the country's urban areas, the predominant form of transport is buses including minibuses, followed by trolley-buses. Public funding for transport projects is insufficient to meet demand, thus private minibus transport is prevalent leading to the high reliance on bus transport. Mobility in urban areas is hampered by the systems' poor conditions. Expansion of the public transit systems in Moldovan cities is needed to reduce the dependence on emissions intensive transport.
Water	Moldova is projected to experience increased water stress from increasing temperatures and shifts in precipitations patterns stemming from climate change. In particular, more rapid snowmelt will lead to eventual reductions in river flows, which will be further exacerbated by decreases in summer precipitation. Despite these projected challenges, water services in Moldova are currently not equipped to support the country’s efforts to adapt to climate change. Water services in Moldova are widespread with the 95.6 per cent of the urban population ⁹⁷ having access to drinking water. Typically those in urban settings experience high losses with Non-Revenue water at 43.6 per cent of water produced. ⁹⁸ Investment is needed to address these losses, further promote conservation of water resources in urban areas, and enable cities to increase their resilience to projected climate risks
Wastewater	Wastewater treatment levels are slightly more developed than other countries in the Facility's region with 14.1 per cent of collected, generated, or produced wastewater treated. ⁹⁹ The wastewater treatment facilities that are present lack appropriate sludge management measures to mitigate the production of methane, leading to high sectoral GHG emissions. Only rudimentary sludge disposal is currently in place, diverting sludge to lagoons or sanitary landfills. Nationally a modest 76.4 per cent of habitants have access to improved sanitation facilities ¹⁰⁰ , suggesting wastewater services could be expanded to those currently unserved.

Mongolia

⁹³ Energy Saving International AS. “Building Environment Sustainable Energy Market Review; Sustainable Energy Toolset 2.” Prepared for EBRD. June 2012.

⁹⁴ EBRD Board Documents.

⁹⁵ EBRD Board Documents

⁹⁶ World Bank, Support to the Preparation of a Transport Sector Strategy for the Republic of Moldova, 2007.

⁹⁷ WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (<https://washdata.org/data>).

⁹⁸ The International Benchmarking Network, Benchmarking Database. 2017.

⁹⁹ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacore, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

¹⁰⁰ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacore, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

Mongolia is one of the most urbanised countries in the Facility's region with respect to population, with 73 per cent of people living in urban areas. Ulaanbaatar - the country's largest city - has the unique challenge of providing municipal services to a large population living in informal housing on the City's periphery. These residential zones, called Ger areas, represent 30.4 per cent of the City's population.

Municipal Energy (district heating/cooling)	Heating in Ulaanbaatar relies exclusively on coal resources for energy. The current infrastructure suffers from transmission and distribution heat loss of 18.4 per cent. The Ger areas are currently not served by the City's heating systems, forcing them to rely on wood, coal or combustible rubbish for residential heating. Several factors hinder the extension of district heating systems into these areas: i) additional heat production capacity is required, ii) extension of the existing infrastructure may negatively impact the supply reliability of the entire system by adding an additional loan, and iii) the existing system will need to be reinforced to carry the additional load. ¹⁰¹
Low-Carbon and Climate Resilient Buildings	Energy consumption in public buildings in Mongolia is roughly six and a half times that of EU regulation requirements in comparable climates. Extreme weather conditions in the coldest months create an intense demand for heat, which comes exclusively from coal fired power plants. ¹⁰²
Solid Waste	Municipal solid waste infrastructure in Mongolia is limited, where the quality of landfill sites is substandard. Construction waste in particular is poorly managed, with wastes often illegally dumped. About fifty per cent of Ulaanbaatar's waste is generated in the Ger areas and households. Mongolia needs to improve its solid waste management infrastructure to both meet local demand and reduce associated methane emissions. ¹⁰³
Street Lighting	Street lighting in Mongolia is currently inefficient and lacks municipal control systems. Energy savings of up to 80 per cent could be realised by installing best available technology.
Urban Transport	Public transport in Mongolia's urban areas is inadequate and does not meet local demand. The public transport systems are highly utilised, but represent a small portion of total transport traffic. Approximately 60 per cent of passengers on roads use public transport, yet only 2 per cent of vehicles on the roads are public. Public transport in Ulaanbaatar is defined predominantly by minibuses traffic (45%), followed by private transport buses (23%), taxis (21%) and public buses (9%). Expansion of the public transit systems in Ulaanbaatar is needed to reduce the dependence on emissions intensive transport public transport solutions. ¹⁰⁴
Water	Water stress and scarcity in Mongolia has the potential to impact the country's economic development. Due to a combination of climate change and increased water withdrawals, the water supply of the Tuul river – the source of the aquifer supplying most of Ulaanbaatar's water - is shrinking. The urban population using basic drinking water services is 93.6 per cent. ¹⁰⁵ While Mongolia has limited non-revenue water losses compared to other countries in the Facility's region at 14.4 per cent, ¹⁰⁶ it must still address these losses to be able to adapt to climate change. Water services in Mongolia are also challenged by the need to service the informal housing areas surrounding Ulaanbaatar.
Wastewater	Wastewater treatment and sanitation systems are insufficient, where only 59.7 per cent of the national population has access to improved sanitation systems, and 3.3 per cent of wastewater is treated. ¹⁰⁷ In the context of an increased water stress, including drought and desertification risk, driven by temperature increases, higher evapotranspiration, more variable precipitation patterns and river flows, promoting water conservation measures is a key challenge for Mongolia to successfully adapt to climate change. There is also only rudimentary sludge disposal in place, diverting sludge to lagoons or sanitary landfills. These large bodies of sludge lead to methane emissions from anaerobic conditions.

¹⁰¹ Agarjav, Erjav. DH in Mongolia – Energy efficiency and cleaner heating in Ulaanbaatar. April 2015. Accessed: http://www.lsta.lt/files/events/2015-04-27_28_EHP%20kongresas/61_Agarjav_Erbar.pdf

¹⁰² Energy Saving International AS. "Building Environment Sustainable Energy Market Review; Sustainable Energy Toolset 2." Prepared for EBRD. June 2012.

¹⁰³ EBRD Board Documents.

¹⁰⁴ Mott MacDonald, Ulaanbaatar City Bus Fund – Pre-feasibility Study. October, 2017.

¹⁰⁵ WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (<https://washdata.org/data>).

¹⁰⁶ The International Benchmarking Network, Benchmarking Database. 2017.

¹⁰⁷ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacore, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

Serbia

Municipal Energy (district heating/cooling)	Serbia has district heating systems throughout its municipalities. The largest fuel sources are natural gas (65% of the district heating energy) and heavy fuel oil (18%). The remainder comes from mazout, coal and 'other sources'. 'Mazout', similar to bunker fuels produced from distillation processes, is used during days of highest demand on the local district heating systems. High in sulphur and more emissions intensive than natural gas, the use of mazout leads to high pollution levels on the coldest days. Due to lack of investment over the past decades, Serbian district heating are commonly in need of repair and modernisation. ¹⁰⁸
Low-Carbon and Climate Resilient Buildings	Energy consumption in public buildings in Serbia is roughly twice that of EU regulation requirements in comparable climates. Poor building techniques including insufficient thermal insulation, combined with inefficient air conditioning systems during the hotter periods leads to high energy intensity and related GHG emissions. ¹⁰⁹
Solid Waste	Municipal solid waste in Serbia has both positive trends and significant hurdles to overcome. In the country's capital city of Belgrade, around 85 per cent of the population is covered by waste collection services. Additionally, the country's recycling rate is roughly 10 per cent. Despite this level of service, Serbia and the Belgrade metropolitan area has Europe's largest open dumping sites, the Vinca Landfill. Landfill gas is not collected, nor is there treatment of leachate, thus leading to GHG emissions and potential environmental hazards. ¹¹⁰
Street Lighting	There is increasing demand for investments in energy efficient street lighting in Serbia and the Western Balkans region. Unfortunately, municipalities lack the budget, experience or knowledge to meet the more complex design and procurement requirements for LED and high-efficiency street lamps. Energy savings of up to 80 per cent could be expected, should municipalities switch to more energy efficient lighting solutions. ¹¹¹
Urban Transport	The main modality of urban transport in Serbia is public transport (50%). Private vehicular traffic is moderate at 32 per cent of total traffic. In the country's capital city of Belgrade, the vast majority of public transport is provided through bus networks (77%) followed by tramways (15%) and trolleybuses (8%). Further improvement of urban transport systems and promotion of low-emission transport modes remains relevant. ¹¹²
Water	Since the collapse of the Federal Republic of Yugoslavia, followed by the civil war, international isolation and economic decline, the Republic of Serbia has seen a rapid deterioration in the availability and quality of water supply services; consequently it is experiencing a growing number of environmental and social problems. Water services in Serbia are inadequate with widespread water quality problems and interruptions in water supply. Climate change is an additional risk amplifier and expected to result in an increased water stress, including drought risk driven by temperature increase, decreased precipitation and variable hydrology. The urban population using basic drinking water services is low at 88.1 per cent. ¹¹³ Further, water systems are characterised by high losses, with 41.1 per cent of water produced assessed as Non-Revenue Water. ¹¹⁴
Wastewater	Sanitation services have deteriorated in Serbia due to lack of investment and maintenance. Wastewater treatment levels are low, with only 6.4 per cent of collected, generated, or produced wastewater treated, with discharge into rivers being the norm. ¹¹⁵ Such low levels of treatment and

¹⁰⁸ KPMG, Central and Eastern European District Heating Outlook, 2009.

¹⁰⁹ Energy Saving International AS. "Building Environment Sustainable Energy Market Review; Sustainable Energy Toolset 2." Prepared for EBRD. June 2012.

¹¹⁰ EBRD Board Documents.

¹¹¹ EBRD Board Documents

¹¹² WSP | Parsons Brinckerhoff, Belgrade Smartplan. May 2017.

¹¹³ WHO/UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene (<https://washdata.org/data>).

¹¹⁴ The International Benchmarking Network, Benchmarking Database. 2017.

¹¹⁵ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacore, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

	resulting effluent lead to high sectoral methane emissions, an issue that needs to be addressed through improved sludge management. Only rudimentary sludge disposal is currently in place, diverting sludge to lagoons or sanitary landfills. These large bodies of sludge lead to methane emissions from anaerobic conditions. Despite these low levels of treatment, access to improved sanitation facilities is high at 96.4 per cent nationally. ¹¹⁶
Tunisia	
Municipal Energy (district heating/cooling)	District cooling is present in Tunisia, which relies on water storage tanks cooled through electrically powered refrigeration loops. Opportunities to improve the efficiency and energy intensity of these facilities are present.
Low-Carbon and Climate Resilient Buildings	Energy efficiency techniques are not yet developed in Tunisia's public building sector. Buildings are characterised by poor performance, with high share of carbon intensive electricity mostly for air conditioning and lighting. Advanced energy efficiency techniques have almost zero market penetration rate. ¹¹⁷
Solid Waste	Municipal solid waste management in Tunisia is slightly more developed than other countries in the Facility's region. MSW collection rates in urban areas are roughly 80 per cent, with 70 per cent going to landfill, 21 per cent to open dumping, and 5 and 4 percent recycled and composted respectively. ¹¹⁸
Street Lighting	Public lighting service is provided by municipalities. Since mid-2005, the use of high-pressure sodium lamps (HPS), in substitution of usual mercury lamps (HPL), is mandatory in new public lighting networks and in case of renewal operations, and in 2006 the use of energy saving devices, such as variable-voltage regulators, became mandatory as well. Switching to more efficient LED street lighting technology could result in energy savings of up to 80 per cent.
Urban Transport	Tunisia has a high rate of urbanization, yet public transport is under developed. Urban public transport in Tunisia is by far the most developed in the capital city of Tunis through a local bus and light rail networks. These systems connect to the country's larger rail and bus network. Private transport represents 32 per cent of total road traffic. Tunisia has the opportunity to develop its urban transport systems consisting of low-carbon assets. In Tunis, cars represent 58 per cent of all vehicular (non-pedestrian) traffic, with the City's bus and light rail networks representing 38 per cent. ¹¹⁹
Water	Tunisia is considered to be one of the countries most exposed to climate change in the Mediterranean region. The expected impacts of climate change include increased water stress and increased hydrological variability. Water services in Tunisia are challenged by the availability of water resources. This challenge is reflected in the country's relatively modest level of non-revenue water losses at 26 per cent - one of the lowest within the Facility's region. ¹²⁰ The country has high and extremely risks relating to the physical availability of water. Tackling losses in drinking water systems, while maintaining the quality of sources will be essential to adapt to climate change and the projected water stress.
Wastewater	Wastewater treatment levels are high at 44.1 per cent. Wastewater services are particularly well developed within urban areas with further room to address rural sanitation and the national population with access to sanitation at 91.6 per cent. ¹²¹ The number of Waste Water Treatment Plants (WWTP) has gradually risen in the last decade; there are currently more than one hundred WWTPs (of which 17 operated by private companies), with a total treatment capacity of 770,000 m ³ /day, producing around 240,000 m ³ of dry and semi-dry sludge, 50 per cent of which generated by the

¹¹⁶ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacore, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

¹¹⁷ Energy Saving International AS. "Building Environment Sustainable Energy Market Review; Sustainable Energy Toolset 2." Prepared for EBRD. June 2012.

¹¹⁸ Sweepnet. "[Report on the Solid Waste Management in Tunisia.](#)" April 2014.

¹¹⁹ [Tunisia National Institute of Statistics, Recensement Général de la Population et de l'Habitat 2014, April 2015.](#)

¹²⁰ The International Benchmarking Network, Benchmarking Database. 2017.

¹²¹ Sachs, J., Schmidt-Traub, G., Kroll, C., Durand-Delacore, D. and Teksoz, K. (2017): SDG Index and Dashboards Report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN).

wastewater treatment plants of Greater Tunis. There is also only rudimentary sludge disposal in place, diverting sludge to lagoons or sanitary landfills. These large bodies of sludge lead to methane emissions from anaerobic conditions. Addressing water losses in its urban infrastructure is also a key challenge for Tunisia to successfully adapt to climate change.

Climate Resilience Baseline

Climate change is projected to create or exacerbate a number of challenges for the Facility's countries. The table below provides a summary of projected climate risks the beneficiary countries will face in the coming decades. Information is derived from countries' national communications to the UNFCCC and National Determined Contributions, as well as other relevant studies cited below.

Country	Projected climate risks				
	Increased temperatures	Shifts in precipitation patterns	Increased hydrological variability	Increased water stress	Increased extreme weather events
Albania ¹²²	Increase of up to 2.3°C by 2050	Annual precipitation decrease by up to 20% by 2050	More rainfall will reduce snowpack and quantity of water stored in reservoirs	Increase of water stress and drought risk	Including coastal and inland flooding linked to increased rainfall and drought
Armenia ¹²³	Increase of up to 3.1°C by 2050	Dryer summers, more wet winters	Reduction of glacial-fed and aggregate river flow	Increase of water stress	Increased risk of flash floods, landslides and drought
FYR of Macedonia ¹²⁴	Increase of up to 3.0°C by 2050	Annual mean precipitation decrease by up to 20% by 2050	Glacial melt and reduction of glacial-fed river flow	Increase of water stress and drought risk	Increased risk of floods and landslide from more frequent intense rainfall
Georgia ¹²⁵	Increase of up to 3.0°C by 2050	Dryer summers, more wet winters	Glacial melt and reduction of glacial-fed river flow	Increase of water stress and drought risk	Increased risk of flash floods, landslides and drought
Jordan ¹²⁶	Increase of up to 2.9°C by 2050	Annual precipitation decrease by up to 17% by 2050	Reduction in flows in all major reservoirs	Third most water scarce country in the world, drought risk	Increased risk of flash floods, landslides and drought
Moldova ¹²⁷	Increase of up to 3.5°C by 2050	Increase or decrease of 10% by 2050, 20% decrease in summer and increased winter precipitation	Rapid snow melt leading to changing seasonality and reduced river flows	Increase of water stress and drought risk	Increased risk of flash floods, landslides, storm events and drought

¹²² [Climate Change Adaptation in the Drini-Mati River Delta and Beyond](#) - 2013

¹²³ [First Biennial Update Report of the Republic of Armenia under UNFCCC](#) - 2016

¹²⁴ [Sector Operational Programme for Environment and Climate Action](#) (2014-2020)

¹²⁵ The Georgian Roadmap on Climate Change Adaptation - 2016

¹²⁶ [Climate Change Policy for a Resilient Water Sector](#) - 2016

¹²⁷ [National Climate Change Adaptation Strategy](#) by 2020 - 2014

Mongolia ¹²⁸	Increase of up to 3.0°C by 2050	Annual precipitation increase by up to 10% by 2050. Heavier rainfall events expected	Rapid glacial melt, permafrost retreat and shrinkage of permafrost regions	Increased of water stress, drought and desertification risk	Increased risk of flash floods, landslides, dust storms and drought
Serbia	Increase of up to 1.3°C by 2030, 2.6°C by 2070	Decrease of up to 45% summer precipitation by end of century, slight winter increase	Average annual discharge to decrease by 12.5% by 2020	Increase of water stress and drought risk	Increased risk of flash floods, landslides and drought
Tunisia	Increase of up to 3.0°C by 2050	Annual precipitation decrease by up to 40% by 2050	Reduction of flows to the Medjerda River	Increase of water stress and drought risk. Conventional water resources to decline by 28% by 2030.	Increased in risk of flash floods and intensity of heavy rainfalls. Drought years to increase by up to 30% by 2050

Barriers to climate investment

Cities in the EBRD region face a range of persistent barriers that limit a scale-up in climate action and hinder the development of green city planning and infrastructure investments. The key barriers, which prevent a regional shift to more sustainable urban development pathways, are categorized as follows:

- **Policy and strategy-related barriers:**
 - lack of a systematic and comprehensive approach to address climate change in urban planning. Although various governments have attempted to address urban sustainability issues¹²⁹, these efforts have tended to be delivered in an ad hoc manner depending on the demand of city administrations. Moreover, some municipal services may be provided by authorities outside the municipality's jurisdiction, resulting in the need to work with a variety of stakeholders to address climate change. These barriers related to the planning approach limit many cities' ability to scale up climate actions they take to investment.
 - inadequate policies and regulations to incentivise climate investments
 - low energy tariffs to stimulate the demand for climate change actions and investments.
- **Financial barriers**, in particular related to access to capital for infrastructure investments. Cities have difficulty securing capital, particularly from private sources, to finance infrastructure projects due to a range of factors including:
 - high initial capital costs and long payback periods of infrastructure investments compared to other sectors;
 - lack of credit worthy municipalities arising from tariffs below cost recovery and inadequate transfers from central government;
 - lack of credit ratings for cities;
 - underdeveloped local capital markets;

¹²⁸ Climate Change Policy and Cooperative Actions Under BOCM or JCM in Mongolia - 2013

¹²⁹ EBRD assisted the City of Gaziantep in Turkey to prepare a Climate Change Action Plan (CCAP). The CCAP aims to reduce city CO₂ emissions per capita by 15% by 2023 compared to 2011 baseline. Similarly, Tbilisi has prepared a Sustainable Energy Action Plan (SEAP) to guide actions in the energy sector.

- an absence of adequate pricing (interest rate and tenor) to incentivize investments;
 - lack of consideration of climate externalities in projects;
 - affordability issues of the citizens;
 - IMF conditionalities limiting non-concessional debt;
 - lack of budgets for feasibility studies and energy audits and
 - insufficient access to green finance and capital markets.
- Institutional and capacity barriers:
 - Short-term political focus (typically five-years) that biases decision makers against the high up-front cost of some climate actions, can exacerbate environmental impacts and lock in high-emissions or climate vulnerable infrastructure. The challenges cities face in funding priority climate and environment investments thereby limits their ability to fund investments with higher upfront costs despite their ability to deliver cost-effective economic, environmental and social benefits over the long term.
 - the lack of capacity in municipalities with regards to experience and skills in assessing green infrastructure investment opportunities, technical know-how, human resources, and adequate institutional set-up;
 - Limited capacity in civil society organisations (CSOs) for effective communication/outreach and skills transfer that would enable them to effectively reach out to their constituencies/ urban populations in general to raise public awareness and effectively promote public participation and positive behavioural changes.
 - Lack of awareness among local stakeholders of the benefits of the green cities approach and its social, economic and environmental co-benefits.

Together, the barriers described above prevent a paradigm shift to more sustainable urban development pathways. The proposed Green Cities Facility offers a systematic and comprehensive approach to green city development that can accommodate the complexity of urban sustainability. The Facility provides an urgently needed systematic planning approach that encourages cities to consider the long-term costs and benefits of all actions. This Facility offers flexible financing, and resolves regulatory and market issues to mitigate the abovementioned barriers. In doing so, climate change investments will be on a level playing field with other potential actions. The section below outlines how the Facility will achieve this through its components.

Gender challenges

In addition to the barriers to investment, cities face issues related to gender. Gender-differentiated patterns of access to and use of municipal infrastructure and services tend to primarily affects women's time-use and access to economic opportunities. Women's access to employment can be impacted by gender-related barriers in access to municipal services in terms of availability, safety, reliability and affordability of services provided, such as transport, water, solid waste, and municipal energy (district heating/cooling). At the same time, women are often excluded from 'green' jobs due to gender-segregated employment patterns as the bulk of these jobs, such as those involving reducing energy intensity, minimizing waste, improving public transport infrastructure or retrofitting buildings are predominantly occupied by men. Identifying the current status of service planning and provision with respect to gender, and assisting the client to incorporate gender issues into planning, provision and resourcing of the services will help deliver gender co-benefits under this Facility by addressing the multiple barriers women face in accessing municipal services and 'green jobs'.

Actions to remove barriers

The actions to remove barriers are grouped into four main Facility components:

1. Green City Action Plans and Policy Dialogue. This component addresses the policy and strategy-related barriers as well as the short-term political focus institutional barrier. That is, the Facility will assist cities to develop systematic, comprehensive Green City Action Plans that encourage Cities to consider medium to long term climate investments on a level playing field with other projects.
2. Green city infrastructure investments. This component addresses the financial barriers, in particular the high initial upfront capital costs and affordability issues for citizens.
3. Technical support and knowledge building for city administrators and key stakeholders. This component addresses the Institutional and capacity barriers.

4. Green finance and capital markets. This component addresses the financial barrier of underdeveloped local capital markets.

Section C.3. describes the four Facility components in more detail.

Facility expected impacts against baseline

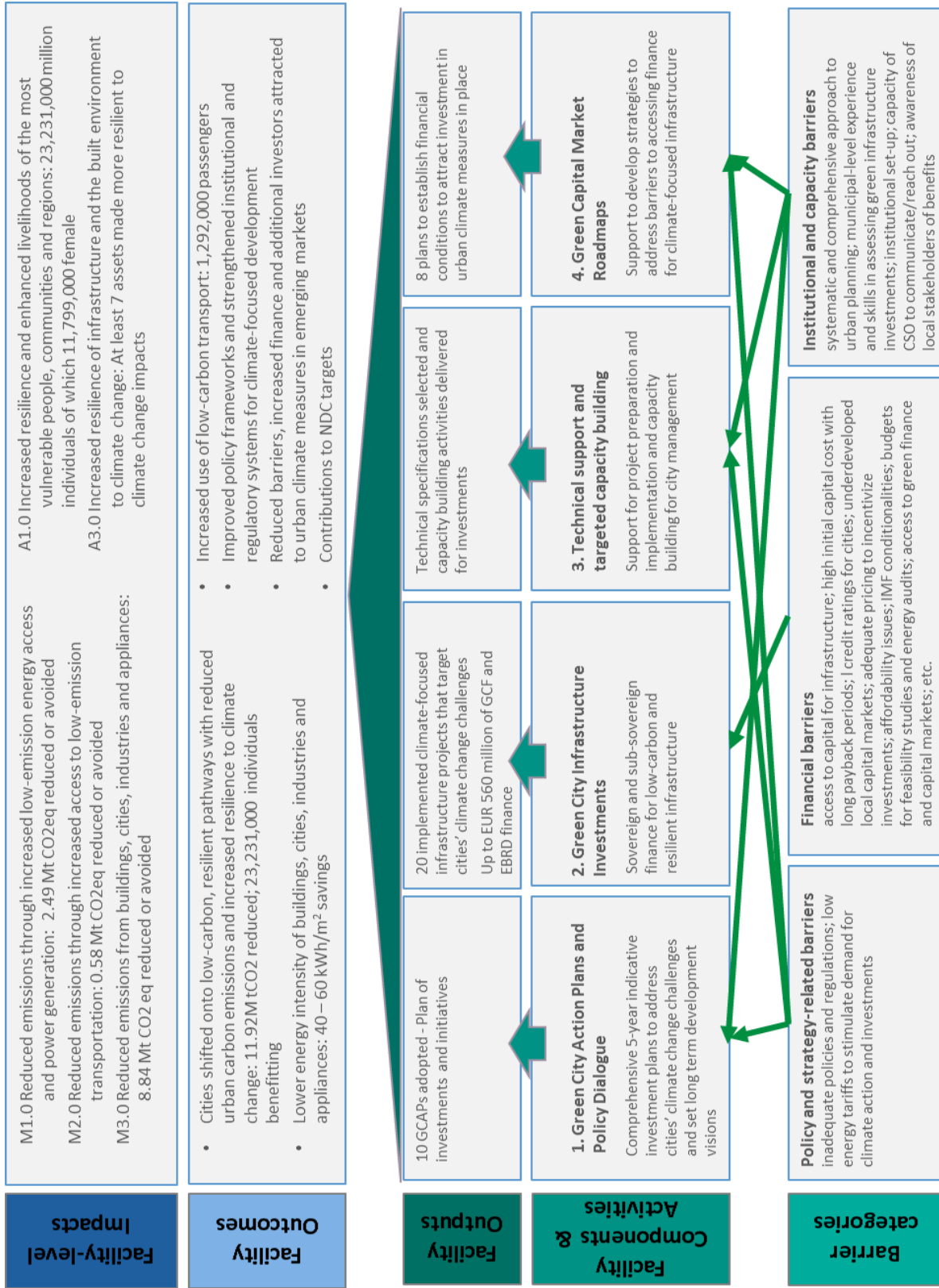
Through the Facility, the baseline situation is expected to be addressed as follows:

- Systematic barrier removal through the actions in the four components
- The development of 10 GCAPs prioritising low-carbon, climate-resilient investments
- Direct investment in 20 low-carbon, energy efficient infrastructure leading to total CO₂ savings of 11.92 Mt CO₂ eq made up of:
 - municipal energy (district heating/cooling) investments delivering savings of 2.49 Mt CO₂ eq
 - urban transport investments delivering savings of 0.58 Mt CO₂ eq and delivering low-carbon transport to an additional 1.29m passengers
 - low-carbon and climate resilient buildings delivering savings of 2.93 Mt CO₂ eq and energy savings of 40-60 kWh/m² for those buildings
 - solid waste investments delivering savings of 2.45 Mt CO₂ eq
 - street lighting investments delivering savings of 1.57 Mt CO₂ eq
 - water and waste water investments delivering savings of 1.88 Mt CO₂ eq
- Direct investment in at least 7 assets that are made more resilient to climate change impacts
- improving the lives of 23m people through the adoption of diversified, climate-resilient livelihood options
- The development of 8 Green Capital Roadmaps.

Summary

The following diagram summarises the Facility's structure, showing the connections between the barriers, activities, outputs, outcomes and Facility-level impacts.

Figure 2: Green Cities Facility structure and link to outputs, outcomes and impacts



C.3 Programme Description

C.3. Project / Programme Description

EBRD and GCF Green Cities Facility

To overcome the barriers outlined in Section C.2 and empower a regional paradigm shift to sustainable urban development, the EBRD is seeking to partner with the GCF to provide the tools cities need to effectively and meaningfully address climate change.

The EBRD proposes to establish a Green Cities Facility (GrCF) to address cities' climate change challenges while building the market case for private-sector investment in sustainable urban infrastructure in emerging countries. The Facility aims to foster transformational low-carbon, climate-resilient urban development for cities in the EBRD region. To achieve this aim, the Facility sets four objectives:

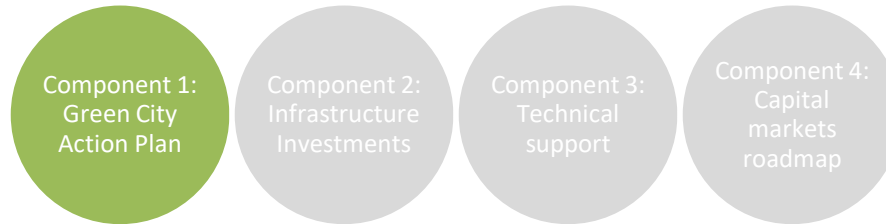
1. Deliver policy and strategy support to cities to assist them in prioritising green city actions;
2. Facilitate and stimulate green city infrastructure investments;
3. Build capacity of city administrators and key stakeholders;
4. Facilitate and provide a pathway for cities to access green finance and capital markets.

Structure of the GrCF

The Facility will be structured as four components outlined in the table below.

Table 2. Proposed GrCF components, objectives, relevant GCF investment criteria and outputs

Component	Addresses objective	Relevant GCF investment criteria						Outputs	
		Impact potential	Paradigm shift potential	Sustainable Development	Needs of the recipient	Country ownership	Efficiency and effectiveness		
1	Green City Action Plans and Policy Dialogue	1. Deliver policy and strategy support to cities to assist them in prioritising green city actions	x	x	x	x	x	x	10 Green City Action Plans developed for cities
2	Green city infrastructure investments	2. Facilitate and stimulate green city infrastructure investments	x	x	x	x	x	x	20 Green city infrastructure projects targeting cities' climate change challenges
3	Technical support and knowledge building	3. Build capacity of city administrators and key stakeholders	x	x	x	x			City- and project-specific support for all investments, annual Facility-wide knowledge building events, and at least 3 capacity-building events during the development of each GCAP
4	Green Capital Market Roadmaps	4. Facilitate and provide a pathway for cities to access green finance and capital markets		x		x	x	x	8 Roadmaps developed for cities



Component 1 – Green City Action Plans and policy dialogue

Financial Instrument: Grants for technical assistance

In the EBRD region, cities can lack comprehensive strategic plans with a climate change and environmental focus that outline their investments. A systematic approach to investment planning is needed to locate climate change mitigation and adaptation actions within the broader urban agenda. Recognising this, the EBRD worked in collaboration with the OECD and ICLEI to develop a methodology to identify, prioritise and evaluate green city actions and investments. The resulting Green City Action Plans (GCAPs) build on the experience of other MDBs working in the urban space and focus on delivering project finance, where the development of subsequent, actionable investments is given the highest priority. Cities in the EBRD region are diverse in terms of governance, level of economic development and vulnerability to climate change. While the EBRD’s GCAP approach provides a common overall structure, it is flexible enough to respond to the unique needs and challenges of each city and is very much evidence based.

What is a Green City Action Plan?

GCAPs serve as the strategic bedrock for the Facility, a tool which municipalities can use to steer their own green urban planning initiatives, and a guide for periodic monitoring, reporting and further planning. In short, the GCAP articulates the City’s sustainable development vision, strategic objectives and actions and investments to address priority environmental issues and meet the Plan’s objectives. A critical output of the GCAP process is a politically-feasible list of priority investment projects. Beyond planning and prioritising investments, the GCAPs are also expected to guide policy development for helping cities to achieve their climate and environmental goals. As such, the GCAP is a comprehensive, systematic and long-term approach to addressing urban climate and environmental challenges and barriers.

The following section provides more detail on the GCAP process.

Internal policy review.

While not strictly part of the GCAP process, the policy review step is important for the EBRD and city to determine whether a GCAP is warranted for the city, what the appropriate scope of the GCAP should be and for the EBRD to understand the city political context as it relates to GCAP approval and is undertaken up-front before the assignment starts. The internal policy review involves working with the city to review all relevant documents and policies to addresses four questions:

- i) What other plans/strategies have been developed for the City?
- ii) Is there a need for a GCAP given the existing plans/strategies for the City and if so, is there a gap in existing plans that the GCAP could address?
- iii) What level of political engagement is there with the GCAP and who is the champion of the GCAP?
- iv) Are there any legal and political risks in doing a GCAP for the City at this time?
- v) Is there potential for subsequent investment and what is the borrowing capacity of the City?

If the conclusion is the EBRD and city decide it is appropriate to proceed with the GCAP, the policy review is then used to prepare the terms of reference for the GCAP project team.

Following the internal policy review, the GCAP process involves the city, with support from a GCAP consultant team (hereafter the ‘GCAP team’) where appropriate, engaging in the four major steps as developed for the EBRD by the OECD and ICLEI. These steps are outlined in [Table 3](#) below (this table is a simplified version of Annex 7 of the GCAP methodology). It is worth repeating that the

EBRD's GCAP approach provides a common overall structure. However, it is flexible enough to respond to the unique needs and challenges of each city. Therefore, the summary below should be used as a general guide, and that it will be amended to reflect individual city needs/context.

Table 3. Summary of the methodology for developing Green City Action Plans

Step	Description	Who is involved?
Step 1 Green City baseline and priority challenges Key question of step 1: - What are the city's current climate and environmental priority challenges? Aim: - This step aims to provide information on the current state of climate and environmental challenges to assist city decision-makers and stakeholders select the priority challenges for action. Primary outcomes: - Commitment to Green City development for the local community. - Process initiated within local government and community. - Overview of status quo (understanding situation, constraints and capabilities). - Priorities identified to address environmental challenges most effectively and in an integrated manner. Indicative timeline: 3-6 months		
1.1 Prepare & organise	This step involves formalizing the findings of the <i>internal policy review</i> . That is, securing formal commitment and agreement with the City, confirming the approval process, setting up team & institutional structures within the City, identifying and engaging stakeholder groups and holding the kick-off meeting.	EBRD, City, GCAP team, stakeholders
1.2 Map local situation	This step is the preparation for the prioritisation process elaborated step 2.2 below. This step involves: <ul style="list-style-type: none"> Building on the <i>internal policy review</i> to map external framework conditions including financial status, governance and management inventory and analysis collection and assessment of the 35 core state, pressure and response indicators (See Table 4) to map climate, environmental and infrastructure challenges and local policy framework. 	City, GCAP team
1.3 Assess & prioritise	a) Conduct technical analysis. This step involves comparing the 35 core indicators against the appropriate international/national benchmarks to identify the climate and environmental challenges of the city. The results are presented in a traffic light summary table so those indicators that do not meet benchmarks are easily identified.	City, GCAP team
	b) Stakeholder-based prioritization. The green city challenges identified as a result of the technical analysis are checked and complemented through a series of stakeholder consultation meetings.	City, GCAP team, stakeholders
	c) City prioritization decisions. This is a formal assessment by the city of the results of previous steps in order to decide on the priorities challenges to address in the GCAP.	City
Step 2 Green City Action Plan Key question of step 2: - Where does the city want to go and how do they get there?		

<p>Aim:</p> <ul style="list-style-type: none"> - The GCAP compiles and presents the agreed development vision and objectives for a period of 10-15 years, the targets to work towards in a period of 3- 10 years, and the scope of actions and targets proposed. <p>Primary outcomes:</p> <ul style="list-style-type: none"> - Visions for Green City development drafted in line with priority environmental challenges identified in Step 1 - Strategic objectives outlined according to environmental and socio-economic dimensions - Medium-term targets for the long-term strategic objectives identified - Priority Green City actions defined - Draft GCAP compiled <p>Indicative timeline: 3-6 months</p>		
2.1 Develop a vision	<p>This step involves the GCAP team supporting the city to:</p> <ul style="list-style-type: none"> - Develop 10-15 year visions for priority challenges - Determine strategic objectives based on priority challenges - Determine medium-term (3-10 year) targets for strategic objectives - Consider scope including territory and stakeholders 	City, GCAP team
2.2 Select and prioritise green city policy measures	<p>This step involves the GCAP team supporting the city to:</p> <ul style="list-style-type: none"> - Review of existing Green City initiatives and responses - Select candidate Green City actions - Derive budget implications and indicative investment needs to address priority areas - Consult with stakeholders to select priority Green City actions from the candidate list - Finalise the priority investment plan. 	City, GCAP team, stakeholders
2.3 Draft GCAP	<p>This step involves the GCAP team drafting a GCAP that pulls together the findings from all of the steps above. The GCAP is reviewed by the city, amended and finalized.</p>	City, GCAP team
<p>Step 3 Green City Implementation</p> <p>Key question of step 3:</p> <ul style="list-style-type: none"> - How does the city operationalise the plan, and what are resources available to assist? <p>Aim:</p> <ul style="list-style-type: none"> - The “Green City Implementation” operationalises the GCAP, breaks it down into concrete tasks, allocates budget, time and staff, and monitors the contribution of each measure to the objectives and targets established in the Plan. This includes building political support for the Plan’s targets and actions by linking to municipal budget resources and reaching out to key government members. <p>Primary outcomes:</p> <ul style="list-style-type: none"> - Political approval of, and commitment to the GCAP - Initiating and running projects as part of a comprehensive GCAP - Monitoring of implementation of actions and progress towards objectives and targets - Mitigation of climate and environmental challenges and risks / environmental improvements started - Consideration of financial resources in municipal budget - Established implementation partnerships. <p>Indicative timeline: 12 - 36 months</p>		
3.1 Approval and adoption	<p>The GCAP establishes the city’s commitment to quantitative medium and short-term targets related to environmental challenges. In this way, the GCAP serves as a guide to the implementation of related measures. Formal approval by the city is important to officially launch the GCAP and mandate related measures and management activities.</p>	City, GCAP team

<p>3.2 Implementation</p>	<p>Implementation requires more than simply executing the measures outlined in the GCAP. In this step, in addition to engaging in the GCAP actions, the city engages stakeholders and form alliances, mobilises resources in the form of financing (which is not exclusively for EBRD), and allocates responsibility for the implementation.</p>	<p>City</p>
<p>3.3 Monitor implementation and progress</p>	<p>The city, with support from the GCAP team as required, sets up the monitoring scheme, engages in monitoring progress with GCAP implementation.</p>	<p>City, GCAP team</p>
<p>Step 4 Green City Reporting Key question of step 4: - What has the city been able to achieve – and how? Aim: - The “Green City Report” analyses successes and failures during the implementation period, provide the basis for taking further political decisions and inform Council, stakeholders & the public on what the city has done and achieved Primary outcomes: - Institutionalized evaluation, audit and reporting system in use. - Green City Report reflecting achievements based on objectives and targets established in the GCAP. - On-going and increasing environmental improvements. - New policy options identified to accelerate Green City development. Indicative timeline: - Suggested to implement as annual report, i.e. 12 months from Council decision - Duration of phase ca. 3 months</p>		
<p>4.1 Evaluate process and achievements and report on progress</p>	<p>Concluding the first year following GCAP implementation, the city prepares a report presenting the achievements compared to the targets established and approved in the GCAP. This report serves as a foundation for reconsidering the GCAP priorities, and acts as guidance for decisions regarding the forthcoming management period.</p>	

As part of Step 1.2 described above the city is required to develop and report on a set of 35 core indicators (see [Table 4](#) below) developed by the OECD. For a more detailed description of the indicators and the international benchmarks used to evaluate level of performance, please see Annex 14.

Table 4: GCAP’s targeted environmental dimension and core indicators

Targeted Environmental Dimensions	Core Indicator	
Air	1	Average annual concentration of PM _{2.5}
Water bodies	2	Biochemical Oxygen Demand (BOD) in rivers and lakes
Drinking water	3	Percentage of water samples in a year that comply with national potable water quality standards
Soil	4	Number of contaminated sites
Water use	5	Water Exploitation Index
Land use	6	Open green space area ratio per 100 000 inhabitant
Biodiversity and ecosystems	7	Abundance of bird species (all species)
Mitigation (GHG emissions)	8	Annual CO ₂ equivalent emissions per capita

Adaptation (resilience to natural disaster risks)	9	Estimated economic damage from natural disasters (floods, droughts, earthquakes etc.) as a share of GDP
Sectors	Core Indicator	
Transport	10	Average age of car fleet (total and by type)
	11	Transport modal share in commuting (cars, motorcycles, taxi, bus, metro, tram, bicycle, pedestrian)
	12	Average travel speed on primary thoroughfares during peak hour
	13	Interruption of public transport systems in case of disaster
Buildings	14	Electricity consumption in buildings
	15	Heating / cooling consumption in buildings, fossil fuels
Industries	16	Electricity consumption in industries, per unit of industrial GDP
	17	Heat consumption in industries, per unit of industrial GDP
	18	Heavy metals emission intensity of manufacturing industries
	19	Share of industrial waste recycled as a share of total industrial waste produced
	20	Percentage of industrial wastewater that is treated according to applicable national standards
Energy	21	Share of population with an authorised connection to electricity
	22	Share of population with access to heating / cooling
	23	Proportion of total energy derived from RES as a share of total city energy consumption (in TJ; compared to benchmark of 20%)
	24	Average share of population undergoing prolonged power outage in case of climatic extremes over the past 5 years
Water (supply, sanitation, drainage)	25	Water consumption per capita
	26	Non-revenue water
	27	Percentage of residential and commercial wastewater that is treated according to applicable national standards
	28	Percentage of dwellings damaged by the most intense flooding in the last 10 years
Solid waste	29	Total solid waste generation per capita
	30	Share of the population with weekly municipal solid waste (MSW) collection
	31	Proportion of MSW that is sorted and recycled (total and by type of waste e.g. paper, glass, batteries, PVC, bottles, metals)
	32	Remaining life of current landfill(s)
Land use	33	Population density on urban land
	34	Average annual growth rate of built-up areas
	35	Vacancy rates of offices

Requirements for Green City Action Plans

All GCAPs under the Facility must follow the GCAP methodology developed by the OECD and ICLEI. This methodology ensures a systematic, integrated long-term approach to cities' investment planning, thereby promoting a paradigm shift in urban climate planning and investment. In line with the GCF's investment criteria, GCAPs will also be required to:

1. Be additional/complementary to previous strategies or plans developed at the local and regional levels and non-duplicative

2. Ensure consistency with countries' NDCs, NAMA, NAPA, and NAP and other relevant national and regional plans and policies in the identification of cities' priority environmental challenges and green city measures including green city infrastructure investments
3. Incorporate environmental and social considerations in the identification of cities' priority environmental challenges and green city measures including green city infrastructure investments
4. Identify sources of finance beyond those available from the EBRD and GCF
5. Provide training and capacity building opportunities to relevant stakeholders to facilitate future monitoring and iterative processes, and the success of identified measures.

Experience with GCAPs to date

The EBRD has successfully piloted the GCAP approach. Two GCAPs have been adopted in [Yerevan, Armenia](#) and [Tbilisi, Georgia](#), with a third in Tirana, Albania on track for approval in May 2018. The adopted GCAPs have identified measures that address the cities' challenges related to climate change and outline the integration of climate technologies into urban services. The GCAP tool is proving attractive for cities. Currently the Bank is in discussions with five cities in the Facility's region about developing a GCAP.

The GCAP process is already spurring subsequent investment in climate-focused municipal infrastructure. The two completed GCAPs each identified more than EUR 400 million of investment needs over the next five years. The GCAPs also identified the planned source of finance including the cities' own budgetary resources, national governments' support, finance through IFIs and multilaterals including the EBRD, donor support and the private sector. In Yerevan, the GCAP's infrastructure investment measures were reflected into the city's five-year investment plan. The GCAP in Tbilisi catalysed the development of multiple investments prioritised through the GCAP to be implemented in the coming two years, which include improvements in public building energy efficiency, street lighting, solid waste management systems and flood management. In Tirana, investments to address the city's water network challenges and the procurement of a fleet of electric buses are now being developed.

Strategic alignment of Component 1

By providing systematic planning to address cities' climate change challenges, the GCAPs contribute towards GCF's investment criteria of:

1. **Impact potential** through the increased use of climate information in decision making
2. **Paradigm shift potential:** the monitoring activities associated with GCAPs "provide for long-term and financially sustainable continuation of relevant outcomes...." Furthermore, the GCAP process helps to "overcome systematic barriers to low-carbon development."
3. **Sustainable development potential:** the broad approach of the GCAP promotes "positive environmental externalities such as air quality, soil quality, conservation, biodiversity, etc."
4. **Needs of the recipient:** the process of developing a GCAP helps to "strengthen institutional and implementation capacity"
5. **Country ownership:** the development of a GCAP contributes "to country's priorities for low-emission and climate-resilient development"
6. **Efficiency and effectiveness** by ensuring that only the most impactful low carbon investments are prioritised.

GCAPs also help to realise Sustainable Development Goal 11, which states, "By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels." The Facility will scale up the number of cities engaging in such integrated planning through the GCAPs.

The GCAPs also ensure their alignment with countries' and cities' climate commitments and plans. Countries' NAMAs, NAPAs, NDCs and NAPs are all analysed in the first stages of developing a GCAP. The priorities and actions identified in these strategies, as well as the targets, then influence the specific actions and targets identified by the GCAP. Through iterative stakeholder consultations, the GCAPs are able to synthesise these plans with cities' local climate change challenges and the priorities of local stakeholder groups.

Policy elements of Component 1

A common feature of the Yerevan and Tbilisi pilot GCAPs was the identification of additional policy reform that is required to achieve climate goals. Anticipating that this will be the case for future GCAPs, Component 1 of the Facility will also provide resources for policy dialogue support. This support will aim to ensure that consistent national regulatory and legal frameworks enabling urban climate action are established. Examples of the types of policy dialogue support anticipated include:

1. Development of relevant framework legislation and related regulations
2. Introduction of market-based instruments, namely the development and implementation of utility tariff methodologies building on global best practices, to ensure long-term financial sustainability of service delivery and Public Service Contracts (PSCs), to ensure better planning, regulation and green procurement policies
3. Social safety mechanisms to mitigate impacts of the sector reform or tariff changes on lowest income groups or vulnerable groups to ensure the equitable access to the infrastructure and services
4. On gender equality, to foster an enabling environment around green city investments by identifying specific areas where the Bank may be able to actively promote women's economic empowerment and equality of opportunity.

Eligibility criteria for green city selection

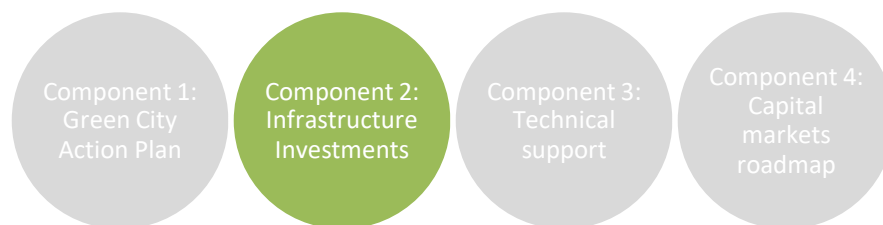
To participate in the Facility, cities and municipal governing bodies must meet four criteria:

1. Have a population of at least 100,000 people;
2. Commit to implementing a green 'trigger' investment project that initiates a city's participation in the EBRD Board approved Green Cities Framework and the proposed Green Cities Facility, meaningfully addresses climate change issues and meets the project eligibility criteria detailed above;
3. Commit to developing a GCAP in conjunction with the 'trigger' project;¹³⁰
4. Demonstrate a need for climate change action and planning as evidenced by local climate and environmental challenges, and national climate strategies and projections.

The Facility currently is available to nine countries in the EBRD region, based on their provision of a no-objection letter: Albania, Armenia, FYR Macedonia, Georgia, Jordan, Moldova, Mongolia, Serbia and Tunisia.

Output from Component 1

At least 10 GCAPs will be finalised during the Facility's implementation period.



Component 2 – Green city infrastructure investments

Financial Instruments: concessional loans, CAPEX grants for adaptation projects

Description

Investments are central to the Facility. The Facility will support the implementation of climate-focused infrastructure investment projects in beneficiary cities, which directly target cities' priority climate challenges identified through the GCAPs. These projects will aim to lower greenhouse gas emissions and increase the climate resilience of urban services in the region, while helping cities

¹³⁰ This requirement is covenanted in EBRD's legal agreements.

reach their targets set in the GCAPs. Investments will benefit cities' budgets by achieving a level of cost-efficiency or employing appropriate cost recovery measures where needed.

The Facility's investments will **deliver transformative climate change mitigation and adaptation outcomes** in urban infrastructure: municipal energy (district heating / cooling), water and wastewater, urban transport, street lighting, solid waste management or low-carbon and climate resilient buildings.

The selection of these transformative projects will primarily be **based on quantitative selection criteria**. For climate mitigation projects the primary selection criteria used will be **EUR/t CO₂ eq** and a **minimum level of CO₂ or energy savings**. Adaptation projects will be selected based on a minimum **climate resilience benefits ratio** metric.

The metrics and other criteria for selecting mitigation and adaptation projects are described below in more detail. We first present the rationale and approach for climate mitigation and adaptation metrics and then summarise the full suite of criteria in Box 2, Box 3 and Box 4.

EBRD approach to identifying transformative mitigation investments

EBRD proposes the following approach to identify priority municipal investments that deliver mitigation outcomes.

The EBRD has analysed the specific CO₂ mitigation investment costs of all municipal sectors proposed in this Facility. We have found that the median of **municipal energy (district heating / cooling), low-carbon buildings, wastewater treatment, solid waste and street lighting** projects delivers CO₂ mitigation at an investment cost of EUR58.07/t CO₂ eq. This is based on 55 investment projects from 2013 to 2017 and calculated total mitigation finance (euros) divided by the lifetime CO₂ savings (tonnes CO₂ eq). Therefore, the Facility proposes to finance all investments in this sector that can deliver mitigation impacts at a specific CO₂ mitigation investment cost of less than **EUR50/t CO₂ eq**. Note that this is the total investment mitigation cost for the project – the associated GCF cost is estimated to be in the order of EUR16/t CO₂ eq.

In addition, all climate mitigation projects will **reduce CO₂ emissions by at least 20 per cent or improve energy efficiency by at least 20 per cent¹³¹ over baseline**. These 20% thresholds go beyond the EBRD's Green Economy Transition Handbook requirement for 'green' operations to demonstrate a minimum of 15% improvement over baseline. Based on the EBRD's experience, the GET Handbook selected a minimum 15% improvement threshold for EBRD operations to demonstrate 'substantial improvement' in line with the joint MDB approach for climate finance tracking (for more detail, see the [IFI Framework for a Harmonised Approach to GHG Accounting](#)). However, the Bank proposes to introduce additional stretch to ensure that the Facility delivers transformational climate investments. This additional stretch is in part achieved by requiring all projects to meet the more challenging 20% improvement over baseline instead of the 15% improvement.

Climate action in the **transport sector** is challenging. The sector is an integral part of the urban fabric and it is expensive to replace the carbon-intensive transport assets. Further, EBRD experience suggests that urban transport investments are also expensive in terms of specific CO₂ mitigation investment cost. On average, EBRD urban transport projects have delivered CO₂ mitigation at an investment cost of EUR145/t CO₂ eq. This is in part due to significant external benefits, from air quality, through to reductions to toxic emissions, notably PM, NO_x, SO_x, which are not directly supported by GCF under this proposal.

Nevertheless, transport is an integral part of the urban system and a significant, and fastest growing, contributor to city CO₂ emissions. To counter these trends, it is estimated that doubling the share of public transport worldwide would save 550 million tonnes of CO₂ emissions annually. Achieving this requires increasing public transport usage under continued pressure from car ownership, developing non-motorised transport options in cities and shifting to cleaner technologies. The urban transport sector is a critical sector for coherent city green strategy under the GCAP, is a major contributor to quality of life in the city, and provides highly visible benefits every day to its citizens.

¹³¹ GHG and energy efficiency measurements will be calculated in line with the EBRD's Green Economy Transition Handbook for measuring and reporting on projects' environmental impacts.

Despite the specific mitigation investment cost, it is imperative to decarbonise our transport system as part of a comprehensive strategy to increase sustainable urban mobility. Furthermore, use of the EUR/t CO₂ eq metric for evaluating electric-transport infrastructure investments can disadvantage these projects, notably in countries making efforts to decarbonize their electricity generation from existing carbon-intensive generation (see a discussion of this issue for each country in Box 2). The current use of fossil fuels for electricity production in the Facility's region can create a scenario where electric transport relies on carbon intensive electricity supplies. The climate rationale for investing in electric transport infrastructure today is clear, though, as it puts cities on a low-carbon pathway where future reductions in fossil fuel consumption in the region's energy sectors will translate into climate benefits in the transport sector. Installing the infrastructure and procuring the proper equipment today will facilitate a switch to renewably powered transport in the future.

Box 1: Prospects of decarbonisation of electricity production in Facility countries

The Facility's countries have commonly set targets to decarbonize their electricity generation, increase their use of renewable energy and increase the presence of electric transport in their NDCs.

- Albania benefits from an already large share of renewable electricity generation from hydropower facilities. In its NDC, Albania states that it seeks to lower GHG content of electricity generation while decoupling growth from increased emissions.
- Armenia's main sectors contributing their mitigation targets are energy through renewable energy and energy efficiency measures, and transport through the development of electric transport networks.
- FYR Macedonia acknowledges the large portion of its electricity generated from lignite. To address this issue and develop a cleaner grid, the country plans to introduce renewable energy (hydro, solar, wind) and efficiency measures.
- Georgia targets city-level action as a key contributor to its mitigation strategy. National level energy efficiency measures will also contribute to the country's mitigation reduction target of up to 25 per cent by 2030 compared to 2013.
- Jordan has significant renewable energy resources that it plans to take advantage of to decarbonize its grid. In addition, the country acknowledges that transport is the largest energy user nationally and plans to introduce zero-emission vehicles and associated infrastructure to reduce the sector's GHG impact.
- Moldova's energy sector is its largest GHG contributor. The country plans to increase the share of renewable energy systems to meet 20 per cent of electricity demand by 2020, along with introducing energy efficiency measures.
- Mongolia aims to more than double its renewable energy capacity by 2020 to represent 20 per cent of electricity capacity, and scale up to 30 per cent by 2030. In addition, the country has identified a series of measures to reduce emissions from its transport sector.
- Serbia seeks to align its policies and climate practices with the EU, while committing to reduce GHG emissions by almost 10 per cent compared to a 1990 baseline.
- Tunisia plans to reduce primary energy demand by 30 per cent by 2030, while increasing the share of energy from renewables to 30 per cent over the same time period. Installations of wind, solar and concentrated solar power are planned.

For these reasons, the Facility proposes to apply the minimum 20% CO₂ reduction or 20% energy savings thresholds, but not a EUR/t CO₂ specific mitigation cost cap as an investment criteria for transport. In place of the EUR/t CO₂ specific mitigation cost cap, the Facility has established a positive list of transformative transport technologies that will be eligible for Facility finance.

The GCF funding tranche will only be used for the following transport technologies:

- a) Electric bus vehicles fleets (battery and hybrid electric)
- b) Construction, expansion or improvement of electric tram or trolleybus (including hybrid battery electric) fleets
- c) Construction, expansion or improvement of suburban rail, metro and light rapid transit fleets,
- d) Electric ferry and water taxi fleets

EBRD approach to identifying transformative climate adaptation investments

The Facility proposes to use a minimum **Climate Resilience Benefit Ratio (CRB Ratio) of 10%** as the criteria for selecting transformative climate adaptation investments. This will ensure that GCF and EBRD finance is used in the most effective way to support priority investments that deliver the most significant climate resilience outcomes, based on a robust, objective and quantifiable approach. The rationale and process for arriving at this metric is outlined below.

The starting point for any EBRD assessment of a project’s contribution towards climate resilience is to determine the context of climate vulnerability for the project in question, using a robust base of evidence. This enables the identification of the key climate risks that an intervention funded by the Facility will be used to address. This step is based on a robust climate risk and resilience assessment conducted under each GCAP as well as an investment due diligence process that includes a climate change risk assessment. The process follows best practice approaches for assessing climate risks and building climate resilience, such as the European Financing Institutions Working Group on Adaptation to Climate Change (EUFIWACC) guidance note “Integrating Climate Change Information and Adaptation in Project Development”.

The second step of the process focuses on making an explicit statement of the project’s intent to address the context- and location-specific climate change vulnerabilities in response to the project-specific context of climate vulnerability. This step is essential for distinguishing between a business-as-usual project and a climate change adaptation project that addresses specific climate change risks in order to reduce the climate vulnerability and build the climate resilience of the system or city in question. The statement of intent to address climate change risks, reduce vulnerability and build resilience will be documented in relevant project documentation such as EBRD Board Documents and associated technical project documents.

The next step of the approach involves defining a clear and direct link between the project-specific context of climate vulnerability and specific project activities that deliver corresponding climate resilience outcomes. This enables the following to be defined and quantified: (i) EBRD and GCF finance that supports specific climate resilience project activities that are clearly linked to the project’s climate vulnerability context, and (ii) physical and monetised climate resilience outcomes that the project delivers in response to each climate risk.

In line with EBRD’s established climate resilience monitoring verification and reporting approach, these physical climate resilience outcomes express in measurable units the climate resilience outcome(s) of the project. These physical climate resilience outcomes may then be valorised to generate a monetized climate resilience outcome, referred to as a **Climate Resilience Benefit (CRB)** for each project. The CRB gives a measure of the value of the climate resilience outcome(s) delivered by the project.

The final step of this methodology involves calculating the ratio of Climate Resilience Benefit (CRB) against the Total Project Value (TPV) to give a **Climate Resilience Benefit Ratio (CRB Ratio)**. This gives a measure of how much CRB is delivered per euro invested. In the same way as the above mitigation approach, the CRB Ratio will be used to evaluate and benchmark projects in terms of their relative contribution towards building climate resilience, and to set investment criteria.

In conducting the assessment of climate vulnerability, EBRD will apply a number of screening tools that are available for identifying climate risks to specific project sites, including:

- WRI Aqueduct, tool for measuring, mapping and understanding water risks (<http://www.wri.org/our-work/project/aqueduct>);
- ND-GAIN Country Index, tool for measuring country’s vulnerability (<https://gain.nd.edu/our-work/country-index/>); and
- Other listed on the NDC Partnership Toolbox Navigator (<http://ndcpartnership.org/toolbox-navigator#tools>).

The following table provides an example of a CRB Ratio calculation for a project.

Table 5: Example Climate Resilience Benefit Ratio calculation

Country	Kyrgyz Republic
Sector	Water & wastewater
Total Project Volume	EUR 6,949,150
Description	The Kyrgyz Republic is the country most vulnerable to climate change in the EBRD region and faces severe water stress. Cities have deteriorated water supply assets, which lead to large water losses in the distribution network and an intermittent supply of water for end users. Supported in part by donor adaptation finance, the project

	accelerates investment in water network rehabilitation by replacing old pipes, installing control valves, and repairing leaks. These measures will lead to a reduction in water losses from around 60 per cent to 27 per cent of municipal water production. The outcome of the project is increased water resource availability in the country, increased resilience of groundwater and surface water resources and improved climate resilience of Kyrgyz Republic communities.
Climate risks	Increasing water stress
Intended climate resilience outcome	Increased water availability
Physical outcome unit	m ³ /year
Physical outcome	2,887,515 m ³ /year (annual water savings)
Valorised outcome	EUR 1,443,758 (value of saved water)
Climate Resilience Benefit	EUR 1,443,758
Climate Resilience Benefit Ratio	20.78 %

EBRD proposes a minimum threshold of 10% CRB Ratio that projects must achieve in order to be eligible for GCF resources on the grounds of climate change adaptation. The 10% threshold is appropriate for three reasons. First, it strikes the right balance between demanding clear evidence of substantial climate resilience benefits, while recognising that climate resilience is a relatively new and less well understood topic for many cities. Second, this 10% threshold is appropriate because it adds significantly stretch to EBRD's adaptation investment approach. That is, it is significantly higher than the 1% threshold used internally for GET projects. Finally, the 10% threshold is appropriate from a project pipeline perspective. A review of 30 signed climate adaptation projects shows that a 10% CRB would only allow GCF funding to be allocated to the top 30% of projects.

Summary of eligibility criteria for Green City infrastructure projects

Box 2, Box 3 and Box 4 below summarise all of the criteria used to select transformative climate mitigation and adaptation investment projects, including the primary climate mitigation and adaptation metrics outlined above.

Box 2: Eligibility criteria for climate mitigation projects (excluding transport)

All municipal energy (district heating / cooling), low-carbon public buildings, solid waste, water and waste water and street lighting climate mitigation investment projects must meet the following criteria:

1. **Impact thresholds:**
 - a) deliver climate mitigation at a specific investment cost less than EUR50/t CO₂ eq. and
 - b) Reduce GHG emissions by at least 20 per cent or improve energy efficiency by at least 20 per cent.
2. **Sectors.** Fall within the municipal infrastructure sectors including district heating, water and wastewater, street lighting, solid waste management or energy-efficiency improvements and retrofits in buildings;
3. **Concessionality.** Employ the minimum level of concessionality to address financing requirements, market entry barriers or incremental costs in line with the EBRD's internal process for utilising concessional instruments (see Section F.1).
4. **GCAP.** All Trigger projects will covenant the development of a GCAP based on the GCAP methodology. Cities will be required to identify city staff responsible for the process of developing and implementing a GCAP.
5. **Priority environmental challenges.** All municipal energy (district heating / cooling), low-carbon buildings, solid waste, water and waste water and street lighting climate mitigation investments subsequent to the development of GCAP will address a priority environmental challenge¹ identified by the city specific GCAP. Priority environmental challenges will be selected by the city stemming from the GCAP's indicators measuring urban environmental performance.

Box 3: Eligibility criteria for climate mitigation projects (transport)

All transport investment projects must meet the following criteria:

1. **Impact thresholds:**
 - a) Reduce GHG emissions by at least 20 per cent or improve energy efficiency by at least 20 per cent.
2. **Technology:**
 - a) The GCF funding tranche will only be used for the following technologies:
 - i) Electric bus vehicles fleets (battery and hybrid electric)
 - ii) Construction, expansion or improvement of electric tram or trolleybus (including hybrid battery electric) fleets
 - iii) Construction, expansion or improvement of suburban rail, metro and light rapid transit fleets.,
 - iv) Electric ferry and water taxi fleets
 - b) The EBRD's contribution to transport-related investments will be used for the following technologies:
 - i) Electric bus vehicles fleets, facilities and charging infrastructure (battery and hybrid electric)
 - ii) Construction, expansion or improvement of electric tram or trolleybus (including hybrid battery electric) fleets, systems and/or infrastructure and facilities
 - iii) Construction, expansion or improvement of suburban rail, metro and light rapid transit fleets, systems and/or infrastructure and facilities
 - iv) Electric ferry and water taxi fleets, facilities and charging infrastructure
 - v) Non-motorised transport networks and facilities (bicycle, pedestrian mobility)
 - vi) Transport integration systems and facilities, promoting increased public transport usage (fare collection systems, interchange terminals and facilities)
3. **Sector cap.** No more than 30 per cent of the total GCF funding will be invested in transport projects, unless otherwise agreed between the EBRD and the GCF Secretariat during implementation.
4. **Concessionality.** Employ the minimum level of concessionality to address financing requirements, market entry barriers or incremental costs in line with the EBRD's internal process for utilising concessional instruments (see Section F.1).
5. **GCAP.** All Trigger projects will covenant the development of a GCAP based on the GCAP methodology. Cities will be required to identify city staff responsible for the process of developing and implementing a GCAP.
6. **Priority environmental challenges.** All transport investments subsequent to the development of GCAP will address a priority environmental challenge¹ identified by the city specific GCAP. Priority environmental challenges will be selected by the city stemming from the GCAP's indicators measuring urban environmental performance.

Box 4: Eligibility criteria for climate adaptation projects

All climate adaptation investment projects must meet the following criteria:

1. **Target threshold.** All adaptation investment projects will have a **Climate Resilience Benefit Ratio of at least 10%**
2. **Environmental Integrity.** Ensure that the funded adaptation activities will not lead to an increase in GHG emissions;
3. **Concessionality.** Employ the minimum level of concessionality to address financing requirements, market entry barriers or incremental costs in line with the EBRD's internal process for utilising concessional instruments (see Section F.1).
4. **GCAP.** All Trigger projects will covenant the development of a GCAP based on the GCAP methodology. Cities will be required to identify city staff responsible for the process of developing and implementing a GCAP.
5. **Priority environmental challenges.** All adaptation investments subsequent to the development of GCAP will address a priority environmental challenge¹ identified by the city specific GCAP. Priority environmental challenges will be selected by the city stemming from the GCAP's indicators measuring urban environmental performance.

Use of GCF and EBRD finance for infrastructure investments

It is important to describe the rationale of a Trigger project - the first, initiating Facility investment in a city. EBRD experience shows that such a trigger investment is important for two reasons: i) it demonstrates commitment on behalf of the city to begin the process of transformation and ii) it gives greater certainty that the GCAP will be developed by placing a legal covenant on the GCAP development in the loan document. While the Trigger project occurs before the completion of a GCAP for the city, the project still has to meet all selection criteria for all investment projects as outlined above.

For trigger projects and prioritised projects stemming from GCAPs, cities benefiting from the Facility would receive GCF co-finance (concessional loans and, where appropriate, grants) alongside the EBRD's financing through the GCF Special Fund at the EBRD. GCF-funds linked to investment projects would be provided to:

1. Municipalities through municipal loans or utility loans guaranteed by a municipality;
2. Central governments through sovereign backed loans (direct loans or guarantees);
3. Utility companies through quasi corporate utility loans; or
4. Private companies through loans to a PPP and/or ESCO.

GCF's concessional loans will be used to mobilise EBRD's finance for climate change investments. The level of concessionality offered in each project will reflect the need to respond to local and sectoral challenges (see section F.1 for a detailed description of the process for ensuring minimum concessionality).

The Facility will also seek to address foreign exchange risks associated with municipal infrastructure finance in the Facility's region by offering EBRD financing in local currency. By matching the Facility's currency to that of local revenues, beneficiaries will be able to reduce their exposure to potential fluctuations in the value of local currencies that could impair a borrower's ability to service a loan. The EBRD will seek to provide local currency financing where feasible and at the specific request of the Client. In such arrangement, the beneficiaries will bear the devaluation risk. GCF funding will only be provided to beneficiaries in euros.

Strategic alignment

The activities associated with Component 2 directly address multiple GCF investment criteria:

1. **Impact potential:** investments under Component 2 deliver infrastructure that avoids lock in of long-lived, high emission and/or climate-vulnerable infrastructure, CO₂ emission savings, adaptation outcomes
2. **Paradigm shift potential:** investments under Component 2 promote "innovative solutions in new market segments", "change incentives for market participants by reducing costs and risks, shifts incentives in favour of low carbon and-all climate-resilient development" and "reduces proposed risks of investment in technologies and strategies that promote climate resilience in developing countries."
3. **Sustainable development potential:** investments under Component 2 promote "positive environmental externalities such as air quality, soil quality, conservation, biodiversity etc."
4. **Country ownership:** investments under Component 2 "contribute to country's priorities for low-emission and climate-resilient development"

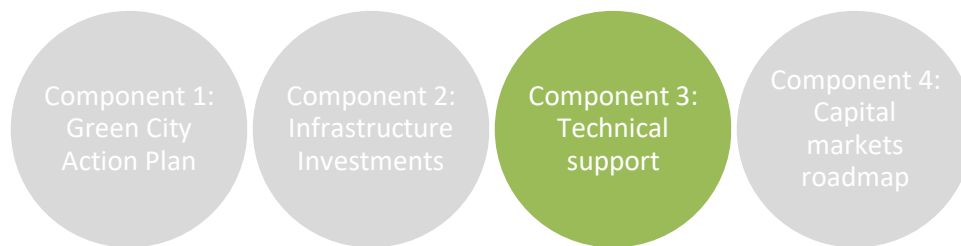
5. **Efficiency and effectiveness:** investments under Component 2 "provide the least concessionality needed to make the proposal viable".

Leverage

The Facility's finance for green city infrastructure investments will help to leverage other sources of finance, particularly from municipal and national governments. This co-finance can be seen as evidence of cities making climate change central to their development visions. By enabling and fostering cities to invest in climate technologies, the Facility will help to incite a regional paradigm shift in sustainable urban development.

Outputs

The EBRD envisages 20 green city infrastructure projects to be implemented with the Facility's support. The climate technologies employed will reduce greenhouse gas emissions by an estimated 11.92 Mton CO₂ eq., and benefit more than 23 million people living in urban areas in the Facility's region over its economic lifetime. With respect to adaptation, these projects will result in at least 7 assets made more resilient to climate change impacts.



Component 3 – Technical support and knowledge building

Financial Instrument: grants for technical assistance

a) Technical Support

Description

EBRD experience in the municipal space has shown the importance of combining technical assistance and capacity building with investments to ensure their effective preparation, implementation and cost-effectiveness. As a result, the Facility will provide technical support for green city investment projects' preparation, implementation and monitoring. This will complement and support Components 1 and 2.

Component 3 plays the critical role of ensuring investments' success on multiple fronts. First, technical assistance will ensure that the appropriate technologies are selected and effectively implemented to achieve the climate benefits cities need. Second, capacity building will create the necessary enabling conditions within cities allowing Facility beneficiaries to effectively operate and maintain investments thereby sustaining their climate benefits throughout the technologies' lifetimes. Last, the component will ensure that the selected technologies are cost effective, while sufficient cost recovery measures are put in place to ensure the financial sustainability of investments. This will facilitate cities in their ability to service their debt, while helping to increase cities' borrowing capacity through more effective revenue generation mechanisms.

The support will help to increase the level of comfort to the city's decision makers by a more informed basis about new investments and the risk/return, climate results and further impacts they may have.

Activities supported under Component 3 include:

i) Technical, financial, environmental, social and gender due diligence

1. Climate risk assessment for adaptation projects: consider the potential impacts of climate change on the project to build in resilience to climate change related risks;
2. Technical and financial feasibility assessment of the proposed investments including whether it is the most effective, the most low-carbon, and the least cost investment Programme;
3. Financial analysis of the beneficiary and financial projections covering the financial forecasts during the Facility's lifetime and beyond; financial analysis of the budgets of the beneficiary;
4. Assessment of the resource efficiency opportunities including energy and water efficiency, and/or waste minimisation potential, and/or the impact on GHG emissions;
5. Project screening against the EBRD's Environmental and Social Policy (ESP 2014) and associated Performance Requirements (PRs) to determine each project's environmental and social (E&S) risk category and confirm the environmental and social due diligence (ESDD) required. If the Project is categorised as B, the ESDD will be carried out to identify the Project's E&S risks, impacts and benefits and to structure the Project to comply with the EBRD's ESP and Procurement Policies and Rules ("PP&Rs"). If the Project is categorised as A, the EBRD will determine the level of the ESDD by revising the Terms of Reference for recruiting experts to conduct the ESDD. (Details on the Facility's Environmental and Social Management System can be found in Annex 4);
6. Project alignment with the EBRD's Strategy for the Promotion of Gender Equality (2016-2020) to identify specific areas where the Bank may be able to actively promote women's economic empowerment and equality of opportunity. A gender action plan for the Facility is provided in Annex 8;
7. Development of efficient Project implementation strategy and assessment for potential private sector participation where appropriate and agreed with the partners.

ii) Capacity building to enhance city management, improve tariff structures and improve corporate development

1. Enhance city management – improve municipal project management, prepare financial planning, help improve the regulatory and institutional setup of projects;
2. Recommendations for tariff improvement measures, including mitigation measures taking into consideration any adverse impacts on poor and vulnerable groups;
3. Corporate development strategies for municipal governments to help them improve efficiency and transparency of corporations as well as ensure use of best practices and compliance with EBRD's performance requirements and project standards;
4. Introduction of public service contracts to ensure better planning and to regulate the relationship between municipalities and municipal owned utilities and companies;
5. Financial and Operational Performance Improvement activities that can include the following: introduce a Performance Measurement System for financial, technical, environmental and gender parameters; introduce a Customer satisfaction measurement system; introduce functions for finance management, internal audit and external communications; document and improve operation processes; establish or improve the policies needed, in particular the tariff setting policy; modernise the IT environment to effectively document data and report results;
6. Build capacity of municipalities, municipal service providers and other key stakeholders to ensure greater gender equality in access to and use of municipal services and access to employment;
7. Engagement with key stakeholders - raise public awareness, facilitate public ownership and participation in projects, and integrate addressing poverty and social issues into the proposed reforms;
8. A civil society capacity building component: facilitate and encourage community outreach, knowledge dissemination and skills transfer to target citizen groups by enhancing CSOs' technical and institutional capacity, training skills, as well as their outreach and communication skills, with respect to the environmental and social dimensions of green cities, with the objective of maximising the social, environmental, and economic co-benefits.
9. Promote gender equality in access to urban infrastructures and services, through: (a) provision of capacity building activities to facilitate and support service providers and municipalities to promote gender equality in access to, and use of, municipal services including equal access to any employment opportunities that may arise; (b) policy dialogue engagement to help foster an enabling environment for green city investments and actions, and will help address barriers restricting women's economic opportunities, particularly their ability to participate equally in, and benefit from, the services and facilities provided by the GCAP.

iii) Project implementation and monitoring

While the Facility as a whole will be managed by EBRD staff based in its London headquarters, the Bank's regional offices in all of the beneficiary countries will provide critical support. Please see Sections C.4 for more information on EBRD's resident offices, and Section C.7 for further clarification on Facility implementation arrangements. The Facility will establish Project Implementation Units (PIU) for each project to provide a range of services including procurement support, construction supervision, reporting standards improvement. The PIU, working with the beneficiary, will assist in tender preparation, selection; awarding contracts and contract administration; and construction supervision. The EBRD will procure consultants to support the PIU to ensure the effective implementation of the investments (elements of PIU support are also covered in the following sections: C.4 part 3 (process for establishing scope of PIU), C.7 part 5.1 (2) (monitoring role of PIU), G.2 parts 4 and 6 (project risk), and H.2 III (project evaluation)).

b) Knowledge Building

The Facility's success will be partly measured on its ability to disseminate replicable and scalable best practices among, and beyond, the Facility's direct beneficiaries. The Facility will provide opportunities for cities to share their expertise and experience in developing their own green cities in three ways. First, building on experience in Tirana in May 2016 and Stockholm in June 2018, the Facility will hold an annual Green Cities forum for all participating and prospective Facility participants. These events will provide an opportunity for:

1. Cities that have already completed GCAPs and implemented green city actions and investments to share their lessons learned with other cities and the Bank;
2. Cities in the process of undertaking GCAPs and implementing green city actions and investments to share lessons learned;
3. Cities considering to engage with the Facility to improve their understanding of the approach and implications of undertaking such a systematic approach to planning and investments;
4. International experts in the field to share their insights, observations and to offer training courses for City officials on the latest advances in sustainable cities practice;
5. Honouring outstanding achievements of cities at an awards ceremony.

Forum discussions, activities, workshops and site visits will focus on a range of topics and sectors related to the GCAPs and associated investments, as well as social and environmental concerns including gender.

Second, for each city, the Facility will host at least 3 capacity-building events during the development of the GCAP that are tailored to the city's needs, as well as involve local stakeholders. Experience with the development of the Green Cities approach has shown that such training is sorely needed. For example, training activities have been conducted in Yerevan on energy, air quality and transport and biodiversity and land-use and in Tbilisi on monitoring and reporting, solid waste and industry. The Facility will seek to replicate this training across the other participating cities.

Third, the EBRD will use its position as a member of the World Bank's Global Platform for Sustainable Cities to provide the Facility's beneficiaries access to an international network of institutions, IFIs, CSOs and other municipal governments focused on fostering sustainable urban development. Cities will be invited to and encouraged to participate in regularly organised sessions to learn about best practices in green city development and the challenges faced in other cities around the world. The Global Platform will also serve as an opportunity for the Facility to share its experience and methodologies with a wider array of global stakeholders.

In these ways, the Facility will foster opportunities for learning and replication both for cities within the Facility's region, and those with which beneficiaries come in contact.

Strategic alignment

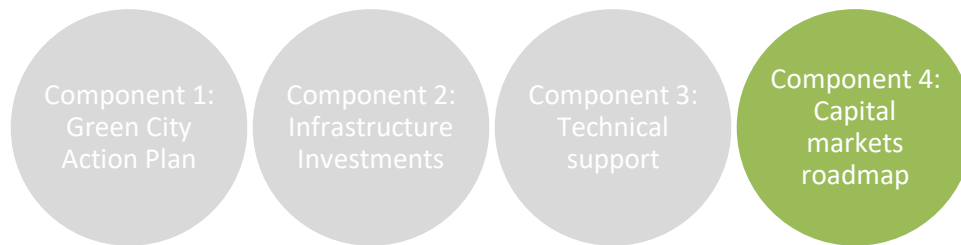
The activities associated with Component 3 directly address multiple GCF investment criteria:

1. **Impact potential:** the provision of technical assistance to support investments under Component 2 helps to deliver infrastructure that avoids lock in of long-lived, high emission and/or climate-vulnerable infrastructure, CO₂ emission savings, adaptation outcomes;
2. **Paradigm shift potential:** technical assistance and knowledge building activities play a critical role in helping the facility to scale up and replicate low carbon solutions. In particular, activities in this component "contribute to the creation or strengthening of knowledge, collective learning processes, or institutions";

3. **Sustainable development:** Component 3 gender-related activities 'reduce gender inequalities in climate change impacts and participation by gender groups in contributing to expected outcomes'.
4. **Needs of the recipient:** the knowledge building activities under component three help to "strengthen institutional and implementation capacity".

Outputs

Component three will deliver city and project specific support for all investments, annual Facility-wide knowledge building events, and at least 3 capacity-building events during the development of each GCAP.



Component 4 – Green Capital Market Roadmaps

Financial Instruments: grants for technical assistance

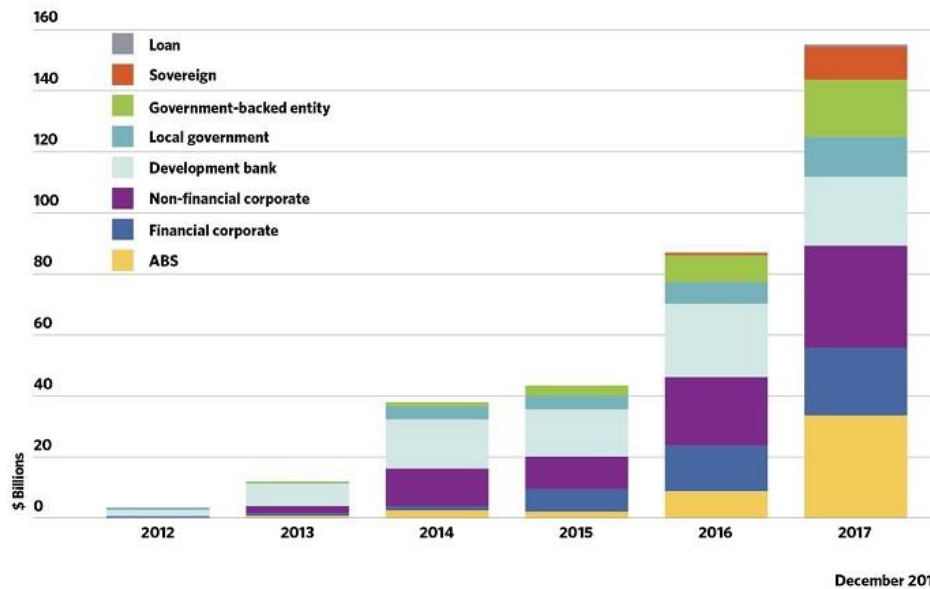
Background

As cities seek to address their climate change challenges and contribute to meeting climate related targets, access to capital beyond public finance will be critical. Private sector capital will be required for cities to achieve their ambitious targets. Institutions such as the EBRD and GCF can play a role in helping cities to ultimately diversify cities' funding sources and achieve these targets.

Despite substantial growth, with USD 150 billion issued in 2017¹³², green bonds still represent less than 0.5% of debt securities issued globally. Accessing capital markets using green bond instruments is a reliable and scalable process for municipalities to raise debt to finance their sustainable infrastructure needs. Demand for green bonds exceeds supply, which is reflected in the fact that most issues to date have been oversubscribed.

¹³² Green Bond Highlights 2017, Climate Bonds Initiative

Figure 3. Green bond issuances, 2012 – 2017. (Source www.climatebonds.net)



December 2017

In particular, green bond issuances out of emerging markets are scaling up, driven by the vast investment needs in green technologies. This market has to date been dominated by China and India. The EBRD region is lagging behind in the green bond space with less than USD 2 billion issued to date. This disparity is even more pronounced in the municipal sector, where no municipalities in EBRD’s region of operations have issued green bonds to date. There is therefore a significant need to build the capacity of municipalities to access green capital markets.

Objective

The GrCF will work with a range of stakeholders, from cities to national agencies, to develop the tools and skills cities need to attract private sector finance for green investments, particularly in local capital markets. At the national level, the Facility will work with relevant ministries (principally Finance and Environment) to establish the framework conditions and standards for green investments, with a focus on opportunities to promote climate solutions. For example, the Facility will help countries to establish a set of best market practices for green performance including through the application of the International Capital Market Association’s Green Bond Principles. The EBRD is well networked on developing the green finance and bond markets by being engaged in several initiatives, including aforementioned Green Bond Principles. The EBRD also has built up leading experience with the development of green financial systems, including through a project with the Astana International Finance Centre (AIFC) in Kazakhstan (see www.greenfinance.kz). The EBRD will deploy and share this experience through the GRCF, in particular on the Green Capital Roadmaps.

GrCF green capital roadmaps will build the capacity of participating municipalities to address the key elements of accessing green finance markets including green bonds. Each roadmap will address risk management, governance, transparency and operational considerations.

1. Institutional buy-in: Demonstrating that the issuing organization’s corporate governance supports and drives green investment;
2. Issuance and fund management: Issuance of debt instruments in the capital markets and management of funds within organisations. Review of best practice in the provision of second opinions and external reviews. Consideration of key issuance design choices such as % refinancing, management of unutilized proceeds, etc.;
3. Green project selection procedure: Review of technical characteristics and performance of low carbon climate-resilient projects & assets. Cities will consider various ways of screening investment plans for green projects, including established GHG emissions and adaptation methodologies, and positive and negative lists. This will also include an assessment of the pros and cons of a variety of green bond standards, including the Climate Bonds Initiative and the Green Bonds Principles;

4. Monitoring, reporting and verification: Assessment of reporting requirements, in particular relating to financial reporting to subscribers. Including an appraisal of various approaches to tracking climate finance.

Approach

At the city level, the GrCF will select at least 8 cities to work with on developing green capital markets. Cities will be selected based on the city's willingness and potential creditworthiness. For each selected city, the GrCF will assist relevant city stakeholders (Mayors' offices, City Treasuries, Municipal Service Companies, Urban Planning and Environment Departments) to work within national framework conditions and standards in six steps:

1. Build awareness of the potential for green finance and bond market engagement in green investments to support climate investments. This will be achieved through a series of at least 3 training and capacity building workshops for City officials and at least 3 city-level workshops with relevant government and non-government stakeholders;
2. Define key information sources to be used to review green bond issuance readiness, including ESG screening processes (if available), internal procedures for project assessment;
3. Provide an overview of applicable green standards, and their respective operational and resources implications (e.g. on Monitoring, Reporting and Verification of results) and their practical application to the green projects identified in the GCAP.
4. Select an approach to market based on municipal priorities and readiness (including support for the development of a road show presentation);
5. Articulate the roles and responsibilities (of teams such as legal counsel, treasury, operations, finance, etc.) in green bond issuance, and the expertise and composition of the issuer's employees;
6. Help cities to identify and qualify eligible investments and to improve use of proceeds screening, tracking and reporting procedures to improve alignment with requirements of green investors; and
7. Establish the conditions to mobilise green capital through an implementation plan. Such a plan may include a phased approach that reflects the readiness and capacity of the municipality to move towards green bond issuance.
8. Provide capacity building to the city on the MRV on climate finance and its results to be tracked and reported upon, as this is

Multiple modalities for leveraging private finance will be considered, including commercial bank loans, ESCOs and where appropriate, bond issuances. In the case of green bonds issuances, more specific assistance may be provided.

The conclusions from these activities will be packaged in a city-specific Green Capital Markets Roadmap that helps to articulate the conditions and steps needed to diversify cities' sources of finance. At least 8 Green Capital Market Roadmaps will be developed through the Facility. The roadmaps will complement the GCAP process under Component 1, and opportunities to consolidate or combine relevant activities under the GCAP methodology with this component will be sought where possible.

Strategic alignment

The activities associated with Component 4 directly address multiple GCF investment criteria:

1. **Paradigm shift potential:** establishing Green Capital Market Roadmaps will help to "provide for long-term and financially sustainable continuation of relevant outcomes" by assisting cities to access "new markets" for finance. Also, in the event that work delivers policy changes to allow for multiple modalities for leveraging private finance, activities under this component will "advanced the National/local regular tree or legal frameworks to systematically promote investment in low-emission or climate-resilient development".
2. **Needs of recipient:** activities under Component 4 will assist with identifying 'alternative sources of finance' and assist with 'strengthening institutions and implementation capacity' in the context of green capital markets
3. **Country ownership:** Developing Green Capital Roadmaps is coherent with NDCs which call for alternative sources of finance.
4. **Efficiency and effectiveness:** activities under Component 4 help cities develop the skills needed to 'leverage' private sector investment.

Outputs

For each Roadmap, the following deliverables are envisaged, but may be further refined in consultation with beneficiary municipalities:

1. Training and capacity building workshops
2. Gap analysis of capital market readiness
3. Pilot Use of Proceeds screening
4. Implementation plan for green bond issuance/capital market access
5. Draft/final reports or power points

While some cities may be more prepared to access capital markets than others, it is envisaged that most participating municipalities will still access GCF funding under the GrCF Component 2. The roadmap therefore presents a way for municipalities to replicate and scale up the transformative green investments financed under the GrCF beyond its initial implementation period.

How the Facility ensures that the most impactful, low-carbon projects are financed

See C.7 Implementation Arrangements and Section F.1 Economic and Financial Analysis.

C.4 Background Information on Project / Programme Sponsor

C.4. Background Information on Project / Programme Sponsor (Executing Entity)

1. The EBRD's track record in city level strategy & policy support and infrastructure investments

Since 2006 - when EBRD first started to track its green finance - the EBRD has invested EUR 26.3 billion over 1,462 climate mitigation, adaptation and environmental improvements projects that promote efficiency and innovation in EBRD countries. This resulted in 90.2 million tonnes of CO₂ emissions reductions. The Green Cities Framework is an extension of the EBRD's Green Economy Transition (GET) Approach to deliver the mandate of transition impact. GET aims to reduce greenhouse gas emissions, improve the environment and increase material and energy efficiency in its countries of operations.

In urban areas, the EBRD has a proven record helping cities invest in climate adaption and mitigation.

In 2017 alone, the EBRD financed EUR 1,043 million in 34 infrastructure projects across more than 30 cities and municipalities that contributed to the Bank's Green Economy Transition. These investments ranged from investing in public transport infrastructure, new or upgraded water supply and waste water treatment, energy efficient district heating solutions and municipal solid waste projects. More than 35 million people are expected to benefit from these initiatives, while reducing 863 kton CO₂e per year. Notable transactions included a EUR 8.3 million investment in the City of Banja Luka's district heating system for a new biomass boiler plant leading to an annual emissions reduction of 46 kton CO₂ eq., and a EUR 3.2 million loan to support the City of Batumi to procure a fleet of electric buses along with charging infrastructure.

With the Board approval of the Green Cities Framework in November, 2016, EBRD has mainstreamed its engagement and investment in climate responsible urban development in its countries of operations. The Facility will scale up the Bank's Green Cities efforts, with the countries in the Facility region developing the models and best practices from which future operations can benefit.

2. The EBRD's Municipal and Environmental Infrastructure and Energy Efficiency and Climate Change teams

The EBRD has a dedicated team for green city infrastructure investments. The EBRD's Municipal and Environmental Infrastructure (MEI) team has around 50 in-house staff in its headquarters and regional offices across the proposed countries. The expertise of the team ranges from:

- Banking and finance, including dedicated bankers for environmental projects
- Engineering with sector specific expertise: water, wastewater, solid waste, urban transport, street lighting, district heating and cooling and energy efficiency
- Public-Private Partnerships
- Procurement e.g. tender preparation, contract administration and supervision

- IFI and donor relationship management
- Technical assistance, including the procurement and management of consultants together with institutional capacity building
- Experience of working with municipal authorities to enact reforms and address environmental and social issues (helped by EBRD's de-centralised business model).

Since the EBRD MEI team's activity started in 1994, the team signed over 420 projects and invested over EUR 7.3 billion in the municipal sector while also mobilising EUR 7 billion co-financing and investment grants. The majority of the team's investments are in the public sector (the state or municipality) representing 76 per cent of MEI projects, while the remaining 24 per cent are private clients or Public-Private Partnerships. MEI was voted the 'Best Multilateral Team 2013' by World Finance Infrastructure Investment Awards. See the following link to EBRD's sector strategy: <http://www.ebrd.com/municipal-and-environmental-infrastructure.html>

To ensure that green city infrastructure investments meet the Bank's environmental objectives, the MEI team works in conjunction with the Bank's Energy Efficiency and Climate Change (E2C2) team. The E2C2 team consists of around 50 in-house energy, climate, carbon, environmental and resource efficiency finance, engineering and policy experts. The E2C2 team works closely with MEI to identify opportunities for high performing environmental investments to pursue as either individual projects or improvements within existing projects.

3. Track record of project sponsors

Municipalities in the proposed regions vary in size and capacity. Many already have exposure to working with IFIs, but their implementation capacity varies greatly both by regions and within countries. Regarding the latter, capital cities tend to have a stronger institutional set-up. Each municipality's capacity to prepare and implement green urban infrastructure projects will be thoroughly assessed during the due diligence. The due diligence will determine the capacity requirements of the Project Implementation Unit (PIU), a group of experts that will provide comprehensive technical and operational support throughout the entire project lifetime, to mitigate the implementation risk to the fullest extent. (See Section C.3 Component 3 part a) iii) for more information). This is a central feature of any EBRD infrastructure project.

Local project sponsors may also include state or municipal utility companies owned by municipalities or the national governments, special purpose vehicle (in the case of PPPs), or energy service companies (ESCO).

4. EBRD's Resident Offices

The Bank has 43 resident offices (RO) across its 36 countries of operations and shareholder nations. The resident office staff works closely with local clients and communities to develop and oversee projects and initiatives geared towards promoting transition in countries of operations. The Green Cities Facility's projects and objectives will receive on the ground support and management out of these ROs functioning as local hubs for engagement with beneficiaries.

5. Gender at the EBRD

The EBRD introduces gender considerations into the development of its municipal infrastructure projects, so that services meet the needs of all customers, women and men alike, and that both women and men have equal access to employment opportunities. The EBRD's urban infrastructure projects, which have incorporated gender, have covered urban infrastructure sub-sectors, such as urban planning, solid waste, water, urban transport and municipal energy (district heating/cooling). Please see Annex 10 for project examples.

The Municipal and Environmental Infrastructure team and the Energy Efficiency and Climate Change team benefit from in-house technical advice provided by the EBRD's Gender Team who ensure mainstreaming of gender throughout applicable engagements,

with appropriate structuring, implementation, monitoring and evaluation support. All EBRD projects are screened for potential opportunities to promote gender equality in line with the Bank's Strategy for the Promotion of Gender Equality.

To address gender, the EBRD identifies appropriate actions under its investments and undertakes policy dialogue where relevant. Within the green city infrastructure investments this is achieved by supporting clients to incorporate gender issues and perspectives into the planning, provision and resourcing of the services (this includes incorporating gender considerations both into the infrastructure asset design process as well as in the services provision so as to improve the access of both women and men to the services); identify training and capacity needs and delivering staff training, and support to service providers to increase employment opportunities for women and men. The investment programmes are complemented by gender-responsive stakeholder participation programmes and a focus on increasing women's participation in the governance structures of municipal services for increased awareness of related issues among the population. The EBRD also engages in policy dialogue with relevant stakeholders at national, regional and municipal level as appropriate and in line with the anticipated pipeline.

This approach is in line with The EBRD's Strategy for the Promotion of Gender Equality (2016-2020) (<http://www.ebrd.com/gender-strategy.html>), which aims to increase women's economic empowerment and equality of opportunity by focusing on three specific objectives: (i) access to services, (ii) access to employment and skills and (iii) access to finance— particularly targeting those countries of operations, regions or sectors that display the largest gender gaps. The EBRD's 2014 Environmental & Social Policy, which covers gender impacts from a risk mitigation purpose, expects the clients to identify any potential disproportionate adverse gender impacts and to ensure that measures are developed to address them. That said, the EBRD's approach to promoting gender equality into its operations is fully aligned with the strategic goals of the Fund's Gender Policy and Action Plan, which requires the Fund beneficiaries to ensure that women and men equally contribute to and benefit from activities and that any potential adverse gender impacts are identified and mitigated.

C.5 Market Overview

C.5. Market Overview (if applicable)

I. Overview of municipal infrastructure sector

Municipal infrastructure is arguably one of the most challenging areas within the EBRD countries of operation (COO). Most COO lack investment into the improvement of basic urban services, particularly measures aimed at addressing climate change and environmental challenges. In 2010, an estimated 26 million people in the COO did not have access to an improved water supply – and six countries had more than one million people without such provision. Eighty-six million people only had access to substandard or shared sanitation.

The percentage of people living in urban areas in the Facility region varies from 45 per cent in Moldova to 84 per cent in Jordan¹³³, averaging 64.2 per cent over the Facility region. In the long-term, if the region were to follow global urbanisation trends and reach the current rates of urbanisation in the EU (74 per cent), there would be around 3.8 million additional urban inhabitants in need of key urban services in the Facility region. If episodes of climate-related disruption take place, it is probable that rural-to-urban migration will rise, further increasing demands for urban services. It is therefore crucial to develop and sustain institutions capable of planning, investing in and managing future sustainable urban infrastructure and services.

The scale of 'needs' across the urban municipal infrastructure sector is significant, with many, varied investment opportunities. At the same time, there are large challenges such as budgetary constraints of municipalities and limited capacity of municipalities in structuring and delivering 'bankable' and sustainable projects.

¹³³ [Urban population \(% of total\)](#), The World Bank Data, 2016

Budgetary concerns - The financial crisis and recent developments in the global economy are having a profound and long-term impact on budgets and the public financing of infrastructure. Most proposed countries are facing budgetary constraints, with infrastructure development impacted, given its reliance by and large on public debt capacity. The economic situation is also impinging on individuals' incomes and affects consumers' willingness and ability to pay for the higher costs of services associated with the required investments. While resource rich countries remain in a better fiscal position, they may be affected by turbulence in the global economy. The longer-term impacts are likely to affect the balance between the contribution of user-charges and direct budget financing of infrastructure provision.

Creditworthiness - The creditworthiness of municipalities varies enormously and EBRD has well-developed tools to assess credit risk, design appropriate structures and security measures, and price risk. Realised credit risks in the green infrastructure portfolio have been low to date and the quality of the portfolio is extremely good. Moreover, EBRD technical assistance is often designed to further enhance creditworthiness through tariff reform studies, financial operational and performance improvement programmes and effective public service contracts. As a result, default rate for the EBRD's municipal operations is exceptionally low. In terms of historic loss (See Section E.6.3 for more details).

Limited capacity - Urban and municipal services in the Facility's regions are in various stages of development, but commonly lack internal resources to meet service demands, including investment needs. The urban infrastructure sector in the proposed regions suffers from chronic underinvestment. The challenges are in part caused by weak institutional and regulatory environments, lack of skills, weak financial and operational performance and insufficient private sector involvement.

Municipal services commonly run at a loss in the Facility's region with service tariffs often below cost recovery levels leading to low and deteriorating service levels. Furthermore, as a sector example, solid waste collection coverage is also low and ad hoc waste dumping is a widespread practice in many regions. No recycling activities are carried out, except for some private initiatives.

II. Overview by region

Central Asia including Mongolia (Mongolia)

Although the reform process has started, the municipal infrastructure sector remains at an early stage of development. The reform steps successfully completed include decentralisation of ownership and decision-making in most countries, although recently several countries have reversed or are contemplating reversing the decentralisation process. The governance of municipality-utility relationships needs to be improved further (e.g., service contracts are not yet common) and there is a need to increase the transparency of contractual arrangements. Regulatory legislation is weak and political interference in the regulatory process remains prevalent. Cross-subsidies are widespread. Tariffs remain substantially below cost-recovery and do not even cover operation and maintenance in most cases. Metering is rare and billing based on actual use is almost non-existent, providing little incentive for efficient use. Low collections combined with low tariffs require a significantly high level of subsidies to maintain even modest levels of service. Tariffs are typically set at the national level and interference regarding non-economic or social issues is common. Tariff reform continues to be a substantial challenge, including the elimination of very large cross-subsidies. There is no requirement to make relations between utilities and municipalities more formal and transparent, and in practice political interference is common.

Access to commercial financing remains a major issue in the countries in Central Asia and capital investments are financed almost exclusively from grants from the state, state entities or the international donor/IFI community (except in Kazakhstan). Private sector participation is prevalent in the deregulated mini-bus service provision, which is profitable and operates without subsidies, but which has limited capacity to renew its mostly depreciated fleet. Cost inefficiencies (mismanagement and allocation of employee resources, high energy use), poor revenue collection (low collection rates), high water losses and low water quality need to be

addressed.¹³⁴ The EBRD continues its project support agreements in response to municipalities' legal inability to borrow or guarantee third party debt. Addressing these issues, along with policy dialogue and institutional development will help to develop alternative mechanisms for project financing.

With respect to the market structure, there is a need to commercialise services, improve operations across the board, increase the coverage and quality of services, and improve cost control. The regulatory system needs to be enhanced to improve transparency and stimulate quality service delivery, depoliticise tariff setting and increase tariffs to cost recovery and eliminate cross-subsidies.

The Middle East and North Africa (MENA) (Jordan, Tunisia)

There are many key challenges in the region's urban municipal sector, demonstrating the sector's overall underperformance. Reforms are needed to address a lack of decentralised fiscal control, decision-making and asset ownership. Operational and regulatory responsibilities are currently not separated across most municipal service, and regulatory independence is not yet in place. Tariffs remain substantially below cost-recovery, while energy prices are subsidized and direct subsidies to supplier and distribution companies are prevalent.¹³⁵ In Jordan, for example, water distribution networks were estimated to have lost 68 per cent of water supplies on average due to pipe leakage and inadequate metering systems. Authorities responsible for the maintenance and upkeep of water networks do not have appropriate cost-recovery mechanisms in place, as water costs are extremely below rates of comparable markets, thus creating significant impediments for repairs and refurbishments. Combined, these factors negatively impact the sector's efficiency. Access to commercial finance and private sector participation within service provision only recently began in the region.

The Caucasus and Moldova (Armenia, Georgia, Moldova)

In the region, the EBRD has a relatively large presence in Georgia, with projects covering water, municipal solid waste and urban transport (buses). EBRD activity is growing in Armenia, with a portfolio similar in reach and scope to that of Georgia and including innovative pilot projects, such as the street lighting project in Yerevan. In Moldova, the EBRD has a very successful record of engagement with Chisinau in water and urban transport, and latterly energy efficiency in buildings, together with the secondary City of Balti (urban transport and solid waste). Most of EBRD's loans have been commercial, based on non-sovereign lending to the City.

Municipal utility services are decentralised both in terms of ownership and decision-making. Utilities are organised as municipal enterprises (semi-corporatised) with de jure management independence, but de facto heavy dependence on the local administration. The governance of municipality-utility relationships needs to be improved further (e.g., service contracts are not yet common) and there is a need to increase the transparency of contractual arrangements. While regulatory legislation is relatively good, political interference in the regulatory process remains significant. Cross-subsidies are widespread. Tariffs remain substantially below cost recovery and are based on outdated norms rather than actual use. Metering is becoming more common (e.g., water sector in Armenia and Moldova) but billing based on actual use remains almost non-existent in most of this region, providing little incentive for efficient use.

Most countries have set up national utility regulators, which could enable the de-politicisation of tariff setting. While the legal framework typically allows for cost reflective tariffs, this rarely happens in practice and tariff reform continues to be a substantial challenge, including the elimination of cross-subsidies. There is no requirement to make relations between utilities and municipalities more formal and transparent, and in practice political interference is common.

¹³⁴ Municipal and Environmental Infrastructure Sector Strategy, p. 59, EBRD, 2012

¹³⁵ Municipal and Environmental Infrastructure Sector Strategy, p. 31, EBRD, 2012

The upkeep and maintenance of infrastructure presents significant challenges to overcome in reforming the sector. Cities inherited a diverse set of generation old, public transport networks. With a typical city having established networks for trams, trolleybuses and buses, today's cities struggle to even maintain the existing service networks, let alone finance the modernisation or expansion of new public transport networks. Severe lack of maintenance since the 1990s has caused the partial closure of public transport systems around the region. The modal split for public transport is slipping, edging under the 50 per cent level in most cities. Road building as a solution to congestion problems is widely acknowledged in the sector as a failed approach.¹³⁶

Access to commercial financing remains a major issue in some countries. Capital investments are financed almost exclusively from grants from the state or the international donor community and IFI loans most of which are concessional. A precondition for commercial investment is improvements in governance, regulation and contractual arrangements along with tariff reform. There are some cases of private sector participation in water management (e.g., management contracts in Armenia).¹³⁷ There are a few private operations in district heating, but the legal basis and institutional capacity must be improved to upscale private sector participation. With respect to urban transportation, private sector participation is prevalent in the deregulated mini-bus service provision, which is profitable and operates without subsidies, but which has limited capacity to renew its mostly depreciated fleet.

South-eastern Europe (Albania, Former Yugoslav Republic of Macedonia, Serbia)

The South-Eastern European region remains a relatively immature market in comparison to the European Union countries. Infrastructure needs are immense. The EBRD plans to continue to work in the capital cities and together with the secondary cities. This will be challenging since the latter's creditworthiness and debt capacity are generally low.

There remains an appetite for PPPs, despite the limited success in this region and the difficult market conditions. This approach will remain the mainstay of engaging the private sector. The EBRD will continue to support municipalities wishing to tender viable PPPs, even though the process is resource-intensive and there is no guarantee EBRD finance will be chosen by the preferred tenderer. Activity is expected to cover a broad range of sub-sectors including parking, transport terminals, water and solid waste. Technical assistance will remain an important tool to support reform, both for commercialisation and implementation capacity. This will become even more important given the envisaged shift to the secondary cities, where institutional weaknesses are more acute.

Although control of urban and municipal infrastructure has formally been transferred to most municipalities, utilities in major cities, with some exceptions, are still under the control of the state. A contradictory legal framework for land rights results in substantial central government interference in local infrastructure operations. Large operators tend to have better financial and operational performance, with adequate metering and bill collection. However, in most towns, inadequate metering, poor collection, and water and heat tariffs below cost-recovery levels prevail, leading to weak financial performance of the utilities. Important challenges remain in tariff setting – further increases are needed to move closer to full cost recovery, remove cross-subsidies that remain prevalent in the region and assist in improving the financial performance of municipal infrastructure operations.

The absence of competitive pressure and clear performance targets contributes to poor operational performance and utilities are often very cost-inefficient. In addition, deficient legal frameworks and uneven regulatory performance limit broader private sector participation outside the urban transport sector.¹³⁸ Furthermore, integrating the demand side in the delivery of energy services is an important challenge. Lack of demand side measures leads to excessive consumption and lack of incentives for improvement. There is a general lack of commercial financing for municipal utilities due to the commercial limitations of local utilities leaving utilities and municipalities dependent on IFI financing and grants when available.

¹³⁶ Municipal and Environmental Infrastructure Sector Strategy, p. 68, EBRD, 2012

¹³⁷ Municipal and Environmental Infrastructure Sector Strategy, p. 59, EBRD, 2012

¹³⁸ Municipal and Environmental Infrastructure Sector Strategy, p. 56, EBRD, 2012

Other key challenges include regionalisation of municipal water utilities (something that EBRD is supporting in many of its countries), a strengthened regulatory framework and introduction of more transparent service contracts, and further enhancement of financial autonomy of municipalities under effective regulation.

C.6 Regulation, taxation and insurance

C.6. Regulation, Taxation and Insurance (if applicable)

EBRD need not obtain any additional licenses or permits to carry out the proposed activities in this Facility. For more information, please refer to *the Agreement Establishing the EBRD*. EBRD is an international financial institution established and acting on the basis of an international agreement known as the Agreement Establishing the European Bank for Reconstruction and Development dated 29 May 1990, as amended (the “EBRD Agreement”). Members of the EBRD are parties to EBRD Agreement and are bound by the terms of EBRD Agreement. As an international organisation, The EBRD is established and governed on the basis of public international law and, therefore, the EBRD is not incorporated under the laws of any country and has no company registration in any country.

Pursuant to the provisions of EBRD Agreement, The EBRD enjoys certain exemption from taxation in the territories of the EBRD’s member countries. In particular, Article 53(1) of EBRD Agreement provides that “within the scope of its official activities The EBRD, its assets, property, and income shall be exempt from all direct taxes.” Accordingly, the EBRD’s income arising from the EBRD’s official activities in The EBRD’s member countries is exempt from any direct taxation in the member countries.

Furthermore, per Article 53(2) of EBRD Agreement “when purchases or services of substantial value and necessary for the exercise of the official activities of the EBRD are made or used by the EBRD and when the price of such purchases or services includes taxes or duties, the member that has levied the taxes or duties shall, if they are identifiable, take appropriate measures to grant exemption from such taxes or duties or to provide for their reimbursement”. Therefore, pursuant to Article 53(2) of EBRD Agreement, the EBRD is exempt from payment of VAT or any other tax in its member countries on purchases or services made or used by the EBRD in connection with its official activities in the member countries.

Further, according to Article 21.2 of EBRD Agreement, Members shall not impose any restrictions on the receipt, holding, use or transfer by the EBRD of currencies obtained by the EBRD by borrowing and currencies and other resources administered by the EBRD as contributions to the Special Funds and currencies received by the EBRD in payment on account of principal interest, dividends or other charges in respect of loans or investments, or the proceeds of disposal of such investments made out of any of the currencies obtained by the EBRD by borrowing, or in payment of commission, fees or other charges.

Last, the EBRD provides finance, but does not implement projects per se. As such it need not obtain insurance for any goods or services, but rather it verifies that its clients have all the insurance necessary through its regular due diligence process.

C.7 Institutional / Implementation Arrangements

C.7. Institutional / Implementation Arrangements

The following section describes the overall Facility management, the management process to ensure the most transformational projects are selected, legal arrangements among GCF, EBRD and beneficiary cities, and the legal arrangements among municipalities and contractors.

1. Facility Management

The Bank will establish joint Operation Leaders (OLs) based in London within the Municipal and Environmental Infrastructure and Energy Efficiency and Climate Change Departments to manage the Green Cities Facility as a whole. The OLs will be responsible for ensuring overall achievement of facility goals, quality of deliverables under components 1 (Green City Action Plans and Policy), 3 (technical assistance and knowledge building) and 4 (green capital market roadmaps). The OLs will also be responsible for ensuring that the investment projects under component 2 meet all the eligibility criteria.

In order to support the OLs, the Bank will:

- Establish a Green Cities Facility steering group. This steering group will consist of 5 key Bank experts drawn from the Municipal and Environmental Infrastructure Department, Energy Efficiency and Climate Change Department, Environment and Sustainability Department, Economics and Policy Governance Department and selected resident offices.
- Establish Green Cities Facility leads in all relevant beneficiary country resident offices (see Sections C.4 for more information on EBRD's resident offices).

The Operation Leaders will report regularly to the Directors of the Municipal and Environmental Infrastructure and Energy Efficiency and Climate Change Departments.

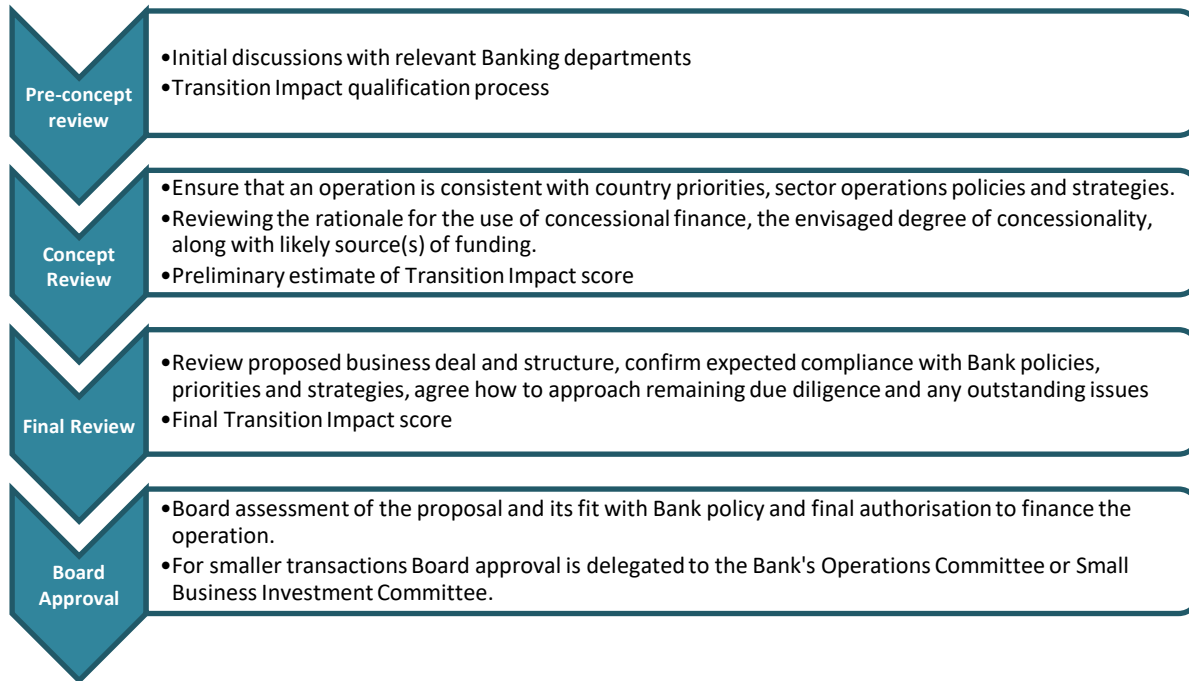
To ensure an effective and prompt start of the Facility, and as the EBRD Board already approved the investment framework, the FAA effectiveness would not depend on the first and following sub-projects being EBRD approved.

2. How the Facility ensures that the most transformational projects are selected

EBRD's current approach – the investment review process

The EBRD investment life cycle provides a robust process for identifying, assessing and approving investments funded by EBRD, with or without additional support from donors such as GCF. Built into the EBRD's investment approval process is a robust methodology for identifying, assessing and prioritising projects that deliver transformational impacts in EBRD's region of operations. As described in Section C.4, EBRD has a mandate to pursue sustainable development ("Transition Impact") through its activities, by combining investments with policy dialogue and technical assistance to promote market-oriented sustainable development. Figure 1 sets out the step-by-step approval process for investment projects within EBRD.

Figure 4. The EBRD investment review process



The EBRD carries out a robust and thorough due diligence assessments when considering new operations, in accordance with the EBRD Operation Manual. All EBRD investments are assessed by the EBRD's Investment Committee or Small Business Investment Committee, or otherwise approved based on authority delegated from the EBRD Board to the Bank's management. The Investment Committee is comprised of representatives of Banking teams, the Risk Department for financial risk assessment, the Office of the General Counsel (OGC), Economic Policy and Governance (EPG), the Office of the Chief Compliance Officer (OCCO), and the Environmental and Social Department (ESD). Other Departments provide advice to the Investment Committees on an as-needs basis.

For associated technical cooperation (TC) grants that, amongst others, enable investment preparation and implementation, support policy dialogue and reform, and build institutional capacity, EBRD has established a grant review process, which is conducted in parallel to the approval of investment projects.

What's different? The Green Cities Facility and focusing on transformational investments

The GrCF in itself represents a paradigm shift in the way that EBRD identifies, prioritises and finances transformational municipal investments in climate-related infrastructure. The GrCF extends EBRD's existing investment review process by using a country-driven and evidence based approach to prioritise green investments in a systematic manner. In doing so, the GrCF delivers investments which achieve substantial green benefits beyond "business-as-usual" sustainable development. This process, from city selection to investment approval, is set out in Figure 2.

The GrCF Facility steering group described in Section C.7 is responsible for selecting cities to participate in the GrCF (**Step 1**). Cities are selected using the criteria outlined in Section C.3 to ensure strong buy-in from the relevant municipality. The GCAP process (**Step 2**) is designed to identify priority climate-related challenges through a rigorous bottom-up assessment using 35 core indicators covering air, land, water, waste, transport, buildings, industry and energy compared against international benchmarks (see above) that established a baseline of environmental performance for each city. This process helps to identify transformational projects that deliver on country-driven sustainable development goals. Projects identified through the GCAP

process are initially appraised by local bankers operating in EBRD’s Resident Offices and subsequently confirmed by the GrCF operation leaders for further assessment and due diligence.

Figure 5. Green Cities Facility investment selection process



In order to be considered for support by GCF under the GrCF, projects identified in Step 2 must pass a priority investment screening process (**Step 3**). The screening process sets quantitative thresholds for improvement in terms of GHG emissions, energy efficiency and climate risks. These thresholds are described in Section E.6. Projects which fail to exceed these thresholds

are not considered for GCF support under the GrCF. They may be financed from EBRD's ordinary capital resources, or not pursued any further by EBRD.

At **Step 4**, projects are generally assessed by the Bank's Investment Committee at Concept Review stage. To ensure that EBRD's resources are directed towards the projects that deliver maximum transformational change, all investments are assessed for their Transition Impact and Green Economy Transition qualities. The EBRD launched the Green Economy Transition (GET) approach in 2015 to put investments that bring environmental benefits at the heart of its mandate. The GET approach aims to increase green financing to approximately 40 per cent of total EBRD financing by 2020. This is expected to correspond to GET financing of up to EUR18 billion over the 2016-20 period, with annual GET financing reaching over EUR4 billion by 2020.

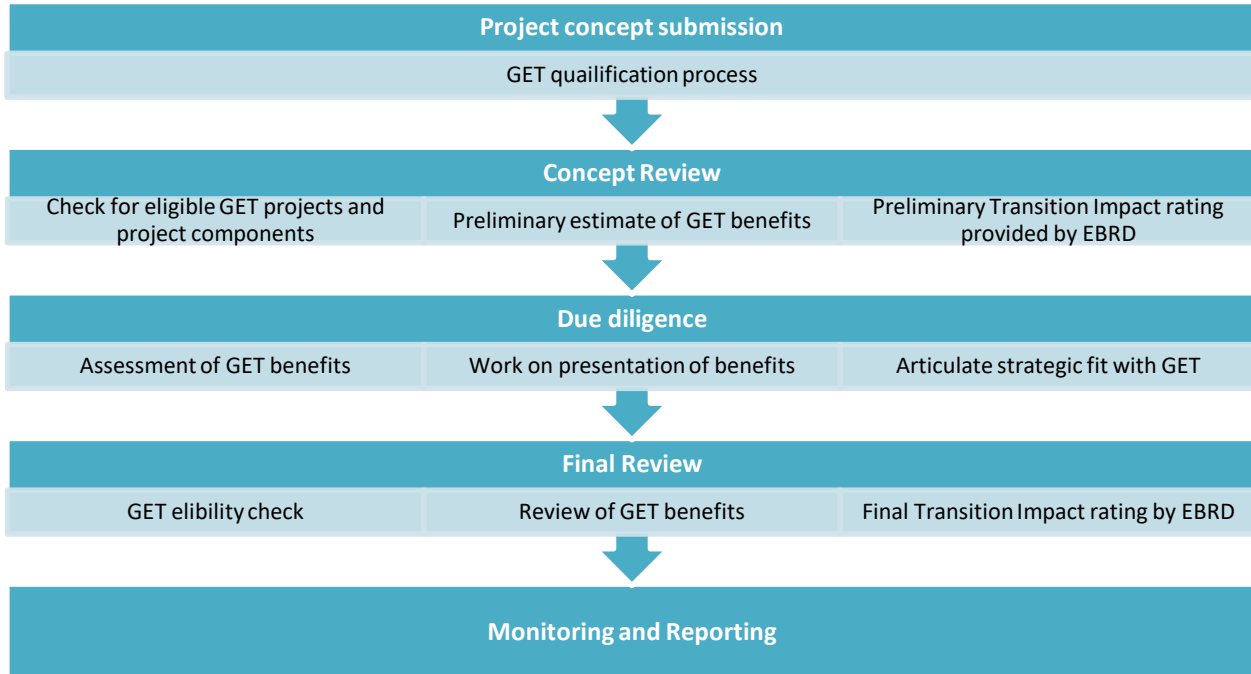
The EBRD's standard Green Economy Transition methodology follows a three-stage process for assessing projects with sustainable benefits:

1. identifying projects or project components that meet the GET principles and criteria, and are on the positive list of activities qualifying for GET or covered by the climate adaptation approach
2. assessing the physical environmental benefits of the GET projects and project components
3. confirming the proportion of GET finance and benefits of a project, and explaining how this fits into the GET strategy, as well as examining other contributing factors and total GET benefits.

Specific project types that result in climate change mitigation and some other environmental activities are to be considered as GET eligible, subject to verification that each specific project is consistent with GET principles and criteria. The purpose of this positive-list approach is to establish practical, harmonised categories of classification for GET finance, without having to resort to long, complex analyses. Projects with a higher Transition Impact score and strong alignment with the Green Economy Transition approach are more likely to receive positive investment decisions.

The process of GET project definition, qualification and assessment is set out in [Figure 6](#).

Figure 6. Green Economy Transition definition , qualification and assessment

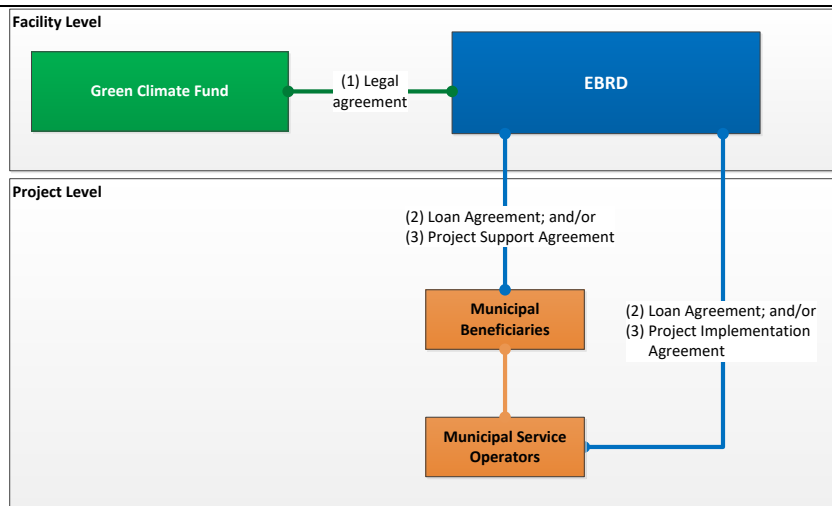


Projects which demonstrate substantial potential for transformational change, but which are not viable on commercial terms because of the incremental costs of climate technologies compared to business as usual solutions may be eligible for support from the GCF under the GrCF. How EBRD assesses the need for such concessional support is described in the Section F.1. Projects which are eligible for GCF support under the GrCF and which have satisfied all standard EBRD due diligence on credit risk, integrity standards, economic analysis, environmental and social safeguards and legal risks, proceed to project approval (**Step 5**). All GrCF projects that are approved are required to monitor the CO₂ savings and the number of beneficiaries.

5. Legal arrangements among GCF, EBRD and beneficiary cities

5.1 Sub-sovereign loans

Figure 7. Sub-sovereign loans



- (1) Following the GCF Board approval, EBRD and GCF will, based on the Accreditation Master Agreement (AMA), enter into a **project-specific legal agreement (the “Funded Activity Agreement” or the FAA)** for the provision of funds. The FAA will outline the sectoral, geographical scope and eligibility criteria (the “Mandate”) of the proposed Facility. The agreed resources of the GCF will be placed in a dedicated GCF-EBRD Special Fund (the “Special Fund”), which from a legal view point has the same privileges and immunities as the EBRD’s resources. The EBRD will be solely responsible for the management and administration of GCF resources and will carry out such management and administration in accordance with its policies, procedures and practices, and with at least the same degree of care as it uses in the administration of its own funds or other donor funds, considering the provisions of AMA. The EBRD will apply its own fiduciary principles and standards relating to any integrity checks, anti-corruption, countering of financing of terrorism (CFT), fraud, financial sanctions, embargoes and anti-money laundering (AML).

Following signing of the FAA with the GCF, EBRD will develop the Facility through its normal programming cycle tied to the EBRD Board approved Green Cities Framework. The Facility will be accessible to EBRD Green Cities projects (the “Project”), being green city infrastructure investments under Component 2. EBRD will inform the GCF Secretariat about every new project in line with the periodic reporting outlined in Section H.2. During the implementation of the Facility, the EBRD will be responsible for providing the necessary governance, oversight and quality assurance in accordance with its policies, procedures and any specific requirements in the AMA.

- (2) Following approval of Projects, EBRD will seek to sign **Loan Agreements** (the “transactions”) with municipal beneficiaries including municipalities, state or municipal utility companies owned by municipalities or the national governments, special purpose vehicle (in the case of PPPs), or energy service companies (ESCO). These transactions will make available EBRD finance as well as GCF co-finance for investments in line with the Mandate of the Facility. They will be between the EBRD and the beneficiaries only, and contain an EBRD and a GCF tranche with conditions in line with the Mandate. In the case of the loan agreement specifying a separate EBRD and GCF tranche, the beneficiaries will carry the loan on their books as a loan provided by EBRD, thereby ensuring that normal EBRD procedures are being applied throughout the life of the loan to both tranches.

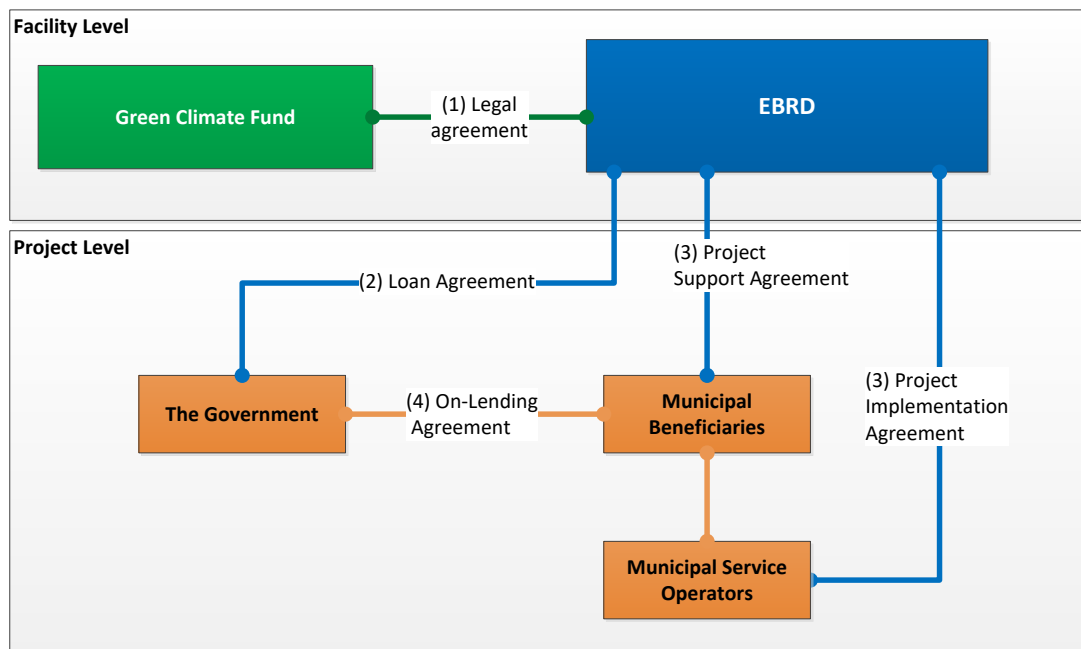
The municipal beneficiaries (“Borrowers”) will benefit from the investments in line with the Mandate. The Project Implementation Unit (PIU) and Borrowers will track the implementation, compliance with the mandate, and report to the

EBRD on these. EBRD in turn will report to the GCF in line with the conditions of the Agreement. Similarly, grants provided by the GCF in the GCF-EBRD Special Fund will be provided to beneficiaries with conditions as specified in **Grant Agreements**. They will be between the EBRD and the beneficiaries only, and contain a GCF tranche with conditions in line with the Mandate of the Facility.

(3) Ancillary legal documentation. Depending on the type structure, the Bank may sign ancillary legal agreements to support its loan, which may include the following: **(i) Project Support Agreement** between the EBRD and the Municipal/State Beneficiaries, defining project support obligations of the local authorities which are valid, legal and enforceable and can include responsibilities of the beneficiary to support utilities financially; **(ii) Project Implementation Agreement** between the EBRD and the Company describing standard terms and conditions regarding the implementation of the project, defining execution of the project and introducing financial and operational covenants relevant to the final beneficiary.

5.2 Sovereign loans

Figure 8. Sovereign loans

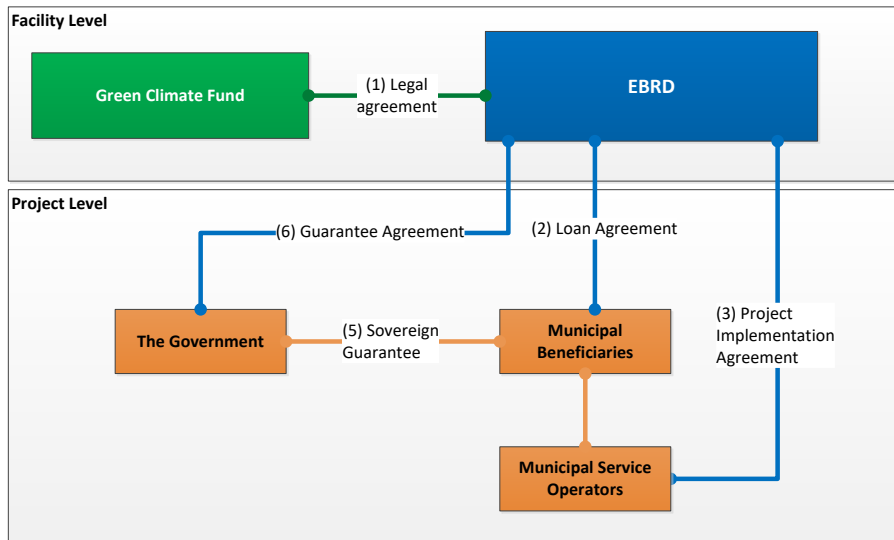


(1), (2) and (3) : Same as descriptions in [1.1 Sub-sovereign loans](#).

(4) The On-lending agreement is signed between the Government and the Municipal Beneficiary. The Government agrees to assign a portion of the proceeds of the loan to the beneficiary for purposes of carrying out the parts of the Project directly and indirectly benefiting the municipality. The agreement sets the terms and conditions of this loan.

5.3 Sovereign guaranteed loans

Figure 9. Sovereign Guaranteed Loans



(1), (2) and (3): Same as descriptions in 1.1 Sub-sovereign loans.

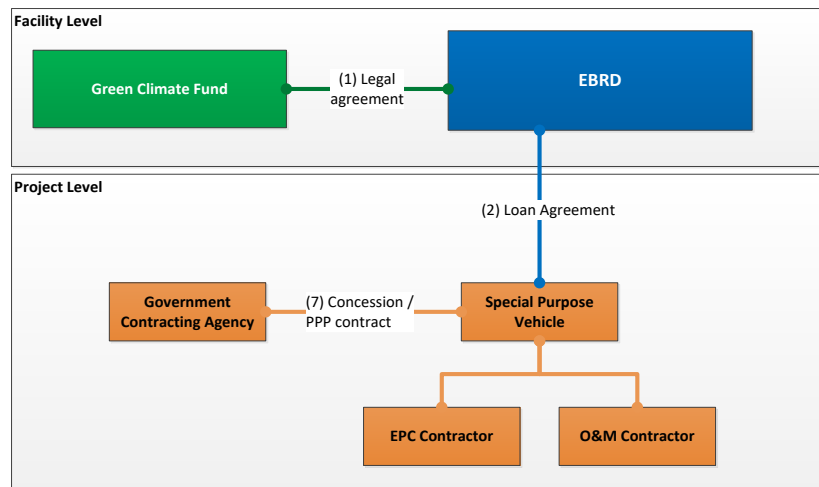
(5) Sovereign Guarantees are signed between the Government and the Municipal Beneficiary. The Government agrees to provide a guarantee for the loan in the instance of default at the municipal level.

(6) Guarantee Agreements are signed between the Government and the EBRD confirming the Government’s commitment to guarantee the repayment of the loan to the Municipal Beneficiary in the case of default at the municipal level.

5.4 PPPs and ESCOs

For Public-Private Partnerships (PPP) envisaged under this Facility, debt will be provided by the Bank to the special purpose vehicle (SPV), which in turn has entered into a **(7) concession contract** for the PPP with the government. The concession must be bid in a fair and transparent manner and, as such, must be compliant with EBRD’s Concession Policy.

Figure 10. Loans to Special Purpose Vehicles for PPPs



In a similar manner the Bank can also provide financing to Energy Service Companies (ESCO) where the main focus is on projects where significant energy savings ensue, being predominantly street lighting and energy efficiency investments in buildings

projects for this Facility. The EBRD lends to ESCOs, which then implement projects at the municipal level for beneficiaries. Under this mechanism, the Facility can support multiple investments through a single loan agreement.

6. Legal arrangements (contractual agreements) among municipalities, municipal utility companies, and contractors

There are a variety of legal arrangements that are being signed between municipal entities and contractors on a regular basis (i.e. Service Contract, Consultancy Contract, Management Contract) that define terms and conditions of the relationship. See the Description of Component 3 part a) iii) *Project implementation and monitoring* in Section C.3 for a description of the role of the Project Implementation Unit and Section C.4 sub-section 3 for a discussion of the process for determining the scope of the PIU support.

6. Implementation arrangements for technical assistance under Components 1, 3 and 4

The Facility will also be accessible to activities under Components 1, 3 and 4. For Green City Action Plans and policy dialogue, technical assistance and capacity and knowledge building and Green Capital Market Roadmaps, the Bank will procure experts to help carry out the activities outlined under these Components to be overseen by the EBRD. Procurement under the Facility will be in line with the EBRD's [Procurement Policies and Rules](#). [These are detailed further in Section E.6.4.](#)

[For each assignment under these Components, the EBRD will enter into **Consultancy Contracts** with the consultant expert teams that detail a specific scope and cost of work, including the allocation of the grant resources marked for these Components \(in the case of PIUs these are client contracted\). In order to document beneficiaries' support for the activities under these Components, the EBRD will receive **Waiver Letters** from relevant counterparts including municipal governments and municipal utility companies, amongst others. These Waiver Letters state the signatory's knowledge of the extent of support it will receive from the consultants, the purpose of the assignment, EBRD's role as the party responsible for the selection and contracting of the consultant, and the beneficiary provides their consent to comply with its responsibilities and implementation arrangement as defined under the Terms of Reference for each assignment.](#)

C.8. Timetable of Project/Programme Implementation

Please see the Facility implementation timetable in Annex 3.



GREEN
CLIMATE
FUND

OFFICIAL USE

RATIONALE FOR GCF INVOLVEMENT

GREEN CLIMATE FUND FUNDING PROPOSAL | PAGE 76 OF 142

D

D – Rational for GCF Involvement

D.1. Value Added for GCF Involvement

GCF's support is critical for enabling the Facility to scale up and address barriers to municipal climate investment. Specifically, the Facility requires GCF funding for five reasons:

a) GCF funding is critical to address the key barrier to climate-focused urban infrastructure investments: access to affordable finance.

All countries participating in this Facility are facing challenging macroeconomic situations leading to very high costs of capital. The GCF is the only source of significant affordable climate finance available to the countries that are participating in this Facility. GCF concessional finance is critical to help to reduce the cost of capital enough to offset the first movers' additional costs, mitigate the risks from initiating climate investments in challenging markets and to off-set the additional costs associated with the introduction of necessary climate change adaptation measures.

Climate-focused infrastructure investments often have higher upfront costs than traditional technologies, as well as long return periods. With already constrained budgets and limited access to finance in cities, concessional financial instruments are needed to overcome these additional challenges. The Facility's concessional instruments, including grants, will be calibrated to address the incremental costs of low-carbon and climate-resilient infrastructure compared to baseline and market entry barriers arising from climate technologies' underrepresentation in local municipal sectors. These issues are most pronounced for adaptation investments, which can lack the revenue generation potential of mitigation technologies. GCF's concessional instruments, including grants, will enable cities to scale up their investments in low-carbon, climate-resilient infrastructure linked to comprehensive climate aligned investment planning.

By overcoming these barriers, the Facility will demonstrate the financial viability of investments in climate-focused urban services in the Facility's region as well as the credit capacity of the borrowers. Over time, these market examples will help to attract additional finance from new and diverse sources including the private sector beyond the Facility's timeline, and in doing so, provide a sound exit strategy for the GCF and EBRD.

b) GCF funding is needed to achieve a transformational scale of impact

There is a critical gap in the availability of sufficient capital to generate the critical mass of climate mitigation and adaptation investments needed to achieve climate goals. Without the scale and concessional nature of finance that the GCF can provide, city climate investments in this region will remain far below what is needed for them to contribute towards achieving the global temperature goals set out in the Paris Agreement. Municipal budgets are insufficient to scale up investment in low-emissions, climate-resilient urban infrastructure that most NDCs call for.

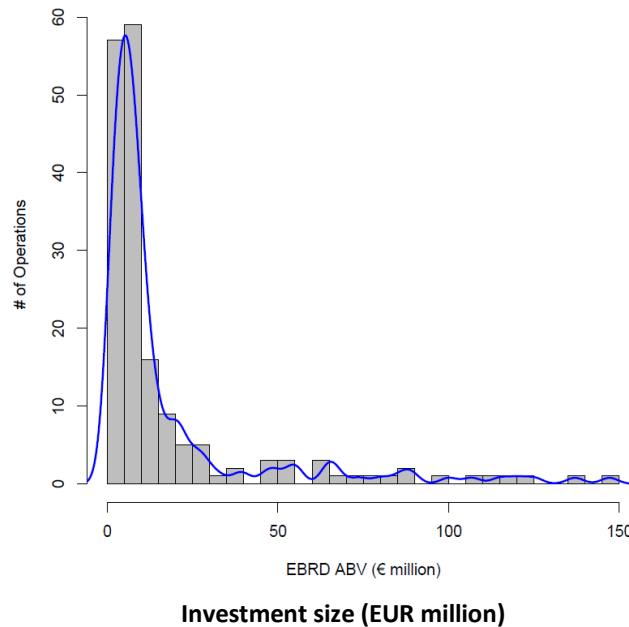
By offering GCF's concessional and grant resources in combination with the Bank's finance, the Facility enables municipalities to fund transformative investments that they would otherwise not be able to achieve on commercial terms, and to do so at scale across all participating countries. GCF's contributions will leverage an additional EUR 350 million in financing from the EBRD and EUR 60 – 130 million in local contributions along with EUR 36 million in additional donor support, representing a ratio of 1:1.96 – 2.26 for every euro of GCF financing. The GCF's ability to offer finance on concessional terms will drive EBRD's co-financing into the most transformational and paradigm-shifting investments that the EBRD, together with participating cities, can identify.

c) GCF funding is needed to support critical municipal-sector investments

Municipal services are absolutely critical for supporting city-based economic activity and ensuring quality of life. GCF resources will enable this Facility will focus on the much-needed municipal sector in two ways. First, GCF resources will fund GCAP development – and in so doing, show how an integrative approach combining stakeholder engagement, capacity building and infrastructure development can further the climate mitigation and adaptation in the municipal sector and in the whole community. Stronger climate mitigation and adaptation translates into higher economic well-being and more sustainable societies.

Second, GCF resources will help finance transformational change in areas that other financial institutions tend to ignore. As shown in the histogram below, building on past EBRD experience, the Facility will tend to invest in small to medium size infrastructure investments, predominantly through non-sovereign lending. This is despite the fact that these projects tend to have high associated transaction costs. GCF's support for a regional, multi-project approach will enable the Facility to reach the needed scale of through many critical small-to-medium sized projects. Furthermore, finance for municipal level climate measures in the Facility's countries is underdeveloped. The GCF will introduce technologies to markets in unique geographies, enabling the GCF to contribute to the scaling up their market representation locally.

Figure 11. Frequency of the EBRD's MEI Investments by size (EBRD EUR million), 2013 – 2017



d) GCF resources provide the flexibility and volume needed to rapidly scale up urban climate finance

Flexibility in terms of financial instruments is needed to deliver urban climate finance for two reasons. First, the Facility will provide flexible financial instruments that can respond to the context-specific priorities set out by the cities through the GCAPs. The ability to tailor the financial terms of individual transaction ensures that the effectiveness of limited GCF funding can be maximized and the transaction costs of securing climate finance can be minimised. The Facility's range of concessional loans and grants offers municipalities the flexibility to respond to and target a diverse range of barriers to investment to address climate change.

Second, flexibility is needed when developing municipal investment projects due to inherent sectoral risks. In the past, IFIs have tended to approach municipal investments on a case-by-case basis. Treating each urban project as an isolated investment exposes the project to development risks stemming from the uncertainties inherent in municipal finance. Political and market events at regional, national and local levels can affect the development of individual projects with municipalities. By being able to develop a pipeline of potential projects, and by being flexible and adaptive to project needs, the Facility can address potential hurdles or complications should an individual project fail to develop.

As GCF finance would apply to the Facility region and scope of eligible investments, the GCF is uniquely able to support this flexible, adaptive approach.

e) Focus on paradigm shift in municipal climate change planning and strategy implementation

Investments alone are not sufficient to achieve the transformation in climate action needed at the urban level. In order to deliver such a transformation, investments need to be integrated with strategic planning, policy reform, technical assistance and capacity building. The GCF, with the goal of supporting paradigm shifts in climate action, is the only source of sufficient funding for the policy and technical assistance aspects of the Facility's transformative approach. With the assistance of the GCF, the Facility will offer financial and strategic tools cities need to invest in their development along low-carbon, climate-resilient pathways, while addressing the market barriers that hinder future investment.

Involvement of the GCF will facilitate the development and sharing of best practices, across the Facility region and beyond, in areas such as urban environmental benchmarking and investment planning. For example, cities with developed GCAPs will be recognised at an annual Green Cities meeting to which cities participating and interested in the Facility will be invited. This conference will contribute to the GCAP's recognition and uptake by additional cities, by establishing a network of best practice across

municipalities. In this way, GCF funding will stimulate the implementation of future GCAPs by cities outside the Facility's region and independent of GCF funding. The Green Cities Facility will present a model that can be replicated, and that can serve as an example to other cities for best-practice climate planning and strategy implementation.

D.2. Exit Strategy

The Facility is designed to provide a clear exit strategy for public lending institution-supported financial products for green infrastructure. In addition, the Facility provides a robust strategy for reducing donor-funded technical assistance for green city infrastructure planning and management.

1. Exit strategy for GCF and EBRD supported financial products for green infrastructure

The Facility is designed to facilitate GCF and EBRD financial exit in two principal ways.

First, all loans provided with GCF funds under the Facility will be repaid into the EBRD-GCF Special Fund in accordance with repayment schedules set forth in EBRD's loan agreement. It is envisaged that tenors will not exceed 18 years. Grace period will vary to reflect the needed concessionality. All loans will be monitored by EBRD. All GCF resources will be reflowed back to the GCF in accordance with the terms of the FAA.

Second, in a broader sense, the Facility is designed to help to prepare cities to access other financing sources beyond the EBRD and GCF. The principal avenue for achieving this is through Component 4, which provides cities with the tools and skills they need to attract private sector green finance for climate change measures, particularly in local capital markets (see Component 4 in Section C.3 above). The GCAPs in this sense also help the cities to build up their green credentials and profiles, and it is assumed that such plans could also positively affect the credit risk profile of these cities (e.g. by lowering exposure to fossil fuel costs).

2. Strategy for reducing donor-funded technical assistance for green city infrastructure planning and management

The Facility employs the Bank's established business model combining projects and investments with policy dialogue and technical assistance. This model aims to create the framework conditions for climate investments, thereby supporting beneficiaries to adopt and transition to sustainable practices during and after the Facility's involvement. There are three key elements to the Facility's approach to supporting city independence from donor-funded technical assistance: the GCAP, policy support and capacity building for green urban infrastructure management.

2.1 Green City Action Plans

GCAPS¹³⁹ (Component 1) are designed to deliver ongoing impact beyond the Facility's timeframe both within the target cities, and to other cities. Within the Facility's target cities, the GCAP process involves the development of the initial plan, as well as an agreed, specified path of review, revision and redesign for subsequent cycles. In this way, the GCAP process prepares target cities to engage in a continuous green city planning cycle that delivers investments that follow a green development, climate-friendly path without the need for support in the future.

This cyclical nature of the process is illustrated in Figure 12 below.

Figure 12. Green City Action Plan cycle

¹³⁹ The GCAP process was designed for the EBRD by OECD and ICLEI and has been tested in three cities to date.



The Facility’s GCAP process also aims to influence non-participating cities through a range of knowledge sharing, capacity buildings and marketing events. Those cities that are selected for the development of a GCAP will provide leadership and act as a role model for nearby cities. That is, the goal of the GCAP process is to lead to the development of a City investment plan, stimulating investments. Through the communication of these investment benefits in knowledge sharing and networking events and best-practice documentation (see Component 3 in Section C.3), it is expected that other cities will be encouraged to engage in green city planning themselves. We anticipate that for every city that prepares a GCAP, at least 2-3 additional cities will be encouraged to adopt such an approach.

2.2 Policy support (legal/regulatory/tariff changes)

The Facility will support city and government authorities with policy and regulatory reforms to improve the business climate for climate investments – again establishing the critical framework conditions needed to shift cities to low-carbon, climate-resilient development path for cities beyond the Facility’s timeframe.

The GCAP process is likely to identify a range of policy and regulatory interventions needed for a city to achieve its climate goals. These policies are expected to range from improvements in environmental standards and procurement regulations to, where possible, amendments to relevant tariff regimes.

For example, where a city/national government needs to establish rigorous energy standards for buildings, it is expected that the implementation of cost-effective building regulations will deliver new and renovated energy efficient buildings with lower carbon footprints and lower operating costs. In this way, the policy support will aim to improve both environmental and operational performance of a municipality.

As another example, in Dnipropetrovsk, Ukraine, with EBRD assistance the water company started paying more attention to water losses in the distribution system and electricity consumption. During 2011-2014, because of completed pipeline repairs, replacement of valves, installation of meters and other activities, the company managed to decrease water losses and electricity consumption significantly. Furthermore, the Company regularly updates its website informing residents and other water consumers about planned pipeline repairs and potential service disruptions. And the increased water and wastewater tariffs keep on stimulating the installation of water meters by residential consumers and in turn lowering water and consequent electricity consumption in the City.

2.3 Capacity building for green urban infrastructure management

The Facility will support cities to manage their green infrastructure so that they a) are able to repay loans to the Facility and b) are in a position to manage green infrastructure beyond the Facility timeframe. To achieve this sustainable impact on city infrastructure management, the Facility will support:

- the strengthening of the operating practices of the public entities through investing in effective and customer-oriented services that place environmental and social improvements at the core of their operations;
- the institutional development of municipal service companies in the form of operational and financial improvements;
- signing of the Public Service Contract between the City and the municipal service provider company;
- on-the-job and specialised training for municipal staff involved in managing green infrastructure;
- the implementation a Stakeholder Participation Programme to both inform and engage the city's population.
- Improve transparency of procurement to ensure that assignments can be efficiently executed with providing necessary accountability

This will secure on-going sustainability of the municipal service operations and provision of service in line with the City's priorities and citizens' needs, in a manner that is consistent with their GCAP during and after the Facility operation.

E – Expected Performance

In this section, the accredited entity is expected to provide a brief description of the expected performance of the proposed project/programme against each of the Fund’s six investment criteria. Activity-specific sub-criteria and indicative assessment factors, which can be found in the Fund’s [Investment Framework](#), should be addressed where relevant and applicable. This section should tie into any request for concessionality made in [section B.2](#).

E.1 Impact Potential

E.1. Impact Potential

Potential of the project/programme to contribute to the achievement of the Fund’s objectives and result areas

E.1.1. Mitigation / adaptation impact potential

The Facility will help cities adopt a mixture of policy, regulatory and investment measures and actions to reduce greenhouse gas emissions while enhancing the resilience of urban communities against natural disasters and climate change impacts and risks. As a result of the Facility, beneficiary cities will be able to avoid lock-in of carbon-dependent, high emitting and climate vulnerable technologies by establishing the conditions for sustained investment and development along low-emission and climate-resilient pathways. Citizens in beneficiary cities will thus enjoy improved continued improvement in their urban services such as low-carbon transport, energy efficient heating and cooling, sustainable supplies of clean water under variable climate, wastewater treatment and waste management. Below is a list of examples of green infrastructure projects under the Facility and their respective mitigation or adaptation potential.

The Facility contributes to the Fund’s goals in supporting, “developing countries in pursuing project based and programmatic approaches in accordance with climate change strategies and plans.” By linking GCAPs and follow up investments to broader national strategic climate mitigation and adaptation planning the Green Cities Facility will help beneficiary nations achieve the objectives of their Nationally Appropriate Mitigation Actions (NAMAs), National Adaptation Programmes of Action (NAPAs), National Adaptation Plans (NAPs), Intended Nationally Determined Contributions (INDCs) and other development strategies or plans. Section E.5.1 details the Facility’s contributions to these areas.

Cross-Cutting Climate Impact of the Facility’s Water and Wastewater Investments

With respect to the adaptation benefits in the water and wastewater sector, appropriate adaptation solutions play a key role in building resilience to manage climate risks in those sectors. More than 75% of developing countries that have completed the Technology Needs Assessments (TNAs) for Climate Change¹⁴⁰ have identified the water sector as a priority sector in need of adaptation interventions. There are a number of ways in which appropriate infrastructure and technology can help mitigate climate related risks and vulnerabilities in water and wastewater sector. In broad terms, adaptation solutions in the water and wastewater sector can be classified as (i) physical infrastructure and technical equipment on the ground, such as water recycling and re-use, flood protection measures or leak detection equipment, that either ensure continued provision of safe drinking water or protect communities and infrastructure against effects of flood, and (ii) management tools and processes, including decision support systems, metering and storm water management models that help cities to respond more effectively to climate-induced risks (e.g. intensified rainfalls) or provide information about consumers behaviour that can be used in water conservation campaigns.

¹⁴⁰ www.unfccc.int/ttclear/tn

The Facility's water sector investments will have significant climate change mitigation benefits. The production of drinking water and its distribution to end-users often requires significant amounts of energy. In many of the GrCF countries the historic under-investment in water infrastructure has led to poor service, poor performance, high water losses (resource wastage) and high energy consumption. These inefficiencies contribute to emissions of greenhouse gases and energy consumption beyond the baseline requirements of water systems to deliver their current level of service. The water sector increasingly recognises its high potential to reduce energy demand through technical interventions which improve the system integrity and its optimisation such as accelerated mains replacement programmes, advanced monitoring solutions to improved network control (e.g. active, automated pressure management). Additionally implementing lower energy intensive solutions such as reconfiguring the water networks (switching from pumped to gravity networks, for example) using renewable energy sources (such as hydropower on inlet sources) and the use of more efficient technologies further reduces the grid energy consumed.

In the wastewater sector, the collection of raw sewage, its conveyance and treatment - such that it can be returned back to environment safely - requires substantial amounts of energy. In many of the GrCF countries the historic under-investment in wastewater infrastructure has led to sewer hydraulic incapacity, poor wastewater services, and poorer environmental performance. Many systems use significant amounts of energy to pump and process wastewater. Measures to reduce the energy consumption of wastewater processing and more effectively manage sludge translate in significant greenhouse gas emissions reductions. Sludge in particular is a key contributor to GHG in the sector, through anaerobic digestion leading to methane emissions. The wastewater sector recognises its potential to significantly reduce energy demand through technical solutions which improve system performance, such as accelerated sewer replacement programmes (reducing infiltration and inflows, and pumping costs) to better optimisation and control of treatment processes (Dissolved Oxygen control of air blowers in aeration lanes, for example). There are opportunities to utilise the methane gas from wastewater sludge i) at larger facilities for Combined Heat and Power applications which reduces the reliance on grid energy, to ii) its use in vehicles or co-generation facilities reducing reliance on fossil fuels.

Sections E.1 – E.6 detail how the Facility aligns with the GCF's investment criteria to offer an impactful and effective framework for inciting a regional paradigm shift towards sustainable urban development. The following table outlines each potential GrCF technology and its contribution to mitigation and adaptation outcomes. One GrCF project may comprise one or more technologies. GCF funding will only be applied to projects which can achieve a transformative shift in the municipality's approach to climate change, in line with the criteria set out in Section C.3.

Table 6. Example green city infrastructure technologies and their potential impact

Sectors	Example climate mitigation and adaptation measures under the Facility	Potential impact of climate investments									
		Mitigation	Adaptation								
		All Countries	Albania	Armenia	FYR Macedonia	Georgia	Jordan	Moldova	Mongolia	Serbia	Tunisia
	Energy efficiency and modernisation of public buildings (hospitals, municipal buildings, schools, etc.). ¹⁴¹	Yes. Example measures include building Insulations, HVAC, etc.	Yes		Yes		Yes	Yes	Yes	Yes	Yes
	Modernisation of public buildings via Energy Performance Contracts (“EnPC”) with Energy Saving Companies (“ESCO”) ¹⁴²	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes
	Climate adaptation building techniques including heat and solar management, and water reuse and efficiency technologies		Yes		Yes		Yes	Yes	Yes	Yes	Yes
	Installation of building integrated (on-site) renewable energy systems	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes
Water and wastewater	Water system refurbishment, improvement and optimisation including mains renewals, water storage, leak detection and network management to reduce water losses and alternative water sources	Yes	Yes		Yes		Yes		Yes	Yes	Yes
	Introduce renewable energy and energy efficiency measures in	Yes									

¹⁴¹ Same as the above

¹⁴² Adaptation component if the projects include low-energy cooling or water efficiency components.

	drinking water and sanitation systems												
	Increase or improve municipal wastewater treatment and sanitation systems including the introduction of biogas generation, anaerobic digestion or energy generation at wastewater treatment facilities, and improved sludge management	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Increase utilisation of wastewater treatment by-products for energy or nutrient applications	Yes											
	Introduction of green infrastructure measures throughout water and sanitation systems	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Municipal Energy (District Heating / Cooling)	Pipeline upgrade and replacement with modern pre-insulated pipes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Biomass heat only boilers	Yes											
	Biomass combined heat and power (CHP)	Yes											
	District Heating Centralised solar collectors (also known as Solar DH)	Yes											
	Large scale heat pumps	Yes											
	District Heating network pump upgrade and replacement with VSD equipped pumps	Yes											
	Implementation of modern control systems (SCADA)	Yes											
	Installation of Individual Heating Substations (IHS)	Yes											
	Installation of heat metering or heat cost allocators (HCAs)	Yes											
Urban transport	Electric bus vehicles, facilities and charging infrastructure (battery and hybrid electric)	Yes											

	Construction, expansion or improvement of electric tram or trolleybus (including hybrid battery electric) fleets, systems and/or infrastructure and facilities	Yes											
	Construction, expansion or improvement of suburban rail, metro and LRT fleets, systems and/or infrastructure and facilities	Yes											
	Electric ferry and water taxi fleets	Yes											
Street Lighting	Introducing LED lighting and associated infrastructure	Yes											
	Introducing energy saving measures through control and sensor systems and associated infrastructure	Yes											
Solid waste	Active or passive landfill gas collection systems (with or without energy production) and remediation activities (e.g. methane oxidation layers) as a part of the construction or improvement sanitary landfills	Yes											
	Mechanical-biological treatment plants, composting facilities and biogas plants	Yes											
	Innovative waste-to-energy solutions in the local context and the production of refuse derived fuels	Yes											
	Source separation of recyclables and subsequent recycling value chains	Yes											
	Groundwater protection from landfill leakage							Yes		Yes			Yes

The impacts of these will be analysed through the established methodologies described in Section C.3. For mitigation the potential emissions and energy savings and mitigation costs will be evaluated to ensure that all projects have a

transformational impact. For adaptation all projects will be evaluated to determine their climate resilience benefits and associated ratio. The CRB will evaluate projects using a combination of the following metrics:

Table 7. Climate Resilience Benefits metrics

Climate risks (context-specific)	Adaptation Dimension	Unit
Increasing water stress	Increased water availability*	m ³ / year ¹⁴³
Increasing heat stress	Increased energy availability*	kWh / year ¹⁴⁴
Increasing heat stress <i>or</i> Increasing extreme weather events	Increased human health or productivity*	QALY (quality adjusted life-years)
Increasing water stress <i>or</i> Increasing extreme weather events	Reduced disruption**	Days or hours per year
Increasing heat stress <i>or</i> Increasing hydrological variability <i>or</i> Increasing extreme weather events	Reduced damage**	ACUTE DAMAGE: risk frequency (%) CHRONIC DAMAGE: asset lifespan (years) ¹⁴⁵

* in a context of vulnerability to climate change/variability

** i.e. weather-related disruption/damage

In practice, applying the climate resilience benefits methodology to each project valorises its physical climate outcomes, while placing it in the context of the local, project specific climate risks. The example below shows a result of the methodology for a wastewater project in Kyrgyz Republic.

Country	Kyrgyz Republic
Sector	Water & wastewater
Total Project Volume	EUR 6,949,150
Description	The Kyrgyz Republic is the country most vulnerable to climate change in the EBRD region and faces severe water stress. Cities have deteriorated water supply assets, which lead to large water losses in the distribution network and an intermittent supply of water for end users. Supported in part by donor adaptation finance, the project accelerates investment in water network rehabilitation by replacing old pipes, installing control valves, and repairing leaks. These measures will lead to a

¹⁴³ Water savings measurements will use the methodology defined in the EBRD's Green Economy Transition Handbook

¹⁴⁴ Based on project specific due diligence using a baseline methodology defined by the [IFI Approach to GHG Accounting for Energy Efficiency Projects](#)

¹⁴⁵ Measurements for quality adjusted life-years, day or hours per year of disruption, and acute or chronic damage will be based on due diligence using industry best practice for specific sectors.

	reduction in water losses from around 60 per cent to 27 per cent of municipal water production. The outcome of the project is increased water resource availability in the country, increased resilience of groundwater and surface water resources and improved climate resilience of Kyrgyz Republic communities.
Climate risks	Increasing water stress
Intended climate resilience outcome	Increased water availability
Physical outcome unit	m ³ /year
Physical outcome	2,887,515 m ³ /year (annual water savings)
Valorised outcome	EUR 1,443,758 (value of saved water)
Climate Resilience Benefit	EUR 1,443,758
Climate Resilience Benefit Ratio	20.78

E.1.2. Key impact potential indicator			
<i>The numbers below are based on EBRD's experience and insights to date. As the GrCF is a Facility, the final results may vary.</i>			
GCF core indicators	<i>Expected tonnes of carbon dioxide equivalent (t CO₂ eq) to be reduced or avoided (Mitigation only)</i>	(a) Annual	656,000
		(b) Lifetime	11,923,000
	<ul style="list-style-type: none"> <i>Expected total number of direct and indirect beneficiaries, disaggregated by gender (reduced vulnerability or increased resilience);</i> <i>Number of beneficiaries relative to total population, disaggregated by gender (adaptation only)</i> 	(c) Total	Direct beneficiaries: at least 10 cities Indirect beneficiaries: Beneficiaries of green city infrastructure projects: 23,0231,000 individuals, of which 11,799,000 are women
		(d) Percentage (%)	50.79 per cent of population in the Facility's urban areas
Other relevant indicators	<ul style="list-style-type: none"> Number of additional female and male passengers using low-carbon transport 		
<p>(a) + (b) Expected annual and lifetime emissions reductions</p> <p>The expected tonnes of carbon dioxide equivalent mitigated annually will be a result of the Green Cities Facility's infrastructure investments. In estimating the annual emission reductions of the Facility, the following data were considered:</p> <ul style="list-style-type: none"> Annual emission and energy reductions of the EBRD's municipal infrastructure projects by sector between 2013 and 2017 EBRD's business plan and projects in the pipeline for the Facility's region 			

The emission reductions from each of the Facility's projects within the indicative pipeline were estimated using a model to estimate CO₂ equivalent emission reductions for the Facility's portfolio drawing from country and sector specific information as well as historic EBRD performance in municipal and environmental infrastructure investments. A rough distribution of the Facility's finance was estimated based on a projected pipeline of projects to be financed by the Facility. The Facility's portfolio was divided by geographic region and municipal infrastructure sector in line with this pipeline.

A cost per reduction in energy consumption was then estimated for each region and sector drawing from historic EBRD data in the municipal sector from 2013 – 2017. The Facility's CO₂ emissions reductions are then the sum of the emissions reductions stemming from the estimated energy reductions in each region and sector, using the indicative portfolio distribution across region and sector to define the volume of finance modelled in each scenario.

Methodologies specific to each municipal infrastructure sector within the Facility's scope were used.

Municipal Energy (District Heating/Cooling)

1. Total energy savings (GJ) were calculated using the total projected loan financing (EUR) and historic cost for energy savings (GJ/EUR) in the region.
2. Energy savings were multiplied by the emissions factor for the fuel(s) being saved or displaced due to district heating or cooling improvements to yield annual mitigation potential. The fuel allocation was based on the distribution of fuel used for residential energy consumption in each region.
3. Lifetime emissions reductions are the annual mitigation potential over the project infrastructure's estimated life

Low-Carbon and Climate Resilient Buildings

1. Total regional finance from the Facility for various energy efficiency building measures was estimated using market demand studies for energy efficiency needs in buildings in each region. Energy savings from the associated energy efficiency measures were also collected.
2. Total energy savings per fuel type per energy efficiency measure was calculated by multiplying the finance per measure by the energy savings and fuel consumed for each.
3. Energy savings per fuel type were summed and multiplied by regionally specific emissions factors to yield annual mitigation potential.
4. Lifetime emissions reductions are the annual mitigation potential over the project infrastructure's estimated life

Urban Transport

1. Projects were categorised as CNG or electric transport.
2. Total energy savings (GJ) were calculated using the total project loan financing (EUR) and historic cost for energy savings (GJ/EUR) in the project's region.
3. Total energy savings were multiplied by the emissions factors (tCO₂eq / GJ) of the associated category yielding annual emission reductions. Emissions factors are country specific.
4. Lifetime emissions reductions are the annual mitigation potential over the project infrastructure's estimated life

Street Lighting

1. Total energy savings (GJ) were calculated using the total projected loan financing (EUR) and historic cost for energy savings (GJ/EUR) in the region.
2. Total energy savings were multiplied by the emissions factors (tCO₂eq / GJ) of the associated category yielding annual emission reductions. Emissions factors are country specific.

3. Lifetime emissions reductions are the annual mitigation potential over the project infrastructure's estimated life

Water and Wastewater

1. Total water and wastewater investment was divided between water savings costs and energy generation costs from water processing facilities based on historic distribution.
2. For emissions savings from reduced water losses:
 - a. Total energy savings (GJ) were calculated using the total projected loan financing (EUR) and historic cost for energy savings (GJ/EUR) in the region.
 - b. Total energy savings were multiplied by the emissions factors (tCO₂eq / GJ) of the associated category yielding annual emission reductions. Emissions factors are country specific.
 - c. Lifetime emissions reductions are the annual mitigation potential over the project infrastructure's estimated life
3. For emissions savings from energy generation at water processing facilities:
 - a. Historic mitigation cost (EUR / tCO₂) for EBRD's water investments was calculated.
 - b. Total projected loan financing (EUR) for the sector was divided by the mitigation cost yielding annual emissions
 - c. Lifetime emissions reductions are the annual mitigation potential over the project infrastructure's estimated life

Solid Waste

1. For solid waste projects, total carbon equivalent savings were calculated using the historic mitigation costs of the EBRD's municipal solid waste projects from 2013 – 2017.
2. Projected Facility financing for solid waste in each region was divided by the cost per tonne of solid waste mitigation (EUR / tCO₂) yielding lifetime mitigation.
3. Lifetime mitigation was divided by the projected lifetime of solid waste investments, yielding annual emissions reductions.

(c) Beneficiaries

Direct beneficiaries are cities directly involved in and benefitting from the Facility's components as follows:

- 1.1 Green City Action Plans and policy dialogue; 2. Green city infrastructure investments Targeted; 3. Technical support and knowledge building; and 4. Green Capital Market Roadmaps.

The number of **indirect beneficiaries** is the total population benefitting from Green City infrastructure investments.

In calculating the number of expected indirect beneficiaries of the Facility, historic data as well as estimates of the indicative portfolio in Facility's region and across its sectors were taken into account as follows:

- Beneficiaries of the EBRD's municipal infrastructure projects by sector between 2013 and 2015
- EBRD's business plan and projects in the pipeline for the Facility region

The following conservative assumptions are made in the calculation:

- The cost per beneficiary, calculated as EUR of EBRD's support per beneficiary (EUR/beneficiary), from EBRD's previous projects with energy efficiency, resource efficiency or climate focuses would be similar under the Green Cities Facility.
- The cost per beneficiary (EUR/beneficiary) would apply on a sector basis. For example, calculating the number of beneficiaries per EUR of EBRD's support for solid waste projects.
- Loan financing from EBRD and GCF would perform similarly to loan financing from solely EBRD
- Projects are fully operational with financing fully dispersed, and the number of those benefitting from the Facility's projects would be similar from year to year.

Indirect beneficiaries methodology

1. EBRD data on investment and beneficiaries in its projects from 2013 – 2015 was used to calculate a cost per beneficiary in the Facility’s project sectors.
2. Historic costs per beneficiary were applied to total Facility’s loan financing in each sector.
3. Beneficiaries were categorised by sector.

(d) Number of beneficiaries relative to total population (percentage %)

1. The data on the number of male and female population in urban area in the Facility’s region was sourced from UN Statistics (2014 figure).¹⁴⁶
2. The ratio of beneficiaries compared to total population was calculated by dividing the number of total indirect individual beneficiaries by the total urban population with the Facility’s eligible countries.¹⁴⁷
3. Similarly, the ratio of female beneficiaries was calculated by dividing the number of female individual beneficiaries by the total urban female population within the Facility’s eligible countries.

E.2 Paradigm Shift Potential

E.2. Paradigm Shift Potential

Degree to which the proposed activity can catalyse impact beyond a one-off project/programme investment

E.2.1. Potential for scaling up and replication (Provide a numerical multiple and supporting rationale)

EBRD’s Theory of Change

A theory of change (ToC) diagram is presented in Figure 12 and provides the logical underpinning of the Facility. Specifically, the ToC highlights the relationship between “activities”, the main “results” and “impacts” achieved and the resultant paradigm shift as a consequence of those activities. The ToC conveys the logic that combining long-term, integrated strategic urban planning, policy reforms, green city investments and capacity building are necessary to attract private sector finance and drive wider adoption of green city measures. Taken together, this approach delivers the much-needed climate change mitigation and adaptation transformation in participant countries.

The following section outlines how the Facility will support a paradigm shift in urban development and the potential for scaling up and replication.

Paradigm shift

Importantly, the Facility targets a profound paradigm shift in green city financing. By partnering with the Facility, the GCF can deliver a paradigm shift in urban development in the Facility region in three interlinked ways:

1. A shift to long-term, systematic and integrated urban planning for climate action

The Facility will help to transform cities’ approaches to planning and developing investments and actions that address climate change. In the past, urban climate action in the Facility’s region has tended to be ad hoc. In contrast, through the application of the

¹⁴⁶ <http://unstats.un.org/unsd/demographic/products/dyb/dyb2014.htm>

¹⁴⁷ <http://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>

GCAP methodology, the Facility will deliver a systematic, integrated long-term approach to climate action. That is, the GCAP methodology brings international best practice to the Facility by:

- a) Establishing an **integrated approach** to planning that necessarily: draws together data on diverse climate and environmental challenges; addresses all sectors of the city; and involves the diverse range of stakeholders to prioritise climate challenges and to plan climate action responses
- b) Ensuring this **approach is systematic** by establishing the GCAP as a continuous cycle of planning, monitoring, reviewing and revision. For example, all GCAPs include an integral monitoring plan that lays out benchmarks for environmental improvement and the actions for monitoring progress towards those benchmarks.
- c) Encouraging a **long-term perspective** to climate planning. A core element of the GCAP methodology is the visioning for 15-20 years into the future. Together with the required monitoring plan and need for plan revisions every 3-5 years, City planners and decision makers are encouraged to shift their focus beyond the usual short-term electoral cycle.

The Facility will enable the development of at least 10 such transformative GCAPs.

2. Transforming supply and demand for climate finance

Climate finance sits at the core of the Facility. As outlined in C.1 and C.2, access to adequate finance is a persistent barrier to climate investments in the Facility's region. The Facility addresses this barrier by packaging affordable climate finance (Component 2) with technical support (Component 3) and policy dialogue (Component 1) as well as capacity building in accessing private capital (Component 4). This combination of activities will enable cities to access finance from new sources, particularly from private-sector green finance, and provide a greater diversity of options and opportunities for cities to invest in climate solutions. In doing so, the Facility catalyses a paradigm shift in the supply of, and demand for, city-based climate finance in emerging markets.

3. Transformation of the market for climate technologies

The Facility aims to deliver a profound shift in the market for innovative climate technologies. By transforming the policy (Component 1 Policy Dialogue) and planning framework (Component 1 GCAPs) for climate investments, the Facility will 'crowd in' the deployment of novel climate technologies. For example, the Facility assists municipal governments and city planners to evaluate climate investments alongside other infrastructure demands and local budget capacities. It will assist government and planners to consider and build in additional climate-resiliency features, for example cross-cutting projects in water and wastewater infrastructure projects. As such, the Facility aims to increase investment in climate mitigation and adaptation technologies by identifying implementable actions in the short-term. Through direct investment and demonstration of the technologies' viability, both within the city, and to other cities, the Facility will help to generate an increased demand for these technologies. This in turn will lead to an increase in supply and a potential reduction in cost.

Potential for scaling up and replication

The potential for the Facility to scale up is linked to the *demonstration effect* of the Facility activities and to the *knowledge sharing* elements of the Facility.

EBRD's experience suggests that successful infrastructure projects provide a strong *demonstration effect* for the uptake and replication of projects and technologies in new regions. The technologies and measures implemented through the Facility's investments such as renewable energy systems, recycling and sustainable waste management practices and electric vehicles will demonstrate the benefits of low-carbon, climate-resilient technologies that other cities eligible for the Facility can replicate. In doing so, these investments will be part of the process of transforming the market for climate technologies (see above).

As outlined in C.3 Component 3, the Facility's success will be partly measured on its *knowledge sharing* ability. That is, its ability to disseminate replicable and scalable best practices among, and beyond, the Facility's direct beneficiaries. The Facility will provide opportunities for cities to share their expertise and experience in developing their own green cities in three ways. First, building on

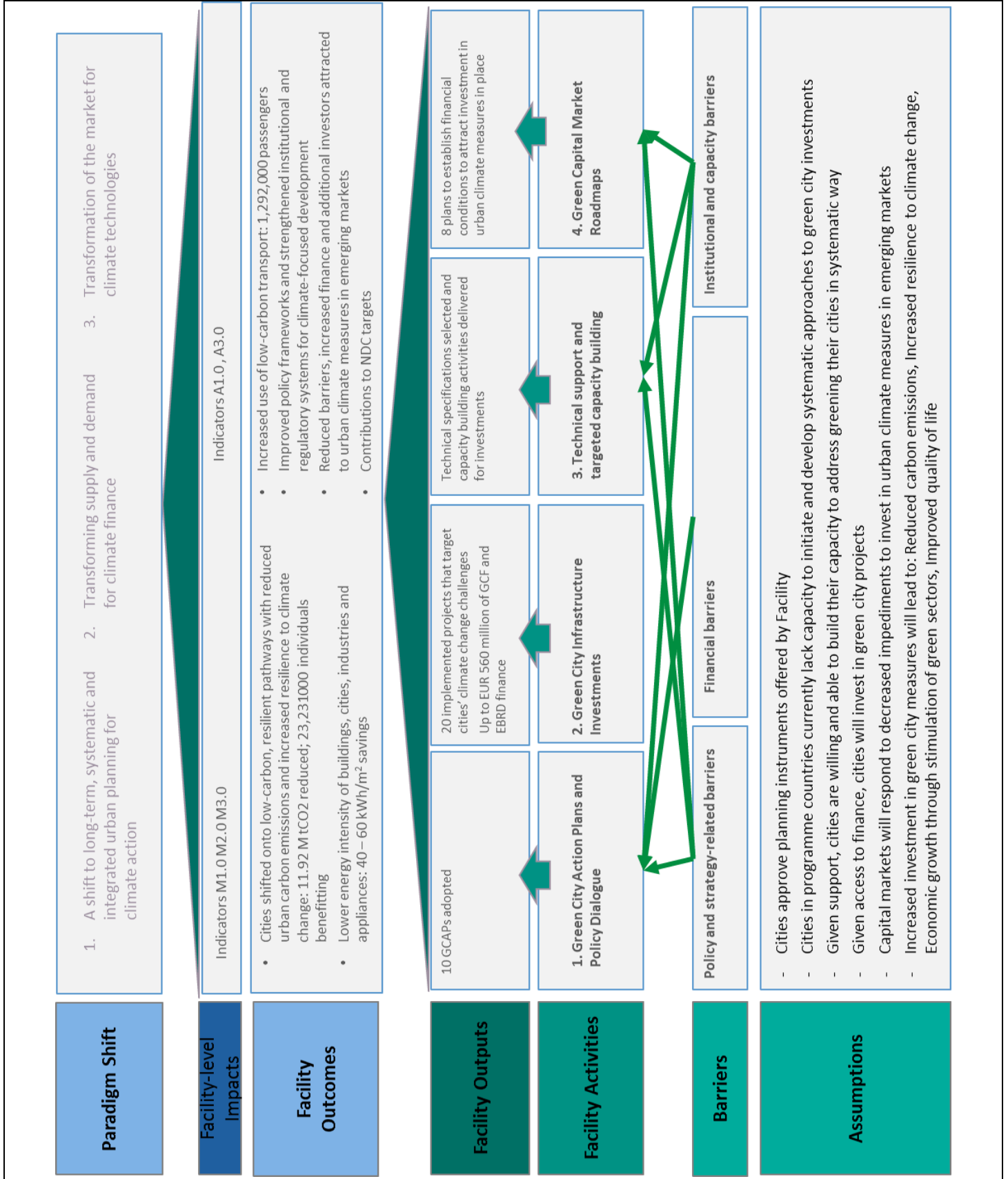
experience in Tirana in May 2016 and Stockholm in June 2018, the Facility will hold an annual Green Cities forum for all participating cities as well as other cities in the Facility region.

Second, for each city, the Facility will host at least 3 capacity-building events during the development of the GCAP that are tailored to the city's needs. Experience with the development of the Green Cities approach has shown that such training is sorely needed. For example, training activities have been conducted in Yerevan on energy, air quality and transport and biodiversity and land-use and in Tbilisi on monitoring and reporting, solid waste and industry. The Facility will seek to replicate this training across the other participating cities.

Third, the EBRD will use its position as a participant in the World Bank's Global Platform for Sustainable Cities to provide the Facility's beneficiaries access to an international network of institutions, IFIs, CSOs and other municipal governments focused on fostering sustainable urban development.

As mentioned in section C.3 above, replication beyond the Facility region will be aided by the knowledge-building activities under Component 3. That is, through annual Green Cities Forums, capacity-building events and participation in global fora such as the World Bank's Global Platform for Sustainable Cities, the Facility will foster opportunities for learning and replication both for cities within the Facility's region and beyond.

Figure 13. Theory of Change for the Green Cities Facility



E.2.2. Potential for knowledge and learning

Transfer of expertise and capacity building for city officials, municipal companies and other relevant stakeholders are a core objective of the Facility (See Component 3 and 4 of the Facility in Section C.3). The Facility will provide a range of opportunities for learning and knowledge transfer both within and between cities.

The Facility's policy and strategy guidance (Component 1) and infrastructure investments (Component 2) will be coupled with technical support and capacity building (Component 3) and strategic planning to build municipalities' capacities to enhance engagement with capital markets (Component 4). Recipients of targeted technical support will include city officials, key staff at municipal utility companies as well as representatives of civil society. This will be made equally accessible to men and women including those in less represented groups. Component 3 will include the following:

- Develop corporate development and city governance strategies to improve project management, financial reporting and regulatory and institutional setup by, inter alia, supporting increased diversity in decision making roles.
- Provide training to improve financial and operational performance of the municipal utility companies (see Section C.3)
- Assist throughout the procurement and implementation of technologies
- Monitor the performance of technologies post implementation
- Provide recommendations for tariff-related cost recovery measures that do not disproportionately affect the poor and other vulnerable groups
- Provide capacity building for civil society to enhance their ability carry our community outreach, knowledge dissemination and skills transfer to target citizen groups (see Section E.5.3 for more information)
- Provide capacity building to facilitate and support service providers and municipalities to promote gender equality in access to, and use of, municipal services

Capacity building for the municipality and/or municipal company is built into EBRD projects in the form of technical assistance provided after loan signing. Such technical assistance include the necessary corporate, financial and operational improvements, the development of Public Service Contracts, assistance with tariff calculations, the development and implementation of a medium to long term corporate development plan and a business plan, assistance with the corporate planning process and stakeholder participation plans and the development of policies promoting equal opportunities and non-discrimination. Stakeholder Participation Plans are standard practice of EBRD municipal investments. Such plans have proven essential in involving the service user population and achieved improve environmental and health benefits.

Component 4 will include the following:

- Provide capacity building for city officials and Facility beneficiaries to establish the conditions and processes needed to enhance their engagement with capital markets;
- Support cities to access multiple modalities for leveraging private finance for green investments;
- Recommendations and strategic guidance to align investments with criteria for green finance and establish conditions for accessing green bond markets

Some links to example case studies of recent EBRD Green Cities investments are below. The investments under the Facility will have a similar scope and set-up.

Georgia - Batumi Electric Buses : <http://www.ebrd.com/news/2017/ebd-and-multidonor-e5p-fund-to-finance-electric-green-buses-for-batumi.html>

Moldova - Chisinau Public Building Energy Efficiency: <http://www.ebrd.com/work-with-us/projects/psd/green-city-framework-chisinau-buildings.html>

Serbia - Belgrade Green Boulevard: <http://www.ebrd.com/work-with-us/procurement/p-pn-170817c.html>

Bosnia & Herzegovina - Sarajevo Water: <http://www.ebrd.com/news/2017/ebd-provides-25-million-loan-to-sarajevo-water.html>

Bosnia & Herzegovina - Banja Luka Biomass District Heating: <http://www.ebrd.com/news/2017/ebd-puts-on-the-heating-in-banja-luka.html>

The Facility will be critical for disseminating lessons and green development models to all cities in the target region. The roll out of the Facility to participating cities will result in opportunities to share experiences and a range of knowledge products including: best practice manuals, training seminars for local government officials, annual forums for participating cities to exchange experience, and case study brochures. The audiences for these knowledge products will be varied.

- Within a city, it will be important to disseminate lessons learned across city departments as well as into the private sector and CSO.
- The knowledge products will also be critical for conveying lessons learned between cities through a range of channels. Cities in the nine beneficiary countries and beyond will have access to successful cases of how financing green city measures improve urban quality of life, enhance cities' competitiveness and improve climate resilience.
- EBRD's established knowledge dissemination seminars provide a forum for existing and prospective clients to focus on a specific topic and share experiences as part of EBRD's Programmes. The most recent seminars, in Tbilisi and Tirana, were on sustainable municipal services management and the latter was specifically themed to Green Cities.

A variety of knowledge sharing channels include

- a) open regional Green Cities events such as the Green Cities forum held in Stockholm in June, 2018
- b) other network of cities and city-level initiatives such as the World Bank's Global Platform for Sustainable Cities and the Covenant of Mayors as well as the membership of many of the region's cities in ICLEI
- c) marketing events, presentations and publications of guidance documents and manuals, and case study brochures; and
- d) social media and online knowledge platforms.

Using these channels, the aim will be to encourage replication and scaling up of green city approaches across the region and beyond. In this way, the Fund can contribute to a larger urban transition, partially catalysed by its investment into EBRD's initiative, which scales up and disseminates models to a wider pool of beneficiaries. The use of these knowledge products will enable the practical experience in green city developments to be shared across the region, and in doing so, expand the implementation of green city developments.

E.2.3. Contribution to the creation of an enabling environment

The Facility seeks to create an enabling environment for sustained and targeted action in cities and municipalities that scales up the use and adoption of low-carbon and climate-resilient measures.

- Green City Action Plans (Component 1) will contribute to climate-informed systematic, integrated, urban planning and identify infrastructure investment priorities. These planning instruments will provide cities with short-term, detailed action plans for investment, while establishing long term commitments to sustainable urban development. They will represent wider, municipal

level commitment to prioritise low-carbon and climate-resilient urban development decisions. GCAPs also seek private sector participation through their stakeholder engagement efforts to ensure the plans reflect public sector needs as well as the environmental priorities of local businesses.

- The provision of infrastructure financing (Component 2) coupled with targeted technical support (Component 3) will enable actors in both the public and private sectors to invest in climate technologies. The Facility seeks to be available to a range of beneficiaries (See Sections A.1.6 and C.3) that can implement the plans and visions established through the GCAPs.
- Component 3's stakeholder engagement and establishment of stakeholder engagement plans for the municipal companies will ensure on-going consultation with stakeholders during and after the Facility's involvement.
- The Facility works with municipalities to establish the necessary conditions to attract private sector finance for infrastructure investment. Green Capital Market Roadmaps (Component 4) will outline a plan for municipalities to access capital markets, and ensure that public and private finance will support cities' low-carbon, climate-resilient development.

See relevant sections for more information: C.3 and E.2.4.

Contribution to innovation, market development and transformation

The Facility offers a holistic package to foster the uptake of innovative climate solutions in cities with respect to the technologies financed, planning tools developed and green finance markets accessed.

- Green City Action Plans (Component 1) will offer systematic, integrated planning to address cities' climate change issues currently lacking in many municipalities in the Facility's region. Cities will benefit from the GCAP's comprehensive scope that takes a multi-sectoral approach to identifying cities' climate change challenges and investment needs. GCAPs will transform how cities approach their climate change and environmental planning, as they bring what are typically separately analysed sectors together. GCAPs also ground their analyses and investment plans in the budgetary, social and political realities in cities to ensure that cities are successful in translating the plans into investments. Additionally, Component 1's policy dialogue will support cities and beneficiaries that foster policy environments that facilitate investment in climate technologies.
- The Green City infrastructure investments (Component 2) financed through the Facility and identified in the GCAPs represent paradigm shifts in the sustainability of urban services. The Facility will introduce innovative climate technologies to the region such as renewable energy for public buildings, electric transport, biomass for heating and water efficiency and recovery measures will help to set cities on low-carbon and climate-resilient development pathways.
- Cities' Green Capital Market Roadmaps (Component 4) will help to introduce new markets into the local municipal infrastructure sectors. Roadmaps will enable cities to align investments with the criteria needed to attract finance in line with green investment standards. Such innovative financing mechanisms, combined with targeted capacity building to overcome current municipal barriers to access private sector finance and other modalities for leveraging finance, will create new opportunities for cities to finance their development along low-carbon, climate-resilient pathways.

Contribution to institutional reform

Institutional reform, corporate development and capacity building are an integral part of every project. The EBRD provides specific technical assistance to municipalities, in line with the scope of the Facility's technical assistance and capacity building activities (Component 3), to assist with identifying the institutional challenges and implementing regulatory and institutional reform on a national and municipal level.

E.2.4. Contribution to regulatory framework and policies

Creating an enabling policy and regulatory framework for green city actions is integral to the Facility's objectives.

Component 1 of the Facility (see Section C.3) will involve working with participating city and national governments to develop and implement appropriate strategic, legislative and regulatory instruments to promote green city actions. GCAPs will identify investment and policy actions municipalities can undertake or support to enable them to more effectively address their climate change challenges. The Facility's policy dialogue (Component 1) and technical assistance (Component 3) support will also further contribute to the creation of enabling policy framework through activities including improved tariff structures for water and energy, extended public procurement rules to consider environmental impacts of purchases and improved energy efficiency regulations for buildings. Additionally, the Green Capital Market Roadmaps (Component 4) will identify the actions cities need to take to attract private sector finance for climate-focused infrastructure including improving municipalities' cash management, financial planning and reporting. Through these efforts, the Facility will demonstrate to city stakeholders the central role of an enabling policy framework for implementing successful green city measures.

E.3 Sustainable Development Potential

E.3. Sustainable Development Potential

Wider benefits and priorities

E.3.1. Environmental, social and economic co-benefits, including gender-sensitive development impact

Urban infrastructure and services, notably in water and wastewater, urban transport, street lighting, solid waste management, municipal energy (district heating/cooling) and low-carbon and climate resilient buildings, have a direct impact on the citizens' health and safety, productivity and socio-economic status, as well as cities' environmental sustainability. The Facility is expected to contribute to the achievement of the Sustainable Development Goals (SDGs) through the provision of essential urban services in an environmentally, socially and economically sustainable manner.

Among the 17 Sustainable Development Goals (SDG), the Facility particularly contributes to good health and well-being (SDG 3); gender equality (SDG 5); clean water and sanitation (SDG 6); affordable and clean energy (SDG 7); decent work and economic growth (SDG 8); climate-resilient infrastructure (SDG 9); and sustainable cities and communities (SDG 11). The Facility will also contribute towards less sector-focused SDGs by promoting climate action (SDG 13) through public and private entities, and help to build partnerships for the goals (SDG 17) between governments, the private sector and civil society.

The Facility's holistic approach to planning, project design, investments and efforts to create enabling regulatory and market conditions for investing in sustainable urban development will yield economic, social and environmental benefits for cities and beneficiaries.

Economic and social inclusion

Low income individuals, women and marginalized groups of populations often lack access to urban services that meet their needs. Low income individuals may be disproportionately affected by rising costs of using urban infrastructure and services. The Facility will enable cities to improve their planning and use their resources to better serve all their citizens in a sustainable way that meets their priorities and needs. Stakeholder engagement, conducted through the GCAPs and technical assistance, will be essential to achieving these ends by helping to identify these needs by including local stakeholders in the development of plans, investments and policies. Capacity building for service providers and municipalities will also be provided to promote gender equality in access to, and use of, municipal services including equal access to any employment opportunities that may arise.

Employment opportunities and green job creation

EBRD does not track job creation per se due to the challenges of establishing high level tracking methodologies that accommodate various types of urban infrastructure investments and the countries of operations. EBRD takes into consideration economic inclusion as part of its transition mandate and aims to transfer skills and create inclusive, green job opportunities within its projects. For example, EBRD is combining green job opportunities with its urban transport investments in the city of Batumi, Georgia. In the EBRD's Batumi electric bus project, existing staff as well as young local population receive vocational training on the maintenance of the new electric bus fleet and supporting infrastructure. This will help the City to maintain its new, green city infrastructure in a sustainable manner without relying on external or foreign staff to fill the skills gap in the local labour market. By providing targeted vocational training and skills transfer (Component 3) in each green city infrastructure investment, the Facility will contribute to greening the local labour market, creating decent employment opportunities and improving productivity. The cities and rural areas proximate to the beneficiary cities are also expected to benefit from the local capacity building for infrastructure maintenance and operations.

Environmental co-benefits

The Green Cities Facility is designed to help cities in the EBRD region improve their urban environmental performance by identifying, prioritising and addressing their environmental challenges. The Facility approaches the concept of Green Cities from a holistic perspective, as evidenced by the breadth of environmental dimension and sectors which Green City Action Plans analyse. To this end, the Facility intends to address environmental issues beyond climate mitigation and adaptation. Improvements in air, water and soil quality are all integral to developing greener cities.

The overall objective is to achieve a significant¹⁴⁸ environmental improvement in at least one priority environmental challenge identified in the GCAPs for each of the Facility countries by the end of the Facility's timeline. To achieve the overall objective, the proposal also has an implementation objective of achieving at least 50 per cent of all verifiable targets set in all GCAPs, by the end of the proposal period. The GCAP methodology uses a set of 70 indicators, examples of which are shown in Table 6, to evaluate these environmental dimensions, with the intention to see improvement from initial benchmarks as GCAPs are implemented.

¹⁴⁸ Significant environmental improvement is defined in the GCAP methodology.

Table 8. Example Environmental Indicators¹⁴⁹ of the GCAP Methodology

Topic	Indicator		Unit	Benchmarks		
				No concern	Some concern	Serious concern
AIR	1	Average annual concentration of PM _{2.5}	µg/m ³	< 10 (annual)	10–20 (annual)	> 20 (annual)
	1.1	Average annual concentration of PM ₁₀	µg/m ³	< 20 (annual)	20–50 (annual)	> 50 (annual)
	1.2	Average daily concentration of SO ₂	µg/m ³	< 20 (24 hour)	20–50 (24 hour)	> 50 (24 hour)
	1.3	Average annual concentration of NO _x	µg/m ³	< 40 (annual)	40–80 (annual)	> 80 (annual)
WATER BODIES	2	Biochemical Oxygen Demand (BOD) in rivers and lakes	mg/L	< 2	2–4	> 4
	2.1	Ammonium (NH ₄) concentration in rivers and lakes	µg/L	< 150	150–200	> 200
DRINKING WATER	3	Percentage of water samples in a year that comply with national potable water quality standards	%	> 97	90–97	< 90
SOIL	4	Number of contaminated sites	CSs / 1000 inh.(or km ²)	< 10	10–20	> 20

Gender-sensitive development impact

Addressing gender issues in green city infrastructure investments has positive economic, social and environmental co-benefits for all stakeholders. These co-benefits can be summarised as follows:

- By delivering demand-driven, customer-focused and gender sensitive service, the Facility will drive business competitiveness among service providers who can record benefits in terms revenue generation and operational efficiency;
- By promoting women’s access to employment, the Facility will contribute to reducing gender gaps in the labour force participation and promoting economic growth. This is particularly important in light of the changing demographic trends in the Facility’s region, such as aging population and the shrinking labour force, and the strain that these trends put on welfare systems in an increasing number of the economies;

¹⁴⁹ Indicators highlighted in blue are core indicators, which must be collected as part of the GCAP process, whereas indicators not highlighted are elective and are documented if the core indicator data is not available.

E.4 Needs of the recipient

E.4. Needs of the Recipient

Vulnerability and financing needs of the beneficiary country and population

E.4.1. Vulnerability of country and beneficiary groups (Adaptation only)

Building resilience to climate change involves strengthening critical infrastructure and its management. Where climate change is expected to increase water stress, it is essential to invest in improved water infrastructure and water efficiency and promote sustainable water consumption practices. Other types of infrastructure may also need to adapt to climate change impacts, including chronic changes such as increasing heat stress and sea level rise and extreme events such as storms and floods.

Climate change poses threats in the proposed region in the form of shifts in precipitation and temperatures, rising sea levels, and changes in the frequency and severity of storms and floods. Areas such as the Middle East and North Africa (MENA) and Central Asia are particularly vulnerable due to the increased stress on water resources.

Vulnerability assessments are based on EBRD's current experience and insights, and are updated from time to time.

Vulnerability of each region and potential beneficiary sectors

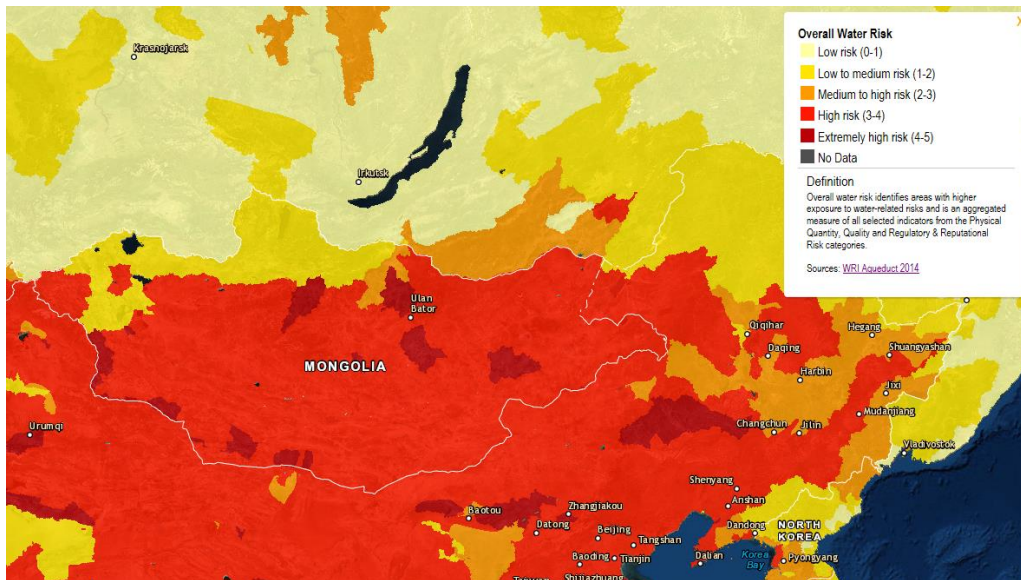
The countries in the proposed region are vulnerable to the impact of climate change. One of the main challenges is increasing water stress. The maps below present the World Resource Institute's water stress indicator that is an aggregation of five physical water scarcity risks - baseline water stress, inter-annual variability, seasonal variability, flood occurrence, draught severance - indicating the water scarcity risk from very low (0 to less than 1) to extremely high (over 4).

The countries in **Central Asia** are projected to be particularly affected by climate change. Predicted increases in the variability of precipitation and changes in snow melt patterns have a severe impact on water availability. This is potentially a detrimental risk to economies relying on water as a key resource, with the main sectors depending on agricultural irrigation and hydropower as the main source of electricity. Additionally, seasonal variability and the occurrence of extreme precipitation events lead to flooding and landslides that can have detrimental effects for key infrastructure.

- **Mongolia's** exposure to climate change risks lies mainly in its dependence on agricultural production and on the vulnerability of its water resources to shifts in precipitation patterns, as described in Mongolia's Second National Communication to the UNFCCC (2010).¹⁵⁰ Projected climate change impacts on water resources in Mongolia present a complex picture with a high level of uncertainty and regional variability. The overarching picture is one of shifts in hydrological patterns which may result in increased surface flows in certain river basins and in some seasons, reductions in surface runoff in others, and shifts in the seasonality of spring floods. Climate change adaptation for Mongolia includes the improved management of water resources, including encouraging the efficient use of water resources, promoting water saving technologies, water metering systems and water recycling. Reducing the loss of water from its distribution and water transmission systems is also identified as a priority. Improvements in water efficiency will help overall water resource management, as well as public health and environmental benefits. Furthermore, flood prevention is of importance to protect urban infrastructure and people. Increased flood risk is linked to projected rising temperatures and changing precipitation patterns projected as a result of climate change. By 2050, temperatures are projected to increase in Mongolia by an average of up to 3.0°C.

¹⁵⁰ [Mongolia Second National Communication to the UNFCCC](#), 2010

Figure 14. Water Stress in Central Asia



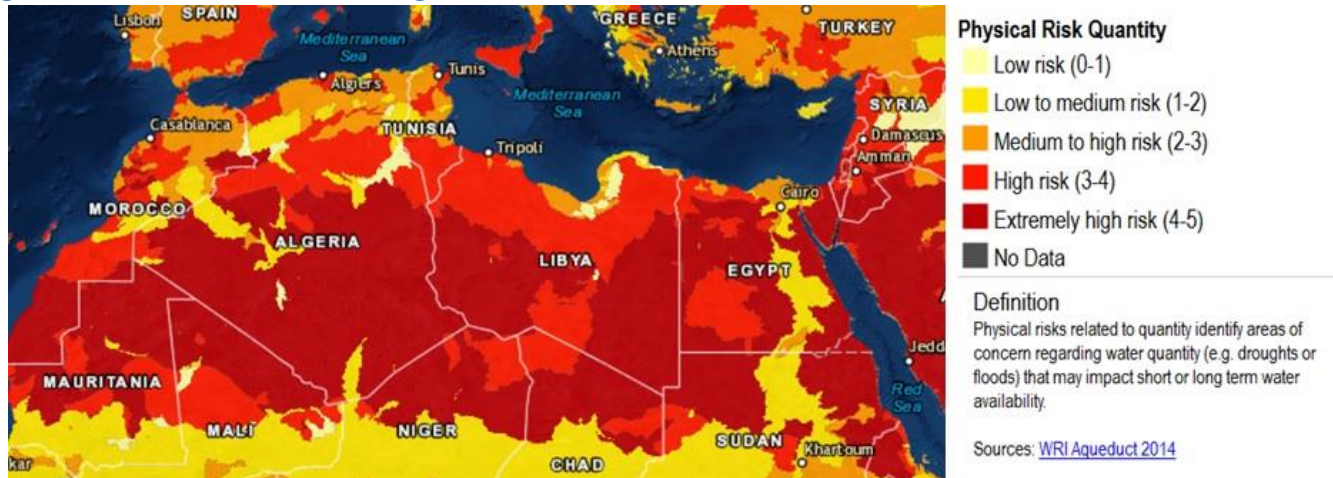
The **Middle East and North Africa** region is projected to suffer from increased water scarcity due to climate change. The stress on water resources is often exacerbated by widespread inefficient usage practices and a lack of adequate institutional capacity for effective management. Further, temperatures in the region are projected to rise, leading to increased heat stress and more frequent heat waves. This in turn will result in more demand for room cooling and an increase in energy usage.

- Tunisia's** climate varies from Mediterranean to arid to semi-arid. Precipitation and the rainfall differ considerably from the North to South. Tunisia, as a semi-arid country, has irregular and inadequate rainfall with limited water resources. Tunisia's conventional water resources include territorial and transboundary surface water and groundwater. Non-conventional water resources include treated wastewater, desalination water, and agricultural drainage. The Northern basins provide major surface water supplies, while the Southern basins provide major groundwater supplies. All conventional water resources are estimated at 4,800 million m³/year; 2,700 million m³/year for the total average surface flows and 2,100 million m³/year for groundwater resources. Additionally, it is estimated that non-conventional water resources supply 405.7 million m³/year.

Like other countries in the region, Tunisia is also a water stressed country with 530 m³/year of water available per capita. This figure is just above the absolute scarcity threshold, 500 m³/year/per capita.
- Jordan's** water resources are very vulnerable to climate change and pose major barriers to the country's sustainable development. Jordan's NDC states the following: "Expected reduced precipitation, maximum temperature increase, drought/dry days and evaporation are the main determinants of climate change hazards. The impact of the increased evaporation and decreased rainfall will result in less recharge and therefore less replenishment of surface water and groundwater reserves. In the long term, this impact will extend to cause serious soil degradation that could lead to desertification, exacerbating future conditions and worsening the situation of the agricultural sector due to the lack of sufficient water that will affect the income of the agriculture sectors. In addition to climate change, the increased demand for water in Jordan during the last decade has contributed significantly to reducing per capita shares. The natural growth of

economic activities and increase in population have been exacerbated by the continuous flow of refugees from Syria in particular and thus increase the demand for water.¹⁵¹

Figure 15. Water Stress in the MENA region

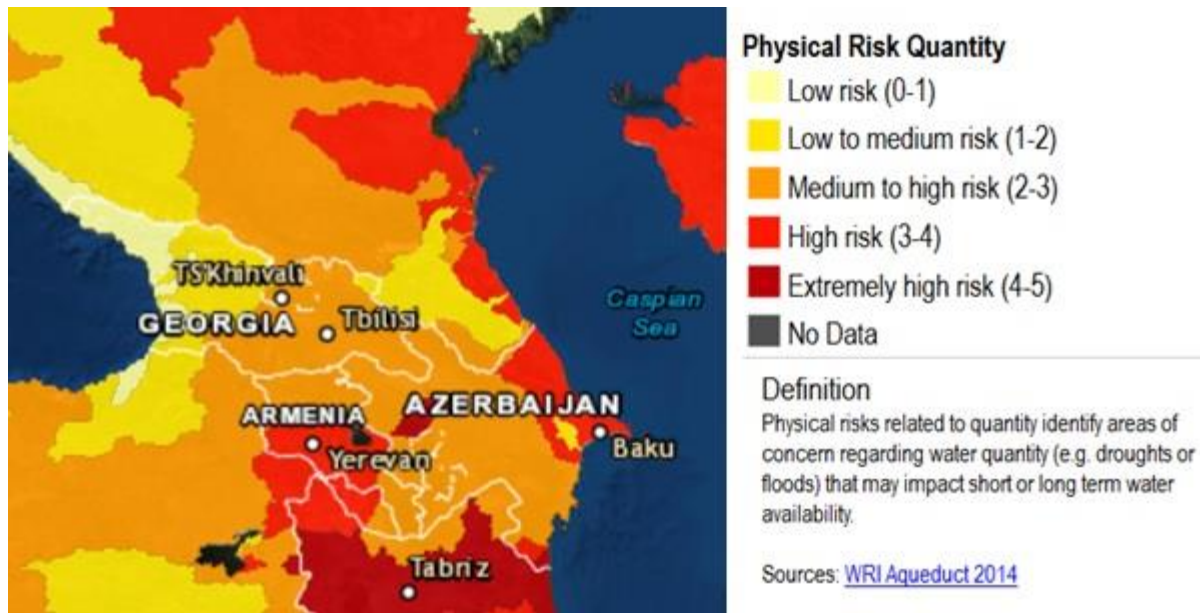


The projected impacts of climate change in **the Caucasus** region are shifting precipitation patterns, glacial shrinkage and more variable hydrology, which will have serious implications for water availability. These changes impact the economic productivity of the region in a range of key sectors including agricultural irrigation, hydropower generation and natural resource extraction. Seasonal variability has also increased the frequency of flood events.

- **Armenia** is expected to see temperature increases and reduced precipitation from climate change. These impacts will accelerate the desertification process in certain areas, reduce ecosystem services and negatively impact public health. Reduced water resources will also negatively impact the country's agricultural sector and power sector by reducing the generation capacity in hydropower plants. The country will become increasingly water stressed as climate change progresses, with available water resources decreasing. River flows are projected to have decreased by more than ten per cent in 2030 compared to a 1990 baseline. Despite the increasing scarcity, extreme precipitation events can occur more frequently causing urban flooding.
- **Georgia** will see temperature increases across the country, with changes being most severe on the country's west coast. Precipitation is projected to decrease for all of Georgia, and by more than 20 per cent in some regions. These changes will put pressure on the country's agricultural sector, with the area of drought regions intensifying and decreases in soil quality. Additionally, Georgia has seen and will continue to see its significant glacial areas retreat over the coming decades, coupled with decreased runoff and water supply from glaciers due to reduced glacial areas and ice supply. Tbilisi has recently experienced strong flooding, exposing the vulnerability of the city to extreme precipitation events. Surface water management is a priority for the country's cities. Average temperatures in Georgia are projected to increase by up to 3.0°C by 2050 as a result of climate change.

¹⁵¹ [Jordan's first Intended Nationally Determined Contribution \(INDC\)](#), 2016

Figure 16. Water Stress in the Caucasus



South-eastern Europe and Moldova:

Projections in the IPCC's 5th Assessment Review for the wider Mediterranean Basin, including the five Western Balkan countries, for the second half of the 21st century, indicate future increases in temperatures, increased frequency and extent of drought periods, and a decrease in precipitation patterns. Additionally, given the mountainous topography of the Western Balkans region, there is a growing risk of flooding associated with more irregular heavy precipitation events. The region relies on hydropower more so than others in Europe, so there is a direct link between changes in precipitation patterns and the wider economy via the impacts on the power sector.

- **Albania:** In Albania's 2nd National Communication to the United Nations Framework Convention on Climate Change (UNFCCC)¹⁵², it identified a number of climate change adaptation priorities that are important to address over the coming decade. For example, shifts in precipitation and temperatures are projected to intensify pressure on water resources. Improvements in water supply infrastructure, and in water use efficiency in agriculture and industry, will be key priorities. Hydropower generation is forecast to be affected by climate-driven shifts in hydrology and reductions in surface runoff, which will need to be taken into account in significant investments. Impacts on sea-level rise and coastal erosion will need to be taken into account in investments in coastal infrastructure such as ports. The most urgent climate change risk in Albania is the exposure of the energy system to variable and extreme weather, especially summer droughts (complicated by conflicts with irrigation demand), which result in serious electricity shortages and a need for expensive power imports from neighbouring countries such as Italy. The increased occurrence of extreme precipitation events has led to increased flood risk. Hence, flood protection and surface water management are adaptation needs in Albania.

¹⁵² [Albania's Second National Communication to the UNFCCC](#), 2009

- **FYR Macedonia:** FYR Macedonia's Second National Communication to the UNFCCC sets out how average temperatures are projected to increase by up to 2.9°C by 2075 and 3.8°C in 2100.¹⁵³ Precipitation is projected to decrease by up to 8 per cent by 2075 and 13 per cent by 2100. This is expected to be accompanied by reduced summer precipitation, and greater precipitation variability overall. As a consequence, Macedonia may experience water deficits during summer months. More variable precipitation may also result in fluctuations in river hydrology and more frequent extreme events such as floods. Water resources and agriculture are identified as the most sensitive sectors.
Agribusiness may also be affected by climate change through impacts on agricultural production, thus affecting the availability of primary produce and increasing the need for irrigation. Hydropower may also have to take into account climate-related changes in river hydrology. The need for investment in more efficient and better-managed water supply systems will increase in the face of greater water stress caused by climate change.
- **Moldova:** In its NDC, Moldova highlights the future impacts of temperature changes and frequency and intensity of drought events for its economy, and especially water management and the agricultural sectors (the latter employing 36 per cent of the active population).¹⁵⁴ Recent heat wave events in 2007 and 2012 have been associated with the most severe droughts in the country's instrumental record period.
- **Serbia:** In its NDC, Serbia identifies an increasing precipitation deficit of up to 20 per cent by the end of the century associated with increased intensity and frequency of floods and droughts.¹⁵⁵ The effects of such changes will be directly felt in power generation, forestry sink capacity, forestry industry, and in agriculture, with some cereal cultures estimated to experience yield drops of more than 50 per cent. Through the effects on the country's power sector, and the increased frequency of extreme events, future impacts can be assumed to indirectly affect most groups in the economy. Such wide-ranging impacts have already been felt during the unusual flooding events of 2014 and the drought episodes since 2000 which are estimated to have costed the economy more than EUR 5 billion.

¹⁵³ [FYR Macedonia's Second National Communication to the UNFCCC](#), 2008

¹⁵⁴ [Republic of Moldova's Intended National Determined Contribution \(INDC\)](#), 2015

¹⁵⁵ [Intended National Determined Contribution \(INDC\) of the Republic of Serbia](#), 2015

Figure 17. Water Stress in the South-eastern European



Potential beneficiary groups

Cities are key players in addressing climate change, both for mitigation and adaptation activities. Cities with acute climate resilience needs will directly benefit from the Facility while the entire population covered by the respective urban infrastructure or service will become more climate-resilient.

E.4.2. Financial, economic, social and institutional needs

Affected populations and vulnerable groups

The population to benefit from green city infrastructure investments will consist of a wide range of socio-economic groups. Among them, low-income households, women, children, senior citizens and internally displaced persons or refugees are often most vulnerable to impacts of climate change or inadequate urban services. The Facility will promote the inclusion of these underserved social groups through the following:

- inclusive stakeholder engagement in green city strategic planning and infrastructure investment project preparations;
- the consequent infrastructure investments that serve all citizens including vulnerable groups;
- increasing access to and quality of utility services
- address affordability issues by conducting affordability analyses, allocating grants and/or reforming social safety net mechanisms
- gender-specific considerations in designing urban infrastructure and services
- considerations of the needs and priorities of people with disabilities in the design of infrastructure and services
- Enabling access to the benefits of and opportunities provided by the Green Cities Facility to those from marginalized and minority groups.

As an example of social inclusion within an EBRD municipal infrastructure project, an investment in Bijeljina, Bosnia and Herzegovina water distribution system included orchestrating a targeted support scheme where households eligible for social support by the municipality would receive 100 litres of water per day per person- around the average water consumption level - written off their water bill with the municipality compensating the water utility afterwards. This mechanism has worked very well to the satisfaction of both the vulnerable groups, utility company and the municipality.

Lack of alternative sources of financing

Local capital markets lack the capacity and knowhow to provide the long-term financing required for green infrastructure projects. Local financiers and other sources of financing are further discouraged from financing such projects by the high upfront costs due to the technological requirements and the lower tariff structures prevalent in the region. Higher upfront capital expenditures are the result of the market prices for high performing, innovative climate technologies. (See Section B.3 for Financial Markets Overview, and F.1 for the Economic and Financial Analysis) These challenges to financing low-carbon and climate-resilient urban infrastructure have diminished the role traditionally held by commercial bank lenders in infrastructure finance, and are further exacerbated by limited capital and liquidity.

The Facility addresses these issues by providing beneficiaries with the financial instruments they need to overcome infrastructure finance barriers hindering investment from local capital markets and ensure externalities are considered. GCF's and EBRD's funding will enable cities to finance low-carbon and climate-resilient infrastructure with high upfront costs and longer return periods compared to business-as-usual technologies.

Additionally, the Facility helps to establish the conditions and capacities within municipalities to enable them to access wider capital markets for future investment. Green Capital Market Roadmaps will support cities in their efforts to attract private sector finance for infrastructure investments by addressing local barriers and aligning investments with green finance opportunities.

Need for strengthening institutions and implementation capacity

Many municipalities and municipal companies in the proposed region lack the experience, skills and resources to deliver the following:

- Improve the corporate governance and financial and operational performance
- Maintain financial ratios and other covenants,
- Work with regulators to develop a new tariff methodology
- Improve municipal capacities to engage with capital markets and identify opportunities to leverage private sector finance for green investments focused on addressing climate change challenges
- Engage with stakeholder and incorporate their feedback and knowledge into urban planning or updating services
- Clarify the responsibilities of the owner (cities or ministries), municipal company and the customers regarding the provision of urban services.
- Results reporting on the impacts and benefits realized through investment

To develop these skills within municipal beneficiaries to ensure they become sustainable and profitable enterprises, the Facility will provide capacity building and technical support through both the Component 3 and Component 4's capital markets focused initiatives (see Section C.3).

E.5 Country Ownership

E.5. Country Ownership

Beneficiary country (ies) ownership of, and capacity to implement, a funded project or programme

E.5.1. Existence of a national climate strategy and coherence with existing plans and policies, including NAMAs, NAPAs and NAPs

The Facility will contribute to meeting beneficiary countries' nationally set climate targets and policy priorities by supporting green urban planning and mobilizing investments for cities in energy intensive or climate vulnerable regions, as well as build local capacity and awareness. By linking GCAPs and follow up investments to both local and broader national strategic climate mitigation and adaptation planning, the Green Cities Facility will help beneficiary nations achieve the objectives of their Nationally Appropriate Mitigation Actions (NAMAs), National Adaptation Programmes of Action (NAPAs), National Adaptation Plans (NAPs), Nationally Determined Contributions (NDCs) and other development strategies or plans. The Facility is in line with the beneficiary countries' nationally set climate strategies and priorities as stated in their Nationally Determined Contributions (NDC). In these NDCs, energy efficiency, buildings, transport and waste management were mentioned among the key target sectors for mitigation while water and wastewater management and the resilience to flooding were key adaptation priorities.

The Caucasus and Moldova:

Armenia identified the sectors and technologies eligible under the Facility in its NDC.¹⁵⁶ The country seeks to reduce carbon emissions from transport, urban development and waste management. With respect to adaptation, Armenia prioritises the most vulnerable sectors to climate change, including water resource management, energy and human settlements and infrastructures. Supporting these targets, the country will benefit from the "the Action Plan of the Government of Republic of Armenia Aimed at the Implementation of the National Program on Energy Saving and Renewable Energy of Republic of

¹⁵⁶ [Intended Nationally Determined Contributions of the Republic of Armenia under the UN Framework Convention on Climate Change, 2015](#)

Armenia”¹⁵⁷, which came into force in 2010 and outlines in details the measures to reach the country’s maximum energy efficiency and renewable potential. In the 2014 publication of Scaling Up Renewable Energy Program for Armenia the renewable energy targets were indicated to be set at 21 per cent in 2020 and 26 per cent in 2025 of total power generation.¹⁵⁸ A Nationally Appropriate Mitigation Actions (NAMA) project on energy efficient public buildings and housing is also under development. Armenia is on the path to improving the energy policy and regulatory framework but has not yet enforced specific energy efficiency regulations and policies. Reforms are particularly influenced by the Association Agreement signed with the European Union in June 2014.

Georgia has agreed under the Agreement and as a member of the Energy Community (2017)¹⁵⁹ to implement critical reforms following EU directives and the requirements of the third energy package. It has developed a first draft of a “National Energy Efficiency Action Plan (NEEAP)”, with formal adoption expected in 2018. The EBRD supported Georgia in this process and is working with the government to draft a primary energy efficiency law. Local governments are also taking significant steps, with eight cities, including the capital Tbilisi, joining the Global Covenant of Mayors for Climate and Energy that aims to reduce greenhouse gases by 20 per cent by 2020. Tbilisi aims to reduce its GHG emissions by 25 per cent with the ambition of becoming the “green capital” of the region. In its NDC, Georgia plans to unconditionally reduce its greenhouse gas emissions by 15 per cent for the year 2030.¹⁶⁰ The 15 per cent reduction target can be increased up to 25 per cent in a conditional manner. The country also identifies the energy and wastes sectors as key to helping it meets its mitigation goals. Georgia is also working with USAID on a Low Emission Development Strategy that aims to support climate change mitigation through energy efficiency and clean energy, responsible use of natural resources, promote private-sector investments in energy efficiency and green buildings, and build government capacity for implementation of strategy.

Moldova is a non-Annex I Party to the UNFCCC and has submitted its NDC to the UNFCCC in September, 2016. The country committed to reduce GHG emissions by 64 per cent to 67 per cent by 2030 below its 1990 baseline level.¹⁶¹ It committed to deliver on the target via a Low Emissions Development Strategy with a major driver being the country’s 2014 Association Agreement signed with the EU. Moldova is also a Contracting Party to the Energy Community Secretariat, and therefore committed to transposing the EU acquis on energy, energy efficiency and environmental laws and standards. The country adopted primary laws in line with the directives on energy efficiency, energy performance of buildings and energy-related labelling; however, in order to make them operable secondary, supporting legislation is being developed. The country identified reducing emissions in the energy and waste sectors, amongst others, to meet their mitigation targets. In terms of adaptation, Moldova adopted a Climate Change Adaptation Strategy in 2014 aiming to increase risk management capacity and reduce vulnerabilities in priority areas (agriculture, water, forestry, transport, energy and health) and to increase climate change monitoring capacities through 2020.

Central Asia: Central Asia continues to suffer from its dependence on fossil fuels, antiquated infrastructures that date back to the Soviet times and severe scarcities in resources - in particular water. In a region highly prone to climate extremes and climate change, most countries have adopted low-carbon development paths by adopting national strategies that list policy measures and actions for climate mitigation and adaptation, but still have weak regulatory environments to support these policy measures and thus lag in mobilising relevant investments, particularly in the private sector on energy efficiency and renewable energy. The Central Asian countries have all ratified the UNFCCC and have submitted NDCs.

¹⁵⁷ [National Program on Energy Saving and Renewable Energy of Republic of Armenia](#)

¹⁵⁸ [Scaling Up Renewable Energy Program for Armenia \(SREP Armenia\), 2014](#)

¹⁵⁹ [Energy Governance In Georgia: Report on Compliance with the Energy Community Acquis, Energy Community Secretariat, July 2017](#)

¹⁶⁰ [Georgia’s Intended Nationally Determined Contribution submission to the UNFCCC](#)

¹⁶¹ [Republic of Moldova’s Intended National Determined Contribution \(INDC\),](#)

Mongolia: Mongolia has a series of policies and measures that commits it to implementing mitigation and adaptation measures in various sectors including energy, transport, industry, agriculture and waste. The aggregated impact of these measures is expected to result in 14 per cent reduction of GHG emissions by 2030. Some of its key policies are: “State policy on energy (Parliament resolution No.63, 2015),” “2014 Green development policy, 2011-2021 National Action Programme on Climate Change,” “2010 NAMAs, 2015 Urban public transport investment Programme,” “2010 Mid-term new development Programme,” “2012 Government resolution No.171,” “Buildings material Programme,” “2010 Mongolian national livestock Programme.” It currently is seeking support for preparation of multipurpose utilisation of bio char; and for implementation of national energy efficient lighting program and transforming construction using supplementary cementitious materials. Mongolia ratified the UNFCCC in September 1993. Mongolia recognises a need for over USD 3 billion in climate finance to realise its mitigation and adaptation goals. Mongolia is also adversely affected by the melting of permafrost and glaciers, surface water shortages, and soil and pasture degradation resulting from climate change. To address these challenges, Mongolia – in its NDC – aims to reduce its vulnerabilities relating to natural disaster management and water resources, amongst others. The country identifies a lack of funding and challenges associated with introducing new climate change adaptation technologies as key barriers to overcome. ¹⁶²

The Middle East and North Africa: Enhancing energy sustainability and energy efficiency is undeniably a top priority in the region, which suffers from a severe energy crisis and energy deficit, as well as resource scarcity, undermining stability. All the proposed countries have ratified the UNFCCC and submitted NDCs. Notably, Jordan has achieved a series of regulatory improvements between 2012 and 2013 for energy efficiency and renewable energy, approving the “Renewable Energy and Energy Efficiency Law,” as well as announcing the “Energy Efficiency bylaw,” providing grounds for the establishment of a national Renewable Energy and Energy Efficiency Fund. Despite the relatively well-established banking sectors in the region, there is little to no experience in financing sustainable energy and climate resilience investments, especially to SMEs and retailers, and the EBRD has been actively engaged in policy dialogue and pioneering in sustainable energy and climate resilience finance through local financial institutions.

Jordan plans to achieve its NDC targets based on implementing at least 70 projects (14 per cent of the NDC), included in the overarching “National Climate Change Policy for 2013-2020.” A significant proportion of these activities are expected to be undertaken in Jordan’s cities. Prior to the Climate Change Policy, Jordan conducted a major joint program of water and health sectors’ adaptation (2009-2013) under “Adaptation to Climate Change to Sustain Jordan’s MDG Achievements.” Climate change is mainstreamed in the “National Strategy and Action Plan to Combat Desertification (2015-2020),” ¹⁶³ aligned with UNCCD 10 year Strategy; as well as in its “National Biodiversity Strategy and Action Plan (2015-2020),” aligned with the global CBD-10 year Strategy. ¹⁶⁴ Jordan sets out to increase its RE share to 10 per cent by 2020 and 11 per cent by 2025, according to its NEEAP approved in 2013 and “Jordan 2025- National Vision and Strategy.” On the regulatory front, adopted the “Renewable Energy and Energy Efficiency Law” and “Energy Efficiency bylaw”. Currently seeking support to prepare NAMAs for the rehabilitation of Al-Akaidar landfill, fuels and emissions savings, improvement in energy efficiency in the water sector, industrial sector and domestic waste management. Also seeks support for the implementation of energy efficiency in the water sector, Samra Thermal Power Station – Phase III, and the Zarqa river basin industrial waste water treatment plant and energy plant.

¹⁶² [Intended Nationally Determined Contribution \(INDC\) Submission by Mongolia, 2015](#)

¹⁶³ [The Aligned National Action Plan to Combat Desertification in Jordan, 2015 - 2020](#)

¹⁶⁴ [National Biodiversity Strategy and Action Plan, Minister of Environment, Jordan, \(2015-2020\)](#)

Tunisia proposes in its NDC to lower its carbon intensity by 41 percent in 2030, compared to 2010 level, and estimates around USD 20 billion needed to finance its climate mitigation and adaptation measures and capacity building.¹⁶⁵ Having ratified the UNFCCC in 1993 and the Kyoto Protocol in 2003, Tunisia became third in the world to address climate change in its constitution in 2014, in which the challenges of energy supply security are highlighted. Tunisia became a net energy importer in the early 2000s with the depletion of its soil reserves and rapidly rising energy demand. The urgency to mitigate and adapt to climate impact is strongly felt throughout the country, facing extreme summer temperatures, decreasing precipitation, and vacillating between acute droughts and floods. In response, the “National Adaptation Strategy” was adopted in 2007, as well as the “National Forest Strategy” and “National Strategy on Waste Management 2006-2016.” A more comprehensive “National Strategy on Climate Change” was adopted in 2012, which lists series of adaptation and mitigation measures across various sectors. The government currently aims to foster private sector investments in renewables, in order to diversify its energy mix and reduce greenhouse gas (GHG) emissions. The “New Renewable Energy Law” was approved in 2015, and the country is now seeking support for the implementation of “Tunisian Solar Plan,” initially formulated in 2009 and redeveloped in 2012. The NAMA sets out to achieve the target of 30 percent of total electricity generated from renewables by 2030, and the technologies include wind, solar photovoltaic (PV) and concentrated solar power. The government has carried out two sustainable energy Programmes (2005-2007 and 2008-2011 respectively) to reduce the country’s dependence on fossil fuel, which concluded that there was significant potential for energy efficiency and renewable energy in the country. In order to support financing of climate mitigation, the government plans to apply carbon market mechanism in the cement industry, energy efficiency and renewable energy in the buildings sector, as well as for the Tunisian Solar Plan.

South-eastern Europe: Serbia, along with Albania, Bosnia and Herzegovina, FYR Macedonia and Montenegro - is a Contracting Party to the Energy Community Secretariat, an inter-governmental organization seeking to align the energy policies of the Western Balkans and Black Sea countries with those of the EU. As such, these Western Balkans nations have committed to adopting EU policies, acquis and related standards in the field of energy and environment into their national laws. These include EU Directives on energy efficiency (2012), on energy services (2006), energy performance of buildings (2010), energy use related labelling of products (2010), etc. Some countries are more advanced than others in transposing these directives. The Energy Community Secretariat regularly monitors their progress. Additionally, most countries in the region have adopted NEEAPs submitted every three years, and, as non-Annex I Parties to the UNFCCC, have submitted NDCs.

Albania in its NDC sets a baseline targets to reduce CO₂ emissions by 11.5% by 2030 compared to 2016 levels.¹⁶⁶ The country plans to incorporate this target into their strategic directions for both energy and transportation. Albania as is implementing parts of EU legislation on climate change and building internal capacity for its implementation. The country’s commitments build on its efforts in recent years including the adoption of an Energy Efficiency Law and an Energy Efficiency Action Plan. Albania’s carbon intensity is still high compared to the EU-28 average (0.34 tCO₂eq/GDP versus 0.24 for the EU). The residential sector is the largest end-user of energy and accounts for almost half of electricity consumption. Public sector buildings are often inefficient, which open opportunities for energy cost savings investments. In terms of climate change adaptation, Albania has identified the need to integrate climate change adaptation actions into relevant sector plans, policies and budgets. The countries identified its hydrological systems, agricultural and energy systems, and climate related hazards as key vulnerabilities with respect to climate change adaptation.

FYR Macedonia sets out a strategy in its NDC focused on policies and measures to address its climate change goals.¹⁶⁷ Measures include renewal and improvements of vehicle fleets including electric vehicles, increased adaptation of renewable energy,

¹⁶⁵ [Intended National Determined Contribution \(INDC\), Tunisia, 2015](#)

¹⁶⁶ [Intended Nationally Determined Contribution \(INDC\) of the Republic of Albania, 2016](#)

¹⁶⁷ [Intended Nationally Determined Contributions \(INDC\), FYR Macedonia, 2015](#)

and energy efficiency improvements in buildings and lighting. These measures are projected to lead to a 30 – 36 per cent reduction in GHG emissions in 2030 compared to 1990 levels. As the country is unusually carbon intense (CO₂ / GDP), the NDC targets a transition to a low-carbon economy. FYR Macedonia has recognized a finance gap in reaching these goals, stating, “new sources of finance and enhanced international support [will need] to be mobilized through new climate finance mechanisms, such as the Green Climate Fund.”

Serbia is a non-Annex I Party to the UNFCCC and has committed through its NDC to reducing GHG emission levels by 9.8 per cent by 2030 below 1990 baseline levels.¹⁶⁸ Delivery of the target is yet to be mapped via a climate change strategy, which is now in progress. In terms of adopting EU energy efficiency regulations or standards, Serbia is at an advanced level, having aligned its Energy Efficiency Law and being compliant with the EU Directive on Energy Performance of Buildings.

City level commitment

Beyond the commitments outlined in nations’ NDCs, many cities in the Facility’s region have also signed onto the Global Covenant of Mayors (GCoM). Fifty-seven cities across the nine eligible countries have submitted or had their Sustainable Energy Action Plans (SEAP) accepted by the GCoM, collectively pledging to reduce CO₂ emissions by an average of 22 per cent by 2020 compared to 1990 emission levels.

United Nations Framework Convention on Climate Change

The Facility’s contributions to NDCs were highlighted at the Conference of Parties in Marrakech and Bonn. COP22 provided an excellent forum to showcase green city activities and the Bank was involved in several COP22 side events. COP23 featured a panel dedicated to EBRD Green Cities, with the Mayor of Tirana and representatives from global institutions promoting sustainable urban development speaking.

E.5.2. Capacity of accredited entities and executing entities to deliver

In the proposed countries, the EBRD has a proven track record of implementing municipal investments. The Facility will enable the EBRD and its clients to focus on low-emission and climate-resilient infrastructure, building on the Bank’s experience financing municipal sector projects and working with their associated stakeholders. As mentioned in Section D.1, GCF’s finance will help the Facility to scale up municipal climate finance in the region and achieve a meaningful scale of impact. The proposed Facility will introduce climate measures to underdeveloped markets, as well as comprehensively consider externalities and address market barriers in countries looking to develop greener cities.

The Executing Entities for the Facility will comprise EBRD, governments, municipalities, state- and city-owned utilities and companies or privately owned utility companies, companies and special purpose vehicles operating under public private partnership arrangements, and energy service companies in the Facility’s region. In 2017, the EBRD financed EUR 1,043 million in 34 infrastructure projects across more than 30 cities and municipalities that contributed to the Bank’s Green Economy Transition, led by the Bank’s Municipal and Environmental Infrastructure (MEI) team. These investments ranged from investing in public transport infrastructure, new or upgraded water supply and waste water treatment, energy efficient district heating solutions and municipal solid waste projects. More than 35 million people are expected to benefit from these initiatives, while reducing 863,000 tCO₂e per year. EBRD’s investments in essential urban services leveraged considerable volumes of co-financing

¹⁶⁸ [Intended National Determined Contribution \(INDC\) of the Republic of Serbia, 2015](#)

from governments, municipal entities, the private sector, IFIs and international donor agencies. In 2017 alone, EBRD's municipal and environmental infrastructure projects leveraged EUR 2.78 billion of investment in addition to its own finance.

The MEI team has signed over 420 projects since it began operating in 1994. As an executing entity, the team will be able to effectively support all aspects of projects including financing, expert technical appraisals, procurement and tender preparation, and management of technical assistance and policy dialogue to support implementation.

The Green Cities Facility will benefit from the MEI team's expertise, while improving cities' urban development planning and the Bank's capacity to support these initiatives through the GCAP's systematic approach. Component 3 of the proposal will be critical in this regard – assisting executing entities to develop capacity across a broad range of areas including Financial and Operational Performance, Corporate Development and Stakeholder Participation for municipalities/municipal companies.

The Facility will also benefit from the EBRD's now established expertise in Green Cities projects and Green City Action Plans, following from the successes of the Bank's Green Cities Framework in its pilot cities of Yerevan, Tbilisi and Tirana. The Bank will apply the best practices and lessons learned from these initial experiences to scale up finance for low-emission and climate-resilient infrastructure in the region.

EBRD has long-standing, established relationships with local governments, municipal utility companies, the private sector, IFIs and donors that are instrumental in delivering green city investments. In addition, EBRD recognises civil society as a key stakeholder and partner in achieving its mandate and has extensive experience in engaging with local and international civil society organisations. These established professional relationships with municipal representatives will be essential for successful and productive collaboration between the Bank, municipal beneficiaries and local stakeholders.

E.5.3. Engagement with NDAs, civil society organizations and other relevant stakeholders

The EBRD has met and discussed in detail the Green Cities Facility with the GCF focal points and relevant staff in the nine countries included in the proposal. The development of the Green Cities Facility proposal has been an inclusive process, particularly through close engagement run through EBRD's regional offices. The Bank received no-objection letters from NDAs in 2017 and has continued to liaise with country focal points while the proposal's components and scope were refined through discussions between GCF and EBRD. In 2018, EBRD worked with NDAs and relevant country representatives to reaffirm their support for the Facility, and has secured formal re-endorsement of the Facility from the relevant NDAs.

Many cities in the Facility region have expressed interest in the Facility's components. This has resulted in a number of potential opportunities to provide systematic planning for cities through GCAPs, finance for sustainable urban development and support to foster conditions to scale up climate finance in local capital markets. EBRD will continue to engage with these local counterparts and national focal points to develop further opportunities and disseminate lessons from the Facility through its knowledge platforms.

Engagement with stakeholders including Civil Society Organisations (CSOs)

EBRD recognises the important role of CSOs in raising awareness and stimulating behavioural change and has engaged with a wide range of stakeholders including local CSOs throughout past urban infrastructure projects.

The Facility's design and implementation are consistent with the Green Climate Fund's requirements for stakeholder engagement and disclosure, as well as the GCF's Criteria for Programme and Project Funding. A Stakeholder Engagement Plan for the Facility, will be developed according to the principles of the EBRD's ESP PR10, will guide communication with and participation of stakeholders, including public disclosure of information, where relevant going beyond the requirements of national/local legislation, as well as meaningful consultation mechanisms. EBRD's stakeholder engagement schemes, such as set out in its Green City Action Plans where the involvement of stakeholders in horizontal and vertical manners is an essential component of the methodology, will ensure that the views and concerns of local stakeholders are adequately reflected and that the Facility's objectives, risks, and results are communicated effectively, ensuring local ownership of the Facility's components and activities. Following a stakeholder-based prioritisation approach opportunities will be analysed to enhance cities' green profile linking economic, social and environmental dimensions.

To increase the ability of local CSOs to meaningfully engage in the above processes, a civil society capacity building component will be included as part of Component 3 'Technical support and knowledge building' (see Section C.3). The CSO component will aim to enhance CSOs' technical knowledge and outreach skills as well as build institutional capacity to transfer skills through Training of Trainers. This will enable CSOs to implement public awareness raising activities and disseminate skills and knowledge among their constituencies and urban populations in general. The capacity building component will be implemented through training, tailored coaching, public events, workshops and social media. Beneficiaries will include a range of CSOs, environmental NGOs, research centres, resident and housing associations (in the case of public buildings), citizen and neighbourhood groups, and local small business associations.

E.6 Efficiency and Effectiveness

E.6. Efficiency and Effectiveness

Economic and, if appropriate, financial soundness of the project/programme

E.6.1. Cost-effectiveness and efficiency

Background

To ensure the effective and efficient provision of urban infrastructures and services, cities and municipal utility companies need all of the following:

1. Identify and align investment priorities with the climate issues affecting cities' current environment and future development, informed by local stakeholder input to define citizens' needs;
2. Regulation, policy or legal environment that sends the right price signal to promote low-carbon, climate-resilient investments and avoid wasteful practices. An example would be cost-reflective tariff/pricing;
3. Analysis of technically and financially feasible and cost-effective alternatives;
4. Attract critical amount of loans and grants for financing capital expenditures on high performing technologies; ensure the amount, pricing, and tenor of those financing are in line with the projected cash flows and the debt capacity of cities;
5. While respecting the principle of minimum concessionality and avoiding pervasive subsidies, cities should ensure to include vulnerable population groups in their service provisions by addressing affordability concerns and considering social safety net mechanisms;
6. Build technical and administrative capacity to design urban services and mechanisms to satisfy both end-users, municipal utility companies, businesses and cities; and capacity to maintain, monitor and update the services on a periodic basis;
7. Improve local capital market and financial conditions to attract investment from multiple sources.

Facility financial structure

The Facility's financial structure and the distribution of financing across its components are designed to address the needs of recipients and multiple market barriers, and consider externalities (see Section B.1). In addition, in countries where this is relevant, the level of concessionality offered by the Facility will reflect IMF requirements on the concessionality of international finance, together with overcoming incremental costs.

- Green City Action Plans and Policy Dialogue (Component 1) are designed in response to the above Point 1 and 2 within this section. The strategy and policy support activities included in Component 1 will help to incite paradigm shifts in urban development models and resource use practices. In response to Point 1, GCAPs will help cities identify priority investment areas and needs of the stakeholders and make climate-informed urban planning and investment decisions.
- In response to Point 2, Policy, regulatory and legal reform, included as a part of the Facility's Policy Dialogue (Component 1) and Green Capital Market Roadmaps (Component 4) will bring fundamental change in the way people use urban services and environmental resources, and help to foster the conditions for cities to invest in their continued green city development. For example, average daily water consumption level in the residential sector in Romania halved from wasteful practices to around recommended levels after EBRD helped introduce cost-reflective tariffs and/or effective metering and billing in the sector. It can be argued that tariff reform contributed to permanently preventing wasteful water use practices.
- In response to Point 3, the Facility proposes loans and incentive grants (Component 2) to cover the necessary amount of capital expenditures (CAPEX). Despite the vast potential, finance for urban infrastructure is insufficient in the region.
- In response to Point 4, the level of investment grants (Component 2) was calibrated to ensure that essential urban services remain affordable for average citizens as well as low-income households and passengers, particularly for climate adaptation measures. In addition, the IMF requirements for the concessionality of international finance were also considered.
- In response to Points 5 and 6, technical support and knowledge building (Component 3) will be coupled with green city investments to ensure the prolonged efficacy of assets and the dissemination of best practices. As a result of Component 3, appropriate institutional and contractual structures will be established; tender preparation and evaluation processes will be in line with local and national regulations as well as GCF and EBRD policies; technical, administrative and vocational training will be carried out.
- In response to Point 7, the Facility's Green Capital Market Roadmaps will help to enhance participation in capital markets through green investments and identify opportunities to mobilise capital from multiple modalities, including in the private sector.

In summary, the structure and volume of the Facility enables a systemic, regional impact, assisting cities and municipalities to plan around the challenges of climate change (Component 1), while providing financing that reflects the needs and constraints of the Facility's beneficiaries (Component 2). Additionally, the technical support and capacity building (Component 3) will fill the gap in skills, experience, and resources to comprehensively assess project assets' performance, target urban investments where they are most needed, and address social and economic needs of the end-users. Last, the Facility will help to establish the conditions to attract investment beyond the Facility's timeline, by building local capacities to engage with capital markets and leverage private sector finance (Component 4).

In addition, the Facility covers most of the GCF's mitigation and adaptation result areas and reaches a very wide pool of beneficiaries – the entire population affected by the improved urban services and infrastructures. Last but not least, the Facility will offer wider environmental and market benefits such as improved air and drinking water quality and the creation of new opportunities to leverage finance.

Minimum concessionality

The Facility's requested level of concessionality from GCF is in line with providing the minimum level of concessionality for beneficiaries. Climate-focused infrastructure investments often have higher upfront costs than traditional technologies, as well

as long return periods. With already constrained budgets and limited access to finance in cities, concessional financial instruments are needed to overcome these additional challenges. The Facility's concessional instruments, including grants, will be calibrated using the Bank's review processes to address the incremental costs of low-carbon and resilient infrastructure, which include i) the higher capital costs compared to baseline, ii) market entry barriers arising from climate technologies' underrepresentation in local municipal sectors, and iii) consider the potential externalities of each project. GCF's concessional instruments, including grants, will enable cities to scale up their investments in low-carbon, climate-resilient infrastructure linked to comprehensive climate aligned investment planning.

While peer institutions' policies provide a strong benchmark for best practice in the use of concessional resources, the Green Cities Facility must also rely on EBRD's internal concessionality approval process to assess the need for GCF funding against the needs of potential borrowers/beneficiaries under the Facility. Unlike IDA and ADB, the EBRD and the GrCF has the potential to lend at a sub-sovereign basis. Therefore, an assessment that provides the context and justification for the use of investment grants at a project level, as EBRD's internal policy provides, is necessary. The EBRD has a robust, internal process for requesting and approving the use of investment grants that meet the GCF's goal to provide the minimum level of concessionality. This is described in detail in Section F.1.

Leveraging Public and Private Investment

The Facility seeks to establish the conditions within cities to enable them to continue to invest in their green city development and realise the visions set out in the Green City Action Plans beyond the Facility's direct involvement. Green City Action Plans ground their investment plans in cities' budgetary realities and priorities. The scope and volume of activities proposed take into consideration the limitations of municipal budgets while identifying additional sources of finance to support investments including national governments, IFIs and the private sector. The success of the GCAP and the Facility, thus, is tied to its ability to not crowd out public or private finance.

Additionally, Component 4 under the Facility focuses on establishing the conditions cities need to enhance their engagement with capital markets and access new opportunities for finance. The Facility will seek to crowd in private sector finance, by identifying opportunities for cities' infrastructure assets to be recognised under green finance markets. The Green Capital Market Roadmaps will also mobilise capital by considering multiple modalities for leveraging private finance including commercial bank loans, ESCOs and potential green bond issuances.

E.6.2. Co-financing, leveraging and mobilized long-term investments (mitigation only)

The specific investment mobilisation ratio will be provided at the project level. At the Facility level, the EBRD, donors and local entities will provide co-financing of EUR 446 – 516 million (See Sections B.1 and E.6.5). The total volume for the Facility is expected to be EUR 674 – 744 million including GCF, EBRD's and additional donor support.

Thus, the GCF contributions of EUR 226.5 million will account for around 31 - 34 per cent of the total financing required to deliver this Facility. In 2017 alone, EBRD's own investments of EUR 1,138 million across 42 municipal infrastructure projects mobilized EUR 2.78 billion of additional finance.

EBRD mobilises capital for municipal and environmental infrastructure through various channels, being: (i) loan syndication and/or co-financing of commercial banks, (ii) IFI co-financing, (iii) public-private partnership and (iv) alternative financing through issue of project bonds or energy service companies.

In light of the diminishing role of commercial bank lenders in infrastructure finance, innovative approaches will be required to complement the traditional sources of finance. In some countries, the legislation allows public institutions such as municipalities and regions to sign long-term Energy Performance Contracts (EnPC) with private companies known as Energy Servicing Companies. EBRD actively support the development of the EnPC market by: providing finance to ESCOs (either directly or through intermediaries); supporting major companies to set up ESCOs, which will initially act as subsidiaries and subsequently be spun off; assisting regions or cities to develop and implement tenders for EnPCs, to be awarded to private sector ESCOs, starting with public buildings and street lighting. In countries where the legislation was recently changed to allow EnPCs, EBRD is working to assist the governments to develop financing mechanisms for energy efficiency measures in urban areas.

PPPs in their various legal structures will continue to be an important means of engaging the private sector in the development of municipal infrastructure and services. An example of such investment mobilisation would be a EUR 1.1 billion investment for the largest integrated health campus financed to date under the Turkish government hospital PPP Programme, in the city of Etlik, Turkey. EBRD's EUR 381 million A/B loan was part of EUR 878 million provided by IFC, BSTDB, DEG, SACE and international and local Turkish commercial banks, who all stretched the tenor to 18 years, a new benchmark for a hospital PPP project. In designing the health campus, a wide range of state-of-the-art energy efficiency and water efficiency measures were adopted.

E.6.3. Financial viability

Mechanisms to ensure financial viability

- Project selection: EBRD will assess the financial soundness of each green city project. Financial and economic internal rate of returns will be calculated for each project as part the EBRD's external due diligence. An economic IRR is intended to determine whether public funds invested in a project bring a net benefit to society whereas it is generally accepted that most sectors covered under the Facility, namely urban transport, waste management, and water and waste water management, are a necessary public good.
- Principal loan terms and security packages are negotiated on a project-by-project basis to mitigate credit risks. EBRD applies sound banking principles in all of its investments, including those that are to be co-financed with GCF under the GrCF. Loan terms may include:
 - Affirmative covenants regarding use of proceeds, procurement methods, ESD compliance, etc.
 - Negative covenants regarding dividend restrictions, maximum permitted capex and indebtedness, financial ratios etc.
 - Relevant conditions precedent to disbursement
 - Representations regarding power and authority of Borrower, and enforceability of the Financing Agreement
 - Provisions regarding repayment, prepayment, etc.
 - Security package required e.g. mortgages, assignments, pledges on movables, bank accounts, shares, etc.
 - Credit support or other financing agreements, as required by the transaction
 - Project agreements on construction, operation, maintenance, supply, offtake, etc.
 - Information provisions including financial information
 - Events of Default.
- At least half of green city infrastructure investments will be coupled with recommendations on financial and operational improvement of recipient companies and municipalities to ensure the sustaining impact of green city investments.

- Where possible these investments will be coupled with regulatory and tariff reforms to bring systemic impact on the investment climate of green city projects

Financial soundness of EBRD's past municipal infrastructure projects

EBRD's existing portfolio of municipal infrastructure projects is largely comprised of direct loans to municipalities and municipal utility companies. The EBRD applies a rigorous credit assessment, which to date has resulted in a low impairment rate of its municipal lending activity. Out of EUR 2.19 billion loans disbursed by MEI to date for green projects, 37 per cent have been repaid (EUR 808 million) with the balance under repayment schedules.

Gradual introduction of cost-recovery tariffs

In low-income municipal areas where the full cost-recovery tariffs are a distant goal, an intermediate step will be to finance a large portion of investments using investment grants while adopting tariffs reflective of operating and maintenance costs in the context of commercialised practices. Full cost recovery will be sought at a later stage once the financial standing of the utility has improved and affordability constraints have loosened.

In countries where most of the population can afford cost-recovery tariffs alongside vulnerable groups that cannot, EBRD will recommend municipalities provide direct welfare support to vulnerable groups rather than set low tariffs for all consumer groups.

E.6.4. Application of best practices

EBRD is committed to applying good international practices to managing environmental and social risks and impacts, and Best Available Techniques to resource efficiency and pollution prevention and control as well as seeking to identify opportunities for additional environmental or social benefits. All projects undergo an environmental and social appraisal, which includes a systematic assessment of financially and technically feasible and cost-efficient options to avoid or minimise project-related GHG emissions during the design and operation of the project. The appraisal process will also seek to identify measures to minimize the consumption of and improve efficiency in the use of energy, water and other resources and material inputs as well as for recovering and reutilising waste materials. Where benchmarking data are available, the appraisal process will make a comparison of the proposed project with good international practices and best available techniques.

Procurement

Procurement of public sector operators and consultants to support the implementation of all of the Facility's components will be governed by the EBRD's internal policies and procedures. These rules apply to goods, works, supply and installation and services contracts financed in whole or in part by the Bank in public sector operations, or by investment grants made available from the Bank's Special Fund resources. At the level of specific projects such as GCAPs or green city infrastructure investments, the Bank recognises that the efficiency of the procurement process directly affects the costs and the time required for project execution and the ultimate performance of the operation. Good procurement practices should lead to significant time and money savings for the Facility's beneficiaries and help ensure successful project implementation and operation.

Procurement for the Green Cities Facility will reflect the Bank's commitment to open and competitive procurement processes, in line with international best practices. The Bank permits firms and individuals from all countries to offer goods, works and services for Bank-financed projects regardless of whether the country is a member of the Bank. Firms and individuals from developing countries as well as from the Bank's countries of operations are encouraged to participate on equal terms and thereby assist their own country's development process. Any conditions for participation shall be limited to those that are

essential to ensure the eligible firm or individual’s capability to fulfil the contract in question. Clients of the Bank will not exclude a firm or individual from competition for a contract for reasons unrelated to its capability to perform the contract. Procurement. More information on these rules can be found in Section F.4.

PPPs: When the Bank is requested to finance a private sector entity that has entered or will enter into a Concession Agreement with a public sector entity, the operation is classified as private sector for the procurement undertaken by the private sector entity being financed (although the Bank recognises that national law or other requirements may impose public sector procurement approaches). This means that the Bank will not require the private sector entity to follow a prescribed procurement method. However, the Bank will satisfy itself that the private sector entity employs sound and cost effective procurement methods, and that contracts awarded by them are negotiated on an arm’s length basis and are in line with market prices.

The Bank will finance Concessionaires only if it is reasonably assured, by thorough due diligence and a review of evidence, that the following criteria (“the Core Criteria”) have been met:

- (i) The process for selecting the Concessionaire has demonstrated sufficient fairness, transparency and competition;
- (ii) The process was free of corruption and in compliance with all applicable laws and regulations, and
- (iii) The outcome in terms of the Concession Agreement itself is fair and reasonable in terms of price, quality and risk sharing in relation to market practice.

E.6.5. Key efficiency and effectiveness indicators

Estimated cost per t CO₂ eq, defined as total investment cost / expected lifetime emission reductions (mitigation only)

(a) Total project financing	EUR 6724 – 744 million
(b) Requested GCF amount	EUR 228 million
(c) Expected lifetime emission reductions overtime	11,923,000 tCO ₂ eq
(d) Estimated cost per tCO₂eq (d = a / c)	EUR 56.52 – 62.39 / tCO₂eq
(e) Estimated GCF cost per tCO₂eq removed (e = b / c)	EUR 19.12 / tCO₂eq

*GCF
core
indicators*

The Facility’s total mitigation figures and mitigation costs reflect the range of activities eligible to receive support under the Facility and the level of development of climate change measures in the Facility region’s municipal sector. The low-carbon, climate-resilient technologies identified and implemented through the Facility represent paradigm shifts in the quality of urban services in beneficiary cities with respect to climate change. The markets for these technologies are nascent in the Facility region’s urban areas. Therefore, cities need to overcome initial cost hurdles associated with introducing new technologies to local markets. The GCF’s instruments will enable cities to address these hurdles. The cost per tonne of CO₂ is integral to enabling the Facility to achieve a sufficient scale of finance for climate technologies in the municipal sector to overcome these initial market impediments.

The Facility’s mitigation costs also reflect its ability to identify and prioritise the specific technologies across multiple sectors that cities need to address their most pressing climate change challenges. With respect to benchmarks for mitigation costs, the Facility’s mitigation costs are the aggregate of multiple sectors all with their own respective benchmarks for performance. The path to becoming a low-carbon city is unique from city to city. The Facility seeks to mainstream the process set out in the GCAP, where cities invest in the mitigation opportunities most relevant to their climate change needs. This logic is thus reflected in the mitigation costs,

where a diverse array of municipal services, from public transport to solid waste improvements, can be financed through the Facility's components.

(c) Expected lifetime emission reductions overtime

A methodology for expected lifetime emission reductions from the Facility's activities is detailed in Section E.1.2

The numbers above are based on EBRD's experience and insights to date. As the GrCF is a Facility, the final results may vary.

Expected volume of finance to be leveraged by the proposed project/programme and as a result of the Fund's financing, disaggregated by public and private sources (mitigation only)

The GCF's EUR 228 million of resources, of which EUR 48 million are grant contributions and EUR 180 million are concessional loans, are expected to leverage EUR 350 million of EBRD loan finance, EUR 36 million from donor sources and EUR 60 – 130 million in local contributions. The GCF's leverage ratio to EBRD and additional finance is projected to be EUR 1: EUR 1.96 to 2.26.

Other relevant indicators (e.g. estimated cost per co-benefit generated as a result of the project/programme)

F – Appraisal Summary

** The information can be drawn from the project/programme appraisal document.*

F.1. Economic and Financial Analysis

EBRD's credit appraisal process

The Borrowing capacity of the lending agency whether it be the sovereign, the City, a utility company or a private entity is subject to detailed due diligence. This due diligence is normally undertaken by the project team, while for larger transactions external consultants will be mobilised. This due diligence is used on a project by project basis to compile a Risk Appetite Statement, whereby borrowing capacity is assessed against core criteria, comprising the following information:

- predictability and strength of the institutional framework;
- financial management of the borrowing entity;
- balance sheet strength,;
- leverage;
- liquidity;
- contingent liabilities; and
- FX and interest rate risk.

The Risk Appetite Statement will, in turn, be used by an assigned Credit officer in the EBRD's Risk department to assess the borrowing capacity of the entity and, if the deal is to proceed, determine appropriate financial covenants for inclusion in the legal documentation with the Bank.

The appropriate structure for each project will be determined through this due diligence and multi-stakeholder feedback to ensure projects are bankable and the identified borrower has sufficient debt capacity, while taking into consideration local regulations for municipal financing. A range of lending structures are eligible under the Facility, detailed further below, and

include direct sovereign financing, sub-sovereign financing at both the City and utility company level (with a sovereign/ municipal guarantee if required), and lending to an SPV of a PPP. EBRD's underlying philosophy is one of lending as close to the cash flow as possible. Hence, in the majority of cases the EBRD loan, with underlying margin, will be to the end user, thus ensuring pass-through. When this is not the case, where the debt service capacity of the beneficiary is insufficient, the Bank will seek a guarantor (either at the municipal or State level) or lend to a higher governing body, who will in turn on-lend and/or on-grant to the final beneficiary. Projects, thus, will be structured to ensure that the offered concessionality is passed through to the final beneficiaries.

Justifying the use of GCF's concessional finance

The EBRD takes a systematic approach to the use of concessional finance. This approach is directed by EBRD internal guidelines that state grants or concessional financing are only to be used where justified so that their use is fully consistent with the Bank's business model and transition-oriented mandate. The application of these guidelines allows the EBRD to manage the risks associated with the use of concessional finance, which include market distortions, the crowding out of private sector finance unsustainability and aid dependency. The EBRD's approach to using concessional finance in conjunction with its own resources is also aligned with the [DFI Blended Concessional Finance for Private Sector Operations](#) principles (October 2017), in respect of both sovereign and sub-sovereign investments.

Carefully designed concessional financing can be expected to introduce better price signals and improve market outcomes. There may also be other forms of temporary barriers to efficient and fair market outcomes due to information asymmetries or a legacy of behaviours that may not be individually or collectively rational but are nevertheless deeply engrained (such as the inefficient use of energy or water). The use of concessional financing may be justified as necessary to achieve a critical mass sufficient to promote a systemic change in attitude and behaviour.

Some projects may achieve substantial environmental benefits and transition impact in situations where such projects could not reasonably be expected to materialise under purely commercial conditions. This applies mainly to services provided by public infrastructure where the cost-recovery price may temporarily exclude certain low-income and/or vulnerable groups. The use of grants or concessional financing in those cases can temporarily alleviate such affordability problems and enable projects with high environmental and structural reform components to materialise.

This approach is consistent with the unique EBRD business model, which is based on paradigm shift (called 'transition' in the EBRD) and aims to support projects that can crowd-in the private sector and/or are based on market principles such as full cost recovery, and pave the way for sustainable and market-supported financing structures. As such, concessional financing will be used in the same manner to promote transitions to market economies while observing the requirement of additionality. Within these objectives, the following principles should be verified:

1. *Market subsidiarity*: The use of concessional financing should be focused on transition objectives and environmental benefits that market-based instruments could not achieve on their own;
2. *Economic viability*: In principle, projects should be viable in the long-term in the absence of subsidies/grants once the identified barrier has been overcome. For public infrastructure projects, the economic rate of return should exceed the financial rate of return and the use of concessional financing should help fill this gap.
3. *Sustainability*: To avoid the creation of subsidy dependency and achieve financial sustainability over time, the reliance on subsidies should decrease over time for a particular country/sector/product.

How EBRD ensures minimum concessionality

The Facility's requested level of concessionality is in line with GCF's principle of providing the minimum amount necessary to make a programme viable and help achieve the GCF paradigm shift objective. The Facility's use of concessional instruments, particularly investment grants, is in line with the GCF concessionality approach to seek the right level of concessionality, so as not to displace investments that would otherwise have occurred, and to tailor the concessional elements to provide the appropriate incentive to facilitate the implementation of mitigation and adaptation activities. Additionally, the Facility's intended use of concessional funding investment grants is in line with the policies of other IFIs, particularly the ADB and IDA/IBRD. The need for concessional support is assessed on a project-by-project basis, as described below.

The EBRD has a robust, internal process for requesting and approving the use of investment grants that meet the GCF's goal to provide the minimum level of concessionality. The EBRD Staff Guidelines for the Use of Concessional Finance products guide the assessment of the use of investment grants and other business enabling finance, such as soft loans and equity, at the project level, considering the market barriers to climate change solutions present in EBRD's countries of operations. Unlike peer institutions that justify the use of grants based on macroeconomic indicators at a national level, this granular assessment of the use of investment grants is well aligned with the level of analysis necessary to appropriately evaluate the needs for concessional resources for the diverse suite of projects eligible under the Green Cities Facility.

Within the EBRD, there are three situations where the use of concessional finance can be justified:

1. **Presence of significant externalities:** There are situations in which markets fail to correctly value the cost or benefit that certain economic activities create on third parties and where carefully designed grants can be expected to improve market outcomes. This can be the case for un(der)-priced environmental externalities, such as water savings, first movers and network effects.
2. **Other institutional and market failures:** There may be temporary barriers to efficient and fair market outcomes due to information asymmetries (for example in small business lending), principal-agent problems, or changing behaviours that may not be individually rational but are nevertheless deeply engrained (such as the inefficient use of energy or water). The need to achieve a critical mass (scope and scale) of operations in order to deliver the expected transition impact will be taken into account.
3. **Affordability constraints on environmental infrastructure:** This applies mainly to services provided by public infrastructure where the cost-recovery price may temporarily exclude certain low-income and/or vulnerable groups. The use of grants can alleviate such affordability problems.

In addition, concessional finance must be deployed in such a way that the use of concessional finance is subject to the same discipline as the use of the Bank's ordinary resources. These principles and criteria are converted into more detailed sector-specific guidance for project teams through standard checklists, covering two types of investments: environmental infrastructure, and sustainable energy and other resource efficiency investments.

Environmental Infrastructure (water, wastewater, solid waste) where the key rationale for the use of concessional finance is the costs and affordability constraints associated with higher environmental standards.

Projects teams are asked to take the following steps to justify the use of concessional finance for Environmental Infrastructure projects:

- **Standards** – identify the gap between the targeted higher environmental standards and associated total project costs under the EBRD-financed project and the counterfactual of a similar investment without EBRD involvement.

- **Cost justification** – demonstrate that EBRD participation (and the use of grants) would improve standards above the country norms and at significantly higher costs and investment needs. The difference in project costs between these two scenarios would be the maximum level of grant that could be potentially justified.
- **Tariff Increase** – calculate the tariff increases that would be potentially necessary to repay the loan and lead to self-sustainable financial conditions (without including the concessional finance). If this tariff is higher than the affordable tariff for the average user, the use of concessional finance is justified for the difference.
- **Affordability analysis for low income households** – should welfare support for low income households be unavailable to prevent tariff increases associated with a project, the affordability test in point (ii) above will be based on low income households. The size of the co-investment grant shall be calibrated to avoid or minimise affordability breaches for the low income households.
- **Economic Viability** – for public sector projects, this would involve performing an Economic Internal Rate of Return (EIRR) analysis and demonstrating a robust EIRR for the project.

Sustainable Energy and other Resource Efficiency Investments (urban transport, municipal energy (district heating/cooling), LED lighting, renewable energy and energy efficiency measures in buildings) where the key rationale for the use of concessional finance are the costs and affordability constraints associated with environmental and first mover externalities, along with other institutional and market barriers.

Projects teams are asked to take the following steps to justify the use of concessional finance for Sustainable Energy and other Resource Efficiency investment projects:

- **Country Context** – countries should demonstrate a commitment to introduce sustainable solutions, where market mechanisms are not expected to represent a viable alternative in the short term, nor in an environment where similar projects are expected to remain dependent on subsidies for a long period to come. Concessional finance should address root causes of market failures.
- **Standards** – minimum performance criteria for the equipment financed by concessional financing instruments should significantly exceed standard practice observed among new projects in the sector (dynamic baseline) and, outside of the EU, be at least as high as the relevant EU standards.
- **Design** - concessional finance cannot be the sole catalyst for undertaking the project but must be necessary to achieve intended objectives. Grants should be designed to facilitate the commercial replication of similar projects without subsidies over time.
- **Size justification** - the level of concessionality should be as low as possible to induce the investment and proportional to the external benefits. In cases where the existence of significant externalities justifies the use of concessional finance, their maximum size should be less than, or at most equal to, the economic value of emissions avoided or resources saved.
- **Economic viability** - projects supported by concessional finance should be economically viable without concessional finance if the externality were priced, i.e., returns assuming appropriate shadow prices should meet standard hurdles.
- **Temporary application** – the level of concessional finance should decrease over successive programmes and projects in a sector to avoid the creation of subsidy dependence and to facilitate the consequence of regulatory and institutional mechanisms towards sustainable market-based solutions.
- **Sustainability** – the project should develop skills and mainstream practices so that the targeted activity will continue beyond the project.

For both Environmental Infrastructure and Sustainable Energy and other Resource Efficiency Investments, EBRD's project teams prepare a justification that includes each item as designated above. Many EBRD Departments have a role to play in ensuring that the level of donor support for a given project is calibrated to the requirements of the project, and, in the case of the Facility, the

level of transformative impact that the project seeks to achieve. The role of each relevant Department in calibrating the appropriate level of concessionality for a given project is shown in the below figure.

Figure 18. Roles and responsibilities for assessing the use of GCF funding for GrCF investments



Peer institutions' policies provide a strong benchmark for best practice in the use of concessional resources, but the Green Cities Facility relies on EBRD's internal investment concessionality approval process to provide an appropriate assessment of the need for grants under the Facility. Unlike IDA and ADB, the EBRD and the GrCF has the potential to lend at a sub-sovereign level. The financial needs of non-sovereign borrowers and the potential market barriers present for the implementation and wider dissemination of urban climate technologies are not assessed in the macroeconomic indicators used in peer institutions' concessional policies. Therefore, an assessment that provides the context and justification for the use of investment grants at a project level, as described above, is necessary.

EXAMPLE APPLICATION OF LEAST CONCESSIONALITY PRINCIPLES – LVIV WASTEWATER BIOGAS CASE STUDY (illustrative)

1. Baseline

The wastewater treatment facilities in Lviv, Ukraine were characterised by underinvestment. The City's two wastewater treatment plants were energy intensive, costly and insufficient in terms of capacity to process wastewater and prevent further pollution of the Poltva River. While the City had made periodic investments to improve its sludge management, the wastewater treatment facilities had not addressed its sludge issues and improved the quality of wastewater processing. The City approached EBRD to finance solutions to its wastewater treatment challenges.

2. Low-emissions, climate resilient option

Through technical support provided through the EBRD, the City assessed the technical and financial barriers to addressing the sludge, energy intensity and pollution issues present at its wastewater treatment facilities. The technical support was able to identify a planned investment programme of novel, low-carbon solutions to transform the quality of the City's wastewater treatment systems. The EBRD helped to support the EUR 31.5 million investment programme that included the installation of a wastewater biogas combined heat and power (CHP) plant, and rehabilitation and modernisation of the wastewater treatment infrastructure. The investments enabled the City to reduce greenhouse gas emissions and achieve significant energy savings by installing a biogas CHP (producing up to 39,400 MWh of electricity and 14,000 MWh of heat per annum) as well as reduce pollution discharged in the local river through the installation of new grit chambers and chemical precipitation plant to improve wastewater treatment.

The biogas facility has significant benefits for the City through energy production, sludge management and subsequent greenhouse gas emissions reductions. The on-site energy production lowers the operations costs of the treatment facility as well as offsets electricity production from other power plants. Sludge processed in the biogas facility is diverted from the baseline maintenance practice of open lagoons, which resulted in high levels of methane emissions. The investment is projected to lead to an annual carbon equivalent savings of 128,600 tonnes per year, and at least 1.5 million tonnes over its lifetime.

3. Use of climate finance with minimum concessionality

The local market failed to price the benefits of the project's emissions savings, while the biogas technology is regionally novel, creating first mover challenges. According to the principles described above, this project warrants concessional finance because of the presence of unpriced externalities and affordability constraints on environmental infrastructure. To help the City overcome the additional costs of this low-carbon technology, EBRD applied for a grant from the Eastern European Energy Efficiency Partnership (E5P). Following the EBRD guidelines, the grant was justified as follows:

- Standards: The priority investments into the upgrade of wastewater treatment infrastructure and installation of wastewater biogas production and cogeneration facilities are expected to bring environmental and social benefits associated with the overall improvement in the quality of treatment, improved energy efficiency, significant reduction of Green House Gas ('GHG') emissions of 128,600 t CO₂ per annum.

- Cost justification: The grant is principally a tool to achieve emissions reduction by stimulating energy saving measures. The grant is also playing a vital role in alleviating the affordability concerns. It is sized in direct proportion to the emissions reduction that is expected to derive from the project.
- Tariff increase: With the implementation of the project and continued policy dialogue with the Regulator the tariffs are expected to cover full cost recovery within 2 years and cover within 4 years.
- Affordability: The affordability analysis indicates that there are no affordability concerns for average income households based on the tariff structure projected by the financial model. However, tariff increases are expected to impose an affordability burden on households belonging to the lower income deciles. Without the concessional financing the affordability breaches would be more significant.
- Economic viability: The EIRR is calculated at 17.1 per cent thereby justifying the investment.

Following this work, the grant was valued at EUR 7,500,000, which was less than the estimated value of the benefits the City realises through the investment, being the energy and emissions savings (~EUR 19 million). Nevertheless, this was enough for the City to choose to invest in the biogas facility and treatment improvements, rather than continue diverting sludge to lagoons.

The need for concessional support was assessed at both Concept Review and Final Review stage and subsequently approved by the EBRD's Board of Directors.

4. Impact of concessional finance on project outcomes

With the grant, the City was able to justify the high upfront capital cost of the biogas facility compared to expanding sludge lagoons, as the project's financing priced in the benefits the City would realise. By combining concessional finance with EBRD's finance, Lviv was able to introduce a transformative technology into its wastewater system to deliver on its climate change ambitions. The project, as a pilot in Ukraine, has a significant demonstration effect in the region, introducing innovative energy efficiency solutions with high environmental benefits. It also demonstrated the co-benefits of such technologies in terms of reduced water pollution, improved health outcomes for the community and demonstrated to the City the financial benefits of scaling up its investment in low-carbon solutions. An estimated 760,000 people in Lviv benefit from the project, as they rely on the wastewater treatment system and Poltva River for drinking water.

F.2. Technical Evaluation

Not applicable at facility level.

F.3. Environmental, Social Assessment, including Gender Considerations

Environmental and Social Management Plan

EBRD has adopted a comprehensive Environmental and Social Sustainability Framework (ESSF) consisting of an Environmental and Social Policy (ESP) and a set of Environmental and Social Performance Requirements. The ESSF is aligned with other IFIs, such as the IFC and Equator Banks. EBRD also maintains Environmental and Social Procedures, which outline the process by which Bank staff process and monitor projects in accordance with the overall ESP framework.

In accordance with EBRD's ESSF, all projects undergo environmental and social appraisal both to help EBRD decide if the project should be financed and, if so, the way in which environmental and social risks and impacts should be addressed in its planning, implementation and operation. The appraisal process also identifies opportunities for additional environmental or social benefits. EBRD seeks with its ESSF and environmental and social appraisal and monitoring processes that projects are designed, implemented, and operated in compliance with applicable regulatory requirements and good international practice.

EBRD has experience of carrying out social assessments. Through instruments such as surveys and focus groups, impacts of activities on different social groups with particular attention paid to more vulnerable groups can be identified and assessed. Appropriate mitigation measures will then be identified and implemented in consultation with the affected group. Furthermore

such assessments can provide opportunities to improve the socio-economic quality of people's lives, by better understanding their aspirations and priorities.

Categorisation

EBRD categorises each project to determine the nature and level of environmental and social investigations, information disclosure and stakeholder engagement required. This will be commensurate with the nature, location, sensitivity and scale of the project, and the significance of its potential adverse future environmental and social impacts. Past and present environmental and social issues and risks associated with project-related existing facilities will be subject to environmental and social appraisal regardless of the categorisation.

A project is categorised as:

- A when it could result in potentially significant adverse future environmental and/or social impacts which, at the time of categorisation, cannot readily be identified or assessed, and which, therefore, require a formalised and participatory environmental and social impact assessment process. A list of indicative Category A projects is presented in Appendix 2 to EBRD ESP.
- B when its potential adverse future environmental and/or social impacts are typically site-specific, and/or readily identified and addressed through mitigation measures. Environmental and social appraisal requirements may vary depending on the project and will be determined by EBRD on a case-by-case basis.
- C when it is likely to have minimal or no potential adverse future environmental and/or social impacts, and can readily be addressed through limited environmental and social appraisal.

Initial Environmental and Social Examinations are carried out where insufficient information is available at the time of categorisation to determine the appropriate category and scope of appraisal.

Category A Projects

Within the Green Cities Facility, projects likely to be categorised as A include: waste-processing and disposal installations for the incineration, chemical treatment or landfill of hazardous, toxic or dangerous wastes; large-scale waste disposal installations for the incineration or chemical treatment of non-hazardous wastes; municipal wastewater treatment plants with a capacity exceeding 150,000 population equivalent; large-scale municipal solid waste processing and disposal facilities. Such activities are also likely to be categorised as I1, defined by the GCF as, "When an intermediary's existing or proposed portfolio includes, or is expected to include, substantial financial exposure to activities with potential significant adverse environmental and/or social risks and/or impacts that are diverse, irreversible, or unprecedented."

Projects categorised as A, or I1, will adhere to a multi-tiered approval process from both the EBRD and GCF Board. Category A projects will be required to meet EBRD's Performance Requirements. All Category A projects will be approved through EBRD's established processes and implemented in line with the Bank's stringent Environmental and Social Sustainability Framework.

Category B and C Projects

All Category B and C projects will be approved through EBRD's established processes and implemented in line with the Bank's stringent Environmental and Social Sustainability Framework. Projects will be required to meet the Bank's Performance Requirements.

EBRD Performance Requirement 10

EBRD recognises the importance of open and transparent engagement between clients, workers, local communities directly affected by projects and, where appropriate, other stakeholders as an essential element of good international practice (GIP) and corporate citizenship. Such engagement is also a way of improving the environmental and social sustainability of projects. In

particular, effective community engagement, appropriate to the nature and scale of the project, promotes sound and sustainable environmental and social performance, and can lead to improved financial, social and environmental outcomes, together with enhanced community benefits. Stakeholder engagement is central to building strong, constructive and responsive relationships which are essential for the successful management of a project's environmental and social impacts and issues. To be effective, stakeholder engagement should be initiated at an early stage of the project cycle.

The Bank's Performance Requirement 10 (PR10), as part of its larger Environmental and Social Policy, requires all projects that are likely to have adverse environmental and social impacts and issues on the environment, workers or the local communities directly affected by the project (Category A) to identify and engage with stakeholders as an integral part of their overall environmental and social management system (ESMS), the project's environmental and social assessment process and the environmental and social management plan.

Projects required to meet PR10 will need to conduct stakeholder engagement on the basis of providing local communities that are directly affected by the project and other relevant stakeholders with access to timely, relevant, understandable and accessible information, in a culturally appropriate manner, and free of manipulation, interference, coercion and intimidation. More information on stakeholder engagement activities and PR10 can be found in EBRD's [Environmental and Social Policy](#).

More information on EBRD's Environmental and Social Management System can be found in Annex 4.

Gender

EBRD has been introducing gender considerations into the development of the green city infrastructure projects so that services meet the needs of all customers, women and men alike, and that both women and men have equal access to employment opportunities. The EBRD's urban infrastructure projects that have incorporated gender have covered urban infrastructure sub-sectors such as urban planning, solid waste, water, urban transport and municipal energy (district heating/cooling). To address gender, EBRD identifies appropriate actions under its investments and undertakes policy dialogue where relevant. Within the green city infrastructure investments, this is achieved by supporting the clients to incorporate gender issues and perspectives into the planning, provision and resourcing of the services (including incorporating gender considerations both into the infrastructure asset design process as well as in the services provision so as to improve the access of both women and men to the services). Additionally, EBRD identifies training and capacity needs, and delivers staff training and support to service providers to increase employment opportunities for women and men. The investment programmes are complemented by gender-responsive stakeholder participation programmes and a focus on increasing women's participation in the governance structures of municipal services for increased awareness of related issues among the population. The EBRD also engages in policy dialogue with relevant stakeholders at national, regional and municipal level as appropriate and in line with the anticipated pipeline.

This approach is in line with EBRD's first Strategy for the Promotion of Gender Equality adopted in 2015¹⁶⁹, which aims to increase women's economic empowerment and equality of opportunity by focusing on three specific objectives: (i) access to services, (ii) access to employment and skills and (iii) access to finance— particularly targeting those countries of operations, regions or sectors that display the largest gender gaps. The EBRD's Environmental & Social Policy, which covers gender impacts from a risk mitigation purpose, expects the EBRD's clients to identify any potential disproportionate adverse gender impacts and to ensure that measures are developed to address them. That said, EBRD's approach to promoting gender equality into its operations is fully aligned with the strategic goals of the Fund's Gender Policy and Action Plan, which requires the fund beneficiaries to ensure that women and men equally contribute to and benefit from activities supported by the Fund and that any potential adverse gender impacts are identified and mitigated.

¹⁶⁹ <http://www.ebrd.com/gender-strategy.html>

The benefits of adopting greener practices will not be achieved and sustained unless the approach incorporates the needs and concerns of both men and women. The EBRD's experience from municipal infrastructure investments points to gender inequalities with regards to access to services, such as urban transport or the provision of water and the management of solid waste, which can impact upon men and women's lives in different ways. If not provided in a customer-responsive manner, more often than not it is women who are disproportionately affected.

It is typically women who spend time collecting water, waiting for refuse collection etc. time that could otherwise be spent in employment or being involved in some form of economic activity. Also, women are often excluded from 'green' jobs due to gender-segregated employment patterns as the bulk of these jobs, such as those involving reducing energy intensity, minimizing waste, improving public transport infrastructure or retrofitting buildings are often male-dominated.

More information on EBRD's Gender Country Profiles, Strategy and Action Plan, and can be found in Annexes 6, 7 and 8.

F.4. Financial Management and Procurement

I. FINANCIAL MANAGEMENT

Financial reporting of the GCF resources

As stated in *Article 10 of the Agreement Establishing the EBRD, Separation of operations*, the 'ordinary capital resources' of the EBRD and the GCF resources as 'Special Funds resources' of the EBRD shall at all times and in all respects be held, used, committed, invested or otherwise disposed of entirely separately from each other. EBRD will thus establish the GCF Special Fund ('the Special Fund') internally, through which all payments from the GCF and repayments to the GCF will pass.

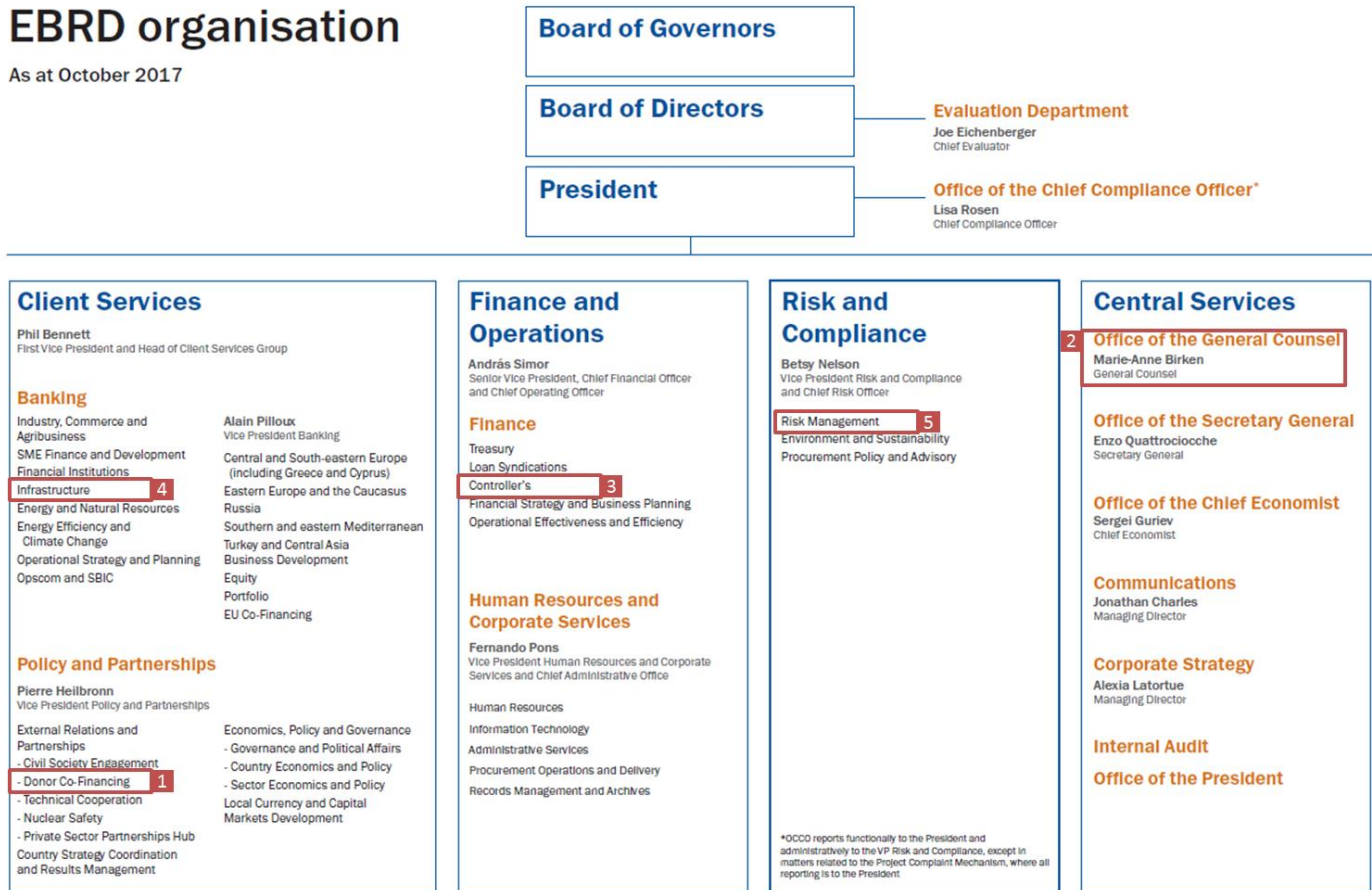
Financial Reporting on the GCF Special Fund will be provided on an annual basis as standard, covering the period January to December inclusive. If more frequent financial reporting is required, this will be subject to negotiations at the time of signing of the relevant funding agreement.

- The Special Fund will be audited on an annual basis. Auditors sign-off will be provided by April each year with the accounts approved by the Board of Governors at the Annual General Meeting of the EBRD. For the Financial management of the Green Climate Fund, International Financial Reporting Standards (IFRS) will be used.
- Portfolio reporting on the use of proceeds of the financing to the cities is reported on the basis of portfolio reporting provided by the cities as governed by the relevant Loan Agreements. By compiling the portfolio reporting and financial reporting on the Special Fund, EBRD will provide a Facility-level financial reporting to GCF.

Figure 19. EBRD organisational structure and the governance of the GCF-EBRD Special Fund

EBRD organisation

As at October 2017



Governance of the GCF Special Fund

In using the resources of the GCF ('Special Fund resources') for this Facility, the EBRD will apply the same internal financial management policies and procedures as are applied when administering technical assistance or making a loan, from its ordinary capital resources. The EBRD will exercise the same amount of care and diligence to 'Special Fund resources' as for its own capital resources. Compliance to the EBRD policies and requirements will be monitored and reported by the EBRD Office of the Chief Compliance Officer (OCCO).

The Special Fund resources will be governed by the EBRD throughout its lifecycle, from receipt, to disbursement, to repayment. Relevant teams at the EBRD for such governance, numbered above, are the Donor Co-Finance team (DCF), Office of the General Counsel (OGC), Funds Accounting team, MEI team and Risk department.

1. The primary control management is exercised by the **DCF team** within the EBRD's Policy and Partnerships Vice Presidency;
2. The **OGC** will assist the DCF for institutional and legal oversight;
3. The **Funds Accounting team in the Controller department** under Finance VP will oversee financial flows and accounting; financial activities with the GCF proceeds will be audited and reported on an annual basis. Auditors sign-off will be provided with the accounts approved by the Board of Governors at the Annual General Meeting of the EBRD.

4. The EBRD's **Municipal and Environmental Infrastructure (MEI) team** will work on the development and structuring of the financial products to be funded with the GCF and EBRD resources under the Green City Framework. In addition, the MEI team will conduct operational monitoring at project level.
5. **Risk department** will be involved from the Facility design stage to assess the level of risks and prepare mitigation measures (e.g. pricing, etc.). Risk team will monitor and report activities and factors that can affect the health of the Facility.

Disbursement of the Special Fund resources

The EBRD has an internal control mechanism to ensure that, before the disbursement of the resources of the GCF and the EBRD, the borrower complies with the applicable conditions.

The process of the disbursement is as follows:

- The EBRD's loan agreement with borrowers and grant agreements specify Conditions of Effectiveness that have to be met before making the loan or grant available.
- Evidence of compliance must be provided including legal opinions.
- Based on the Loan Agreement or Grant Agreement with the EBRD, borrowers will prepare a Drawdown Application to drawdown the loan or grant resources for eligible expenditures. The drawdown application will be immediately recorded in the relevant EBRD systems.
- The authenticity of the Drawdown Application and supporting documents are checked for accuracy and completeness.
- The Operation Administration Department (OAD), a dedicated disbursement control team under the Office of the General Counsel at EBRD, coordinates the processing of each Drawdown Application by checking whether all applicable conditions have been met, any limits adhered to, obtaining all required internal approvals and ultimately authorising to proceed with the drawdown.
- The OAD's functions are supported by bank-wide information systems, which record all the operations data and provide the basis for all general portfolio reporting within the EBRD. Such systems enable bankers and management to access timely and accurate information regarding asset quality and make informed decisions.

Compliance monitoring of the Special Fund resources

Compliance to the applicable policies and requirements of the EBRD and the GCF will be monitored and reported throughout the entire Facility and project lifecycle.

- Before signing the loan agreement: through robust due diligence including environmental and social, financial and integrity and AML/CFT.
- Post signing: compliance check and credit risk monitoring before the processing of each Drawdown Application (disbursement request).

Internal control system of the EBRD

EBRD is committed to the highest standards of corporate governance and applies internationally recognized best practice internal control framework - "[Internal Control - Integrated Framework](#)" issued by the Committee Of Sponsoring Organisations of the Treadway Commission. Based on the criteria for effective internal controls over financial reporting described in the paper, the EBRD assesses its internal controls over resources including Special funds and other fund agreements. As part of the controls, the President and Vice-President Finance sign an assertion in the [Annual Financial Statements](#) of the EBRD that they have assessed the EBRD's internal controls over financial reporting and regard them as being effective. This is subject to scrutiny by the External Auditors who publish an attestation in the Annual Financial Statements commenting on the Management's assertion.

II. PROCUREMENT

Procurement will be carried out under [EBRD's internal policies and procedures and apply to all activities under the Facility.](#)

EBRD's Procurement Policies and Rules (PP&R)

The EBRD aims to help create reliable and stable markets for climate technologies in its regions and thus puts strong emphasis on procurement of relevant goods and services.

The EBRD's Procurement Policies and Rules (PP&R) are designed to promote efficiency and effectiveness and to minimise credit risk in the implementation of the EBRD's lending and investment operations.

Among the EBRD's PP&R¹⁷⁰, three are of particular relevance to this Programme.

Relevant PP&R with regards to the Programme are as follows:

- 3. Procurement Rules for Public Sector Operations
- 4. Procurement in the Private Sector Operations
- 5. Procurement of Consultant Services

Information on EBRD's procurement approach is also covered in E.6.4.

Event of violation of procurement policies and EBRD Enforcement Policy and Procedures

The EBRD requires that clients, including beneficiaries of Bank-financed operations, as well as tenderers, suppliers, contractors, concessionaires and consultants under EBRD-financed contracts, observe the highest standard of transparency and integrity during the procurement, execution and implementation of such contracts. In pursuance of this policy, The EBRD defines prohibited practices, namely coercive practice, collusive practice, corrupt practice, fraudulent practice and theft (PP&R Section 2.9).

Any occurrence, or suspected occurrence, of a Prohibited Practice in the procurement, award, or implementation of a Bank-financed contract in the context of a Project shall be dealt with in accordance with the provisions of The EBRD's Enforcement Policy as defined in the EBRD's Enforcement Policy and Procedures.

G – Risk Assessment and Management

G.1. Risk Assessment Summary

The level of key risks that will affect the Facility's performance are in EBRD's experience generally moderate and expected to be mitigated to a substantial degree by EBRD's established operational tools and control mechanisms. Key risks to this Facility are currency mismatch, compliance to GCF and EBRD procurement rules and policies, implementation and environmental and social risks.

G.2. Risk Factors and Mitigation Measures

Please describe financial, technical and operational, social and environmental and other risks that might prevent the project/programme objectives from being achieved. Also describe the proposed risk mitigation measures.

1. Foreign Exchange Risk

Description	Risk category	Level of impact	Probability of risk occurring
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¹⁷⁰ <http://www.ebrd.com/news/publications/policies/procurement-policies-and-rules.html>

While revenues such as tariff and user fees are collected in local currency, the GCF and part or all of the EBRD loans may be denominated in hard currency. Thus, the burden of making payments to the GCF may be significantly affected by foreign exchange fluctuations.	Financial	High (>20% of project value)	Medium
Mitigation Measure(s)			
<p>Beneficiaries' sensitivities to increases in interest rates and local currency devaluation are closely monitored by EBRD in projects' due diligence, implementation and repayment. Mechanisms to address potential exposure to the increased costs associated with foreign exchange risks will be evaluated on a project by project basis. Such measures to address these risks can include support from municipal or national level authorities and tariff evaluations.</p> <p>Local currency financing is very important since most clients are expected to generate income only in local currency. EBRD has provided local currency loans to municipalities and corporate clients where it is able to source local currency at competitive rates. However, this approach has shown mixed results because while local currency loans do mitigate exchange rate risk, clients still face interest rate risks with a volatility of interest rate usually greater in local currencies than in Euro or United States dollar. EBRD will therefore seek to evolve local currency instruments and promote them prudently, distinguishing between clients able to apprehend and manage macro-risks and those that should be protected through both currency and interest rate hedging.</p> <p>The Facility's flexibility to provide its finance in local currencies, where feasible, will also mitigate foreign exchange risks. By matching the Facility's currency to that of local revenues, beneficiaries will be able to reduce their exposure to potential fluctuations in the value of local currencies that could impair a borrower's ability to service a loan.</p> <p>Availability payments (AP) - often the main source of revenue for debt service for PPPs- will be adjusted for the foreign exchange fluctuations in excess of inflation. This will be done through a foreign currency adjustment mechanism included in the payment mechanism. The effect of exchange rate risk is also partially mitigated by a hard currency 'floor price' for the APs, where APs expressed in foreign currency have a minimum throughout the term of the concession, so in any calculation date the AP cannot be lower than previous APs in hard currency.</p>			
2. Political Risk			
Description	Risk category	Level of impact	Probability of risk occurring
Changes in tariffs and user fees will help to ensure the financial sustainability of the Facility's projects, but may prove politically unattractive for mayors and municipal governments to adopt particularly with respect to re-election.	Other Political	High (>20% of project value)	Medium
Mitigation Measure(s)			
The Bank mitigates this risk in the following ways. First, where appropriate, requiring tariff increases once the investment project is fully implemented thus allowing users to realise the benefits. Second, by respecting affordability constraints and ensuring mechanisms are in place to ensure that low income groups are provided with financial assistance if affordability thresholds are breached. Third, by combining tariff increases with measures to improve the overall operating efficiency of utility companies, which should have a positive impact on costs.			
3. Financial Risk			
Description	Risk category	Level of impact	Probability of risk occurring
Inability of the cities or countries to service the loan	Financial	High (>20% of project value)	Low

Mitigation Measure(s)			
<p>The EBRD's comprehensive due diligence and technical support will mitigate the risk that the borrower may have an inability to service the loan due to insufficient net operating cash flow to meet the debt service.</p> <p>Sub-sovereign loans: Possible tariff increases will contribute to the increase in cash flow and will be covenanted in the Loan Agreements. In addition, Creditworthiness Enhancement Programmes and specific technical assistance will help municipalities to improve their operational and financial performance.</p> <p>Sovereign loans: Where possible and appropriate, loans may be guaranteed by the sovereign. In such cases payments to service EBRD and the GCF Special Fund debt will be prioritised.</p>			
4. Social Risk			
Description	Risk category	Level of impact	Probability of risk occurring
Tariff issues remain politically sensitive and a proportion of low income households are expected to face affordability problems, which might cause both hardship and antagonism.	Social and environmental	Medium (5.1-20% of project value)	Medium
Mitigation Measure(s)			
<p>Affordability analyses and safety mechanisms will be analysed for each project. Based on this analysis a decision will be made on what level of concessional support is needed to support the investment. The EBRD will continue to assess affordability throughout project implementation, together with the City and Company and other relevant authorities (e.g. ministries, regulators). A PIU will help the Municipalities to make gradual adjustment to tariffs.</p>			
5. Environmental and Social Risk			
Description	Risk category	Level of impact	Probability of risk occurring
Beneficiaries' failure to comply with national regulations and/or EBRD and GCF environmental and social policy requirements.	Social and environmental	Medium (5.1-20% of project value)	Low
Mitigation Measure(s)			
<p>Environmental and Social Action Plans will be developed during projects' feasibility studies and the plans' implementation will be covenanted during the project implementation stage. Projects will also be governed by the Facility's Environmental and Social Management System (see Annex 4).</p>			
6. Project Implementation Risk			
Description	Risk category	Level of impact	Probability of risk occurring
Beneficiaries' limited capacity or experience to a. implement green city infrastructure projects; b. improve financial and operational performance; c. Bring tariff or institutional reform	Technical and operational	Medium (5.1-20% of project value)	Medium
Mitigation Measure(s)			
<p>Technical assistance will focus on this area, with extensive training in contractual monitoring to be applied. Signing of the technical assistance assignments and their successful implementation are covenanted in the loan agreement. Experienced international project implementation experts, consisting of the PIU and corporate development programme consultants, will support the beneficiaries offering services including procurement support, construction supervision, reporting standards improvement and overall business administration.</p> <p>A detailed legal and technical due diligence will be carried out to develop robust and sustainable transition measures and milestones, which will be covenanted in the Loan Agreement and the Project Support Agreement. In addition, Corporate Development Programmes will help the beneficiaries to implement the planned reforms in due time and will ensure the quality.</p>			

The comprehensive technical assistance package will include:

- Project implementation support including design, tender and contract supervision,
- corporate development and financial and operational performance improvement programmes accompanying training for the staff of the municipalities

7. Procurement Risk

Description	Risk category	Level of impact	Probability of risk occurring
Municipalities are not familiar with the EBRD's and GCF's Procurement Policies and Requirements and may fail to comply with those requirements.	Technical and operational	Medium (5.1-20% of project value)	High

Mitigation Measure(s)

The Facility will include comprehensive assistance throughout procurement processes including training. Involvement of an independent implementation consultant will ensure the compliance with The EBRD's Procurement Policies and Rules (PP&R) and other policies and contribute in minimising this risk.

EBRD also has its own 'Country Procurement Risk Index' based on the level of compliance with the EBRD Core Public Procurement Principles as assessed in the annual EBRD Public Procurement Assessment and adjusted to take into account the scores from the Transparency International Corruption Perceptions Index 2014.

8. Long-term Implementation Risk

Description	Risk category	Level of impact	Probability of risk occurring
Municipalities do not have the capacities or local conditions to enable further investment in their green city development beyond the Facility's interventions.	Technical and operational	Low (<5% of project value)	Low

Mitigation Measure(s)

The Facility provides cities with the tools they need to continue develop into Green Cities beyond the Facility's timeframe.

- Green City Action Plans (Component 1) offer investment plans for cities to adopt and pursue that take into consideration local budgetary constraints and realistic prospects for attractive external finance to support the GCAP's measures.
- Technical support (Component 2) will provide beneficiaries with the skills and training they need to manage their green city assets, as well as improve their internal operations to improve their ability to attract finance in the future.
- Green Capital Market Roadmaps (Component 4)

Other Potential Risks in the Horizon

Please describe other potential issues which will be monitored as "emerging risks" during the life of the projects (i.e., issues that have not yet raised to the level of "risk factor" but which will need monitoring). This could include issues related to external stakeholders such as project beneficiaries or the pool of potential contractors.

H – Result Monitoring and Reporting

H.1. Logic Framework.

Please specify the logic framework in accordance with the GCF's [Performance Measurement Framework](#) under the [Results Management Framework](#).

H.1.1. Paradigm Shift Objectives and Impacts at the Fund level¹⁷¹

Paradigm shift objectives

Choose appropriate expected result

The numbers below are based on EBRD's experience and insights to date. As the GrCF is a Facility, the final results may vary. Midterm targets assume that the majority of the Facility's investment will occur in the second half of its availability period. This is due to the Facility's systematic approach to identifying investments through GCAPs. The EBRD envisages the first half of the Facility's availability period will focus on developing the beneficiary cities' GCAPs and 'trigger' projects, with the later portion of the availability period focused on translating the identified investment measures into reality.

Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Fund-level impacts						
<i>M1.0 Reduced emissions through increased low-emission energy access and power generation</i>	<i>Municipal Energy (District Heating / Cooling)</i> M1.1 Tonnes of carbon dioxide equivalent (t CO ₂ eq) reduced or avoided	Ex-ante and ex-post analyses	0	.87	2.49 Mt CO ₂ eq.	See Section E.1.2 for a description of the assumptions made to determine the Facility's mitigation potential
	<i>Sub-indicator</i> Number of projects with gender-sensitive energy access power generation	Consultant report	0	1	3	
<i>M2.0 Reduced emissions through increased access to low-emission transportation</i>	<i>Urban Transport</i> M2.1 Tonnes of carbon dioxide equivalent (t CO ₂ eq) reduced or avoided	Ex-ante and ex-post analyses	0	.2	0.58 Mt CO ₂ eq.	See Section E.1.2 for a description of the assumptions made to determine the Facility's mitigation potential
	<i>Sub-indicator</i> Number of projects with low-emission	Consultant report	0	1	3	

¹⁷¹ Information on the Fund's expected results and indicators can be found in its Performance Measurement Frameworks available at the following link (Please note that some indicators are under refinement):

<http://www.greenclimate.fund/documents/20182/239759/5.3 - Performance Measurement Frameworks PMF .pdf/60941cef-7c87-475f-809e-4ebf1acbb3f4>

	gender-sensitive transport					
<i>M3.0 Reduced emissions from buildings, cities, industries and appliances</i> <i>M3.0 Reduced emissions from buildings, cities, industries and appliances</i>	<i>Low-Carbon Buildings, Street Lighting, Solid Waste, Water and Wastewater</i> M3.1 Tonnes of carbon dioxide equivalent (t CO ₂ eq) reduced or avoided	Ex-ante and ex-post analyses	0	3.09	8.84 Mt CO ₂ eq.	See Section E.1.2 for a description of the assumptions made to determine the Facility's mitigation potential
<i>A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions</i>	A1.2 Number of males and females benefiting from the adoption of diversified, climate-resilient livelihood options	Ex-post analyses	0	7.9 million and 4.0 million	23,231,000 million individuals of which 11,799,000 female	Beneficiary statistics disaggregated by gender will be reported to the lowest resolution possible, taking into consideration the data constraints in the Facility's countries and cities.
<i>A3.0 Increased resilience of infrastructure and the built environment to climate change</i>	A3.1 Number and value of physical assets made more resilient to climate variability and change, considering human benefits	EBRD Board Documents	0	2	At least 7 assets made more resilient to climate change impacts	For the purposes of this reporting framework, an asset is defined as a physical infrastructure component such as wastewater treatment facility, water supply network, or major public building, etc.

H.1.2. Outcomes, Outputs, Activities and Inputs at Project/Programme level						
Expected Result	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Facility outcomes	Outcomes that contribute to Fund-level impacts					
M5.0 Strengthened institutional and regulatory systems	M5.1 Institutional and regulatory systems that improve incentives for low-emission planning and development and their effective implementation	Planning and strategic instruments developed	0	6 2	10 GCAPs and 8 Green Capital Market Roadmaps	Cities' reception of the Green Cities Framework's combination of strategic planning with investment and technical assistance will continue to be attractive to cities, as has been the experience to date.
M7.0 Lower energy intensity of buildings, cities, industries and appliances	M7.1 Improved efficiency of buildings and cities as a result of Fund support	Consultant report	0	40 – 60	40 – 60 kWh/m ² savings	
M8.0 Increased use of low-carbon transport	M8.1 Number of additional female and male passengers using low-carbon transport	Ex-post analyses	0	510,000 260,000	1,292,000 passengers 656,00 female	See Section E.1.2 for a description of the assumptions made to determine the Facility's benefit to individuals
A6.0 Increased generation and use of climate information in decision-making	A6.2 Use of climate information products / services in decision-making in climate-sensitive sectors	Green City Action Plan documents, reports from the recipients	0	6	10 Green City Action Plans	
A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	A7.1: Use by vulnerable households and communities of Fund-supported tools, instruments, strategies and activities to respond to climate change and variability (disaggregated by female-headed	EBRD board document, reports from the recipients	0	6	Up to 10 stakeholder engagement and information campaigns with adaptation components within GCAPs	Stakeholder engagement and information campaigns are conducted in a gender sensitive way (i.e. both women and men of different socio-economic and demographic

	households where feasible)					backgrounds are consulted).
Facility outputs	Outputs that contribute to outcomes					
1. City-level green strategy and action plans demonstrated	Green City Action Plans (GCAP) developed	GCAP document	0	6	10 GCAPs	Cities are willing to engage in green city planning and have the capacity to develop planning instruments.
2. Green city infrastructure investments demonstrated	Projects invested and implemented under the Facility (depending on project size)	Disbursement statements from EBRD control team, consultant reports, municipalities' reports	0	7	20	See Section B.1 for a description of how the scale of the Facility will enable the development of 20 investment projects
	Volume of financing for green city measures and technologies		0	196	Up to EUR 560 million of GCF and EBRD finance	Does not include finance leveraged or costs for monitoring, reporting and evaluation
3. Technical support and capacity building for cities and beneficiaries	Appropriate assessments, analyses, programmes, supporting bodies and initial due diligence completed or established	Consultant report	0	100 %	100 per cent of projects	
4. Municipal capital market engagement roadmaps established	Green Capital Market Roadmaps developed	Roadmap document	0	2	At least 8	Cities are willing to engage in planning their capital market engagement strategies
Activities	Description		Inputs		Description	
1.1 Develop Green City Action Plans	<ul style="list-style-type: none"> Assessing baseline urban services and their environmental performance Consulting with various stakeholders 		Financial resources and Policy/technical/public consultation			

	<ul style="list-style-type: none"> Identifying priority investment areas or policy measures to address the city’s current and projected challenges Developing long-term visions and objectives and a short-term politically feasible investment plan to guide a city’s low-carbon and resilient development. <p>Establish consultancy contracts with relevant consultant expert teams</p>	<p>expertise deployed</p>	
<p>1.2 Suggest legal/regulatory/tariff changes</p>	<ul style="list-style-type: none"> Development of relevant framework legislation and related regulations that assist cities to deliver green city actions Establishment of monitoring, verification, enforcement and evaluation systems Introduction of market-based instruments building on global best practices Social safety mechanisms to mitigate impacts of the sector reform or tariff changes on lowest income or vulnerable groups Stakeholder engagement Establish consultancy contracts with relevant consultant expert teams 	<p>Financial resources and Policy/technical expertise deployed</p>	
<p>2.1 Prepare and implement green city infrastructure projects (loans)</p>	<ul style="list-style-type: none"> Conduct due diligence on the capacity of potential borrowers to service loans, level of concessionality needed, and projects’ eligibility for the Facility Enter into loan agreements and associated legal frameworks with relevant project implementers 	<p>Financial resources and technical expertise deployed</p>	
<p>2.2 Prepare and implement green city infrastructure projects (grants)</p>	<ul style="list-style-type: none"> Conduct due diligence on the level of concessionality needed and projects’ eligibility for the Facility’s grant resources Enter into grant agreements and associated legal frameworks with relevant project implementers 		

<p>3.1 Provide technical support and capacity building</p>	<ul style="list-style-type: none"> • Conduct technical, financial, environmental and social due diligence • Assist throughout the procurement and implementation of technologies • Ensure that procurement processes are in line with EBRD and the GCF policies and rules. • Develop corporate development strategies and city governance support programmes • Consult with stakeholders, build their capacity to engage and implement a civil society capacity building component • Provide recommendations for tariff-related cost recovery measures • Provide Implementation and Monitoring support to facilitate monitoring the performance of technologies post implementation • Conduct gender assessments and establish gender baselines • Provide capacity building for gender sensitive service provision • Establish consultancy contracts with relevant consultant expert teams 	<p>Financial resources and Policy/technical/ stakeholder engagement expertise deployed, expertise and skills transfer for municipality capacity enhancement and project implementation</p>	
<p>3.2 Provide knowledge building opportunities</p>	<ul style="list-style-type: none"> • Annual Green Cities forum • Global Platform for Sustainable Cities • Conduct gender focused workshops • Establish consultancy contracts with relevant consultant expert teams 	<p>Financial resources, expertise and skills transfer for municipality engagement and knowledge sharing</p>	
<p>4.1 Develop Green Capital Market Roadmaps</p>	<ul style="list-style-type: none"> • Establish frameworks and conditions for green investment • Build awareness for and identify green finance opportunities • Establish consultancy contracts with relevant consultant expert teams 	<p>Financial resources and Policy and technical expertise deployed</p>	

H.2. Arrangements for Monitoring, Reporting and Evaluation

I. MONITORING

Monitoring for the Facility will be in line with GCF policies. Specifically, the implementation of each project under the GrCF will be managed and monitored at project and Facility level by both EBRD's in-house staff, Project Implementation Units, and procured consultants. The EBRD has dedicated staff in its MEI team, risk departments, Environment and Sustainability Department and regional offices that will conduct due diligence, monitor compliance and performance risks, implementation of the Environmental and Social Action Plan and the stakeholder engagement plans. Consultation with stakeholders, including civil society organisations, is a key element of the project appraisal process as set out by the Bank's Social and Environmental Policy. Through the civil society capacity building component (Component 3), the Facility will ensure community participatory monitoring, involving communities and local stakeholders at all stages of the project/programme cycle from the beginning. Furthermore, participatory monitoring will be included in the project specific stakeholder engagement plans where the consultation process indicates community interest.

II. REPORTING

1. Reporting of municipalities to the EBRD

As specified in Loan Agreements between municipalities and EBRD, municipalities are obliged to report on the use of proceeds of the Facility and the environmental and social performance of the project to the EBRD on an annual basis, including indicators listed in Section H.1.2.

2. Reporting of the implementation consultant to the EBRD

The implementation consultants will officially report progress on a periodic basis to EBRD staff throughout the Facility's lifecycle.

3. Reporting of EBRD to the GCF

Once the EBRD receives reporting from municipalities and consultants, the EBRD will identify discrepancies, perform quality assurance checks and reconcile the data. Based on this, and the review of the stakeholder engagement plans, the EBRD will provide a Facility-level report to the GCF.

The EBRD will provide to the GCF a) annual activity performance reports on the status of GCF funded activities throughout the relevant reporting period, b) mid-term evaluation reports at the midpoint of the implementation period of the Facility and c) final evaluation reports at the end of the implementation period of the Facility:

- a. Annual performance reports, including the disbursements made during the relevant period, the implementation status of the Funded Activity and the monitoring of results and impacts of such Funded Activity.
- b. Mid-term reviews will be performed to assess the performance of the Funded Activity against the GCF investment framework and consider alignment of the Facility against its objectives and identify any adaptive management actions necessary for the Facility to achieve its objectives.
- c. Upon completion, projects will be subject to the EBRD formal evaluation process, and a final evaluation in line with GCF requirements. The GCF final evaluation approach will assess achievement of the Facility's overall impacts and objectives from a GCF perspective. A final report prepared by the independent EBRD Evaluation Department (EvD) sets out the results and impacts achieved relative to key EBRD metrics, as well as their sustainability, scalability and lessons learned, during the relevant period.

The evaluation methods for mid-term and final evaluations will include:

- Key informant interviews with relevant beneficiary staff and clients, as well as other key stakeholders, based on stakeholder mapping. This will likely involve site visits selected on a sample basis to verify the achievement of key Facility indicators.
- Desktop review of relevant Facility documentation, including Project Implementation Unit reports, based on an agreed list of evidence to be provided by the client.
- Focus group discussions, where such a format is necessary to complete the evaluation, may be required to engage a full cross-section of stakeholders. The need to undertake such a discussion will be determined in consultation with the independent evaluator for each evaluation assignment.

Impacts will be reported to the GCF through the indicators reporting required for all projects as set out in the Loan Agreements and EBRD staff or contracted consultants responsible for monitoring the impacts of the Facility where consultant reports of EBRD Board Documents will be used as a means of verification.

Outcomes will predominantly rely on EBRD staff or contracted consultants to monitor and report on the indicators using the means of verification specified above. Number of passengers will be reported in line with the reporting arrangement established in loan agreements with beneficiaries.

Outputs will be monitored in line with the means of verification described above as provided either by consultants, the Bank's treasury department or municipalities. Both EBRD staff and contracted consultants will be responsible for ensuring the Bank fully and successfully reports all listed indicators and information to GCF.

III. EBRD EVALUATION

1. Project evaluation by the PIU and EBRD in-house staff

Throughout the Facility's lifecycle, both the EBRD in-house staff and PIUs will evaluate the success and risks of projects in line with GCF requirements.

A final report of each project will include review and evaluation of the financial and technical performance of projects, capacity building results, climate mitigation and adaptation impact, as well as donor visibility and marketing outreach. Final report will be prepared by the PIU and EBRD in-house staff.

2. Project or Programme level evaluation by the independent EBRD Evaluation department

The independent Evaluation Department (EvD) evaluates the performance of the EBRD's completed projects. The Evaluation Department is a department independent of the EBRD's various banking divisions (and hence of the developers and managers of the projects they evaluate); therefore, EvD reports solely to the Board of Directors (i.e. to the representations of the shareholding governments). The EvD evaluates the effectiveness, relevance and input efficiency of projects and provides the Board with important insights into the implementation of projects, impacts, success stories and lessons learnt. Under the EBRD's Public Information Policy, EvD publishes summaries of its independent project evaluations. Evaluation costs that relate to compliance over and above EBRD requirements are included in the Accredited Entity fee budget for the Facility.

I - Annexes

I. Supporting Documents for Funding Proposal

Mandatory supporting documents:

- Annex 1. Map indicating the location of the Facility
- Annex 2. NDA No-objection Letters
- Annex 3. Timetable of the Facility's implementation
- Annex 4. Environmental and Social Management Framework and System (ESMFS) of the Green Cities Facility
- Annex 5. Indicative list of green city infrastructure investment measures
- Annex 6. Overview of gender issues in the Facility's countries
- Annex 7. Gender strategy and advisory services in the Green Cities Facility
- Annex 8. Gender Action Plan: Gender Advisory Services activities and expected results
- Annex 9. Indicative budget for the Gender Action Plan
- Annex 10. Case studies on the promotion of gender equality in green city investments
- Annex 11. CONFIDENTIAL
- Annex 12. Executive summary of the Green City Action Plan development manual
- Annex 13. Initial Due diligence template
- Annex 14. Green City Action Plan of Tbilisi, Georgia
- Annex 15. EBRD Green Economy Transition Handbook
- Annex 16. Green City Action Plan indicators
- Annex 17. CONFIDENTIAL
- Annex 18. CONFIDENTIAL
- Annex 19. CONFIDENTIAL
- Annex 20. CONFIDENTIAL

Supporting documents not applicable for this proposal:

- Feasibility Study
- Appraisal Report or Due Diligence Report with Recommendation
- Evaluation Report of the baseline project

** Please note that a funding proposal will be considered complete only upon receipt of all the applicable supporting documents.*