



City Climate
Finance Gap Fund



World Bank City Climate Finance Gap Fund

ANNUAL REPORT FISCAL YEAR 2023

July 1, 2022, to June 30, 2023

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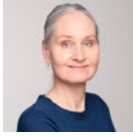
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Abbreviations and acronyms

AMC	Ahmedabad Municipal Corporation
BMWK	Federal Ministry for Economic Affairs and Climate Action
BMZ	Federal Ministry of Economic Cooperation and Development of Germany
C40	C40 Cities Climate Leadership Group
CCFLA	Cities Climate Finance Leadership Alliance
EIB	European Investment Bank
EOI	Expression of Interest
FY	Fiscal Year
GAM	Greater Amman Municipality
GCOM	Global Covenant of Mayors for Climate and Energy
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GHG	Greenhouse Gas
GIS	Geographic Information System
GIZ	German Agency for International Cooperation
ICLEI	Local Governments for Sustainability
IFC	International Finance Corporation
LCCAP	Local Climate Change Action Plan
LCVN	Low Carbon Vital Neighborhoods
LG	Local Government
LMIC	Low- and Middle-Income Country
LUCI	Leadership for Urban Climate Investment
LUX	Luxembourg Ministry of the Environment, Climate and Sustainable Development
MDTF	Multi-Donor Trust Fund
NBS	Nature-based Solutions
NDC	Nationally Determined Contribution
SWM	Solid Waste Management
TA	Technical Assistance

Foreword



Cities, as drivers of growth and development, have been a key contributor to climate change. Approximately 70 percent of global greenhouse gas (GHG) emissions come from activities in urban areas. At the same time, cities are vulnerable to the impacts of weather disasters and climate-related hazards, which tend to be significant in low- and middle-income countries where urbanization is not well managed. However, cities also provide an opportunity for climate action. They can be reshaped to promote low carbon and climate resilient urban development. Growing international awareness of climate change has resulted in the efforts of many cities to integrate climate considerations in their planning processes.

The City Climate Finance Gap Fund (Gap Fund) is a collaborative initiative between the European Investment Bank (EIB) and the World Bank, aimed at addressing the technical challenges faced by cities in low- and middle- income countries (LMICs) in their efforts to combat climate change. The Gap Fund's primary motivation is to bridge the gaps that often hinder cities from implementing ambitious climate action plans. The Gap Fund empowers cities to undertake sustainable infrastructure projects, reduce emissions, and enhance their resilience in the face of a changing climate by providing much needed technical support in the early project stages.

This report provides an overview of the activities carried out by the World Bank Gap Fund during the fiscal year (FY) 2023. It highlights the technical assistance grants awarded and features the impact of those grants that were finalized in FY23. It details the outreach and knowledge exchange events organized, as well as the technical knowledge products developed to enhance the capacities of cities and shareholders on climate smart urban development. In addition, the report provides a snapshot of the key activities that will be implemented during FY24 to continue to foster climate action in cities.

We are grateful for the support received from our donors, the German Federal Ministry for Economic Affairs and Climate Action of Germany (BMWK); the Federal Ministry for Economic Cooperation and Development (BMZ); and, the Luxembourg Ministry of the Environment, Climate and Sustainable Development (LUX), our implementing partner, EIB, as well as our city network partners including the Cities Climate Finance Leadership Alliance (CCFLA), the C40 Cities Climate Leadership Group (C40), the Global Covenant of Mayors for Climate and Energy (GCOM), and Local Governments for Sustainability (ICLEI).

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Executive Summary

This annual report presents the implementation progress and results of the World Bank Gap Fund over FY23, which covers the period from July 1, 2022, to June 30, 2023. During FY23, it supported more than 100 cities in six regions to become low carbon and climate resilient through technical assistance (TA), generating knowledge, and organizing knowledge sharing events.

Under Track 1 activities, it approved TA grants totaling EUR 5.3 million (approximately USD 5.6 million) to help 59 cities in more than 17 countries transform their climate ambitions into finance-ready projects. The grants support cities in Bangladesh, Bolivia, Brazil, Cambodia, Central African Republic, Côte d'Ivoire, India, Jamaica, Jordan, Lebanon, Palestine, Tajikistan, Tanzania, Thailand, Türkiye, Uganda, and Vietnam. They are helping prioritize low carbon investments and measures to address climate risks; identify and prioritize nature-based solutions (NBS) for urban development; develop city level frameworks to promote low carbon modes of transport; assess low carbon technologies for solid waste management (SWM); and identify contributors to the heat island effect and measures to mitigate it.

Nine TA activities were completed, covering Cambodia, Colombia, the Democratic Republic of Congo, India, Mexico, Panama, the Philippines, Ukraine, and Yemen. These activities helped cities identify ten high impact, low carbon, climate resilient urban projects totaling more than USD 600 million, of which eight have been taken up for further preparation.

Under Track 2 activities, the World Bank Gap Fund produced three technical notes, including: (i) Smart City Solutions for Climate Mitigation; (ii) Carbon Crediting and Urban Climate Change Mitigation: Assessing Potential Impacts; and (iii) Greenhouse Gases – A Primer for Urban Practitioners. Additionally, it organized its first in-person knowledge exchange events, reaching out to more than 30 cities alongside five virtual webinars. The “Low Carbon Cities Workshop,” was held in Bangkok, Thailand; followed by the “Technical Deep Dive on Cities and Climate Change” in Yokohama, Japan; and the “Technical Workshop on Cities and Climate Change in Sub-Saharan Africa” was hosted in Mombasa, Kenya.

During FY23, the World Bank Gap Fund initiated, implemented, and supervised a recipient-executed grant to the Global Covenant of Mayors for Climate and Energy (GCOM) to raise awareness among cities about the Gap Fund, support them to identify programs and projects, and organize capacity building activities on the type of support available and process to prepare and submit an application. As part of the initiation of the grant, GCOM hosted a training of trainers to strengthen the capacities of GCOM’s team of global and regional focal points and enhance their knowledge about the Gap Fund.

In FY24, the World Bank Gap Fund will continue to advance its city level TA under track 1 with a target of 20 to 25 new grants to be approved. It will advance technical capacities by scaling up track 2 activities including the development of technical notes and the co-production of two flagship reports, which will be finalized over the course of FY24 and FY25. It will leverage partnerships to continue raising awareness about the Gap Fund and organize learning and knowledge exchange activities on low carbon and resilient urbanization at the city, regional, and global levels.



I. Introduction

The Gap Fund is a multidonor initiative established in September 2020 that aims to help cities in developing and emerging countries realize their climate ambitions by turning low carbon and climate resilient ideas into strategies and finance-ready projects. The World Bank and the European Investment Bank (EIB) jointly implement the Gap Fund. Each institution administers a Multi-Donor Trust Fund (MDTF) in close partnership with city networks and other key partners including: C40 Cities Climate Leadership Group (C40); Global Covenant of Mayors for Climate and Energy (GCOM); Local Governments for Sustainability (ICLEI); and Cities Climate Finance Leadership Alliance (CCFLA).

This annual report summarizes the progress made by the World Bank Gap Fund during FY23, which started on July 1, 2022, and ended on June 30, 2023.

Section 1 provides an overview of the Gap Fund, its mission, and objectives as well as governance and implementation arrangements.

Section 2 presents the implementation progress of the World Bank Gap Fund activities under Track 1—technical support for low carbon and climate resilient city development; and Track 2—partnerships, knowledge generation, and information sharing.

Section 3 presents the progress made in FY23 on the World Bank Gap Fund results framework.

Section 4 provides an overview of the contributions to the World Bank Gap Fund and expenditures as of the end of FY23.

Section 5 presents a brief overview of the planned activities for FY24 including technical support, knowledge management, and partnerships.



I.1 Program context – cities and climate change

Cities must be at the center of both climate change adaptation and mitigation efforts. Rapid urbanization in low- and middle-income countries (LMICs) has been poorly managed thus far, resulting in a high proportion of the world's population being vulnerable to extreme weather events. The global urban population is projected to increase by 2.5 billion by 2050. Nearly 90 percent of this growth is concentrated in Asia and Africa, increasing the share of the world's population living in urban areas to 75 percent.¹

Urban areas face disproportionate impacts of climate change, including flooding and extreme heat. More than a billion people are expected to be at risk from coastal-specific climate hazards by 2050. Sea level rise increases in tropical cyclone storm surges, and more frequent and extreme precipitation will increase the number of people, area of urban land, and damages from flood hazard. Most of the population exposed to heatwaves will live in urban centers, which will experience higher temperatures than surrounding areas owing to the urban heat island effect. Even at 1.5°Celsius warming, 350 million urban residents will face water scarcity due to severe droughts; at 2°Celsius warming this figure increases to 410 million affected people.

Vulnerability and exposure to climate hazards are increasing most rapidly in cities that have the lowest adaptive capacity, including in LMICs. This significantly constrains cities' ability to provide basic services, maintain infrastructure, provide adequate housing, and ensure resident's livelihoods and health. Within cities, it is often the most marginalized populations that are the worst affected by climate impacts, such as residents of informal settlements, low-income residents, the elderly, and people with disabilities.²

Efforts to successfully limit global warming hinge on cities' ability to lead in reducing greenhouse gas (GHG) emissions. The share of global GHG emissions that can be attributed to activities in urban areas has increased from 62 percent in 2015 to 67–72 percent in 2020.³ While cities in LMICs contribute to a very small fraction of global emissions at present, the combination of rapid urbanization and economic growth could result in a surge in emissions from these cities in the coming decades unless action is taken to set them on low carbon trajectories today.

In addition to growth in urban emissions from transportation, residential and commercial energy use, and waste, urban expansion results in increased emissions related to the deforestation and the use of carbon intensive materials for buildings and infrastructure. Urban areas could triple in size by 2050. Scaling up investments in low carbon urban infrastructure will be essential to achieve the goals of the Paris Agreement that aim to limit the global temperature increase to well below 2°Celsius as well as strengthen climate change adaptation and resilience.

¹ United Nations. 2018. Revision of World Population Prospects. Available on: <https://www.un.org/en/desa/2018-revision-world-urbanization-prospects#:~:text=Today%2C%2055%25%20of%20the%20world's,increase%20to%2068%25%20by%202050>

² Intergovernmental Panel on Climate Change. 2022. Sixth Assessment Report. Chapter 6: Cities, Settlements, and Key Infrastructure. Available on: <https://www.ipcc.ch/report/ar6/wg2/chapter/chapter-6/>

³ Intergovernmental Panel on Climate Change. 2022. Sixth Assessment Report. Summary for Policy Makers. Mitigation of Climate Change. Available on: https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII-SPM.pdf

Cities face challenges in achieving low carbon and climate resilient urban development. An estimated US\$93 trillion of sustainable infrastructure needs to be built by 2030 – more than 70 percent of which will be built in urban areas. This low carbon investment entails higher capital expenditure required upfront for newer but costly technology to improve energy efficiency in buildings and power generation. It also includes anticipated efficiency gains and savings from transitioning to more energy efficient urban development, reducing fossil fuel subsidies, and adopting more sustainable infrastructure solutions.⁴ New infrastructure could cost LMICs anywhere between two and eight percent of GDP per year up to 2030, depending on the quality and quantity of service aimed for and the spending efficiency achieved to reach this goal.⁵

Future emission trends will depend on whether infrastructure built in cities is aligned with the planetary boundaries⁶ or whether investment decisions are made that lock in an unsustainable, high carbon emitting and highly climate vulnerable development. However, with the right policies, investments of 4.5 percent of GDP will enable LMICs achieve the infrastructure-related sustainable development goals and stay on track to contain the average global temperature increase to 2°Celsius.

Cities offer major opportunities to reduce global GHG emissions and bolster climate change resilience. The Cities Climate Finance Leadership Alliance (CCFLA) published a report with the support of the Gap Fund, that stated GHG emissions in cities can be reduced by almost 90 percent by 2050 with technically feasible, widely available measures, potentially supporting 87 million jobs in 2030 and generating a global economic dividend of US\$24 trillion.⁷ The International Finance Corporation (IFC) estimates that the waste, water, renewable energy, electric vehicles, public transport, and green buildings sectors in emerging markets alone represent sustainable investment opportunities amounting to US\$ 29.4 trillion by 2030.⁸

National governments, cities, and public and private financial institutions are increasingly acknowledging the importance of cities for climate action and starting initiatives to address barriers to access climate finance. More than 6,000 cities – representing 20 percent of urban residents worldwide – are signatories of GCOM and have developed climate action plans. Nevertheless, city governments face challenges to ensure climate smart urban development. These include limited capacity, lack of technical knowledge, and lack of access to upstream and downstream financing. Even if cities have drafted preliminary climate diagnostics or action plans, many do not have the means or capacity to take the next step.

⁴ The Global Commission on the Economy and Climate. 2014. Chapter two: Cities, Engines of National and Global Growth. Available on: <https://newclimateeconomy.report/2014/cities/>

⁵ Rosenberg Julie and Marianne Fay. 2019. Beyond the Gap: How Countries Can Afford the Infrastructure They Need while Protecting the Planet. Sustainable Infrastructure Series. Available on: <https://elibrary.worldbank.org/doi/abs/10.1596/978-1-4648-1363-4>

⁶ Planetary boundaries refer to the limits to maintain the Earth's atmosphere, oceans, and ecosystems in balance. Beyond these limits the earth system may not be able to self-regulate and cause irreversible damages in the environment.

⁷ CCFLA. 2021. The State of Cities Climate Finance. Available at: <https://www.climatepolicyinitiative.org/wpcontent/uploads/2021/06/2021-State-of-Cities-Finance-Executive-Summary.pdf>

⁸ IFC. 2018. Climate Investment Opportunities in Cities. An IFC Analysis. Available at: <https://www.ifc.org/wps/wcm/connect/875afb8f-de49-460e-a66a-dd2664452840/201811-CI0C-IFC-Analysis.pdf?MOD=AJPERES&CVID=mthPzYg>

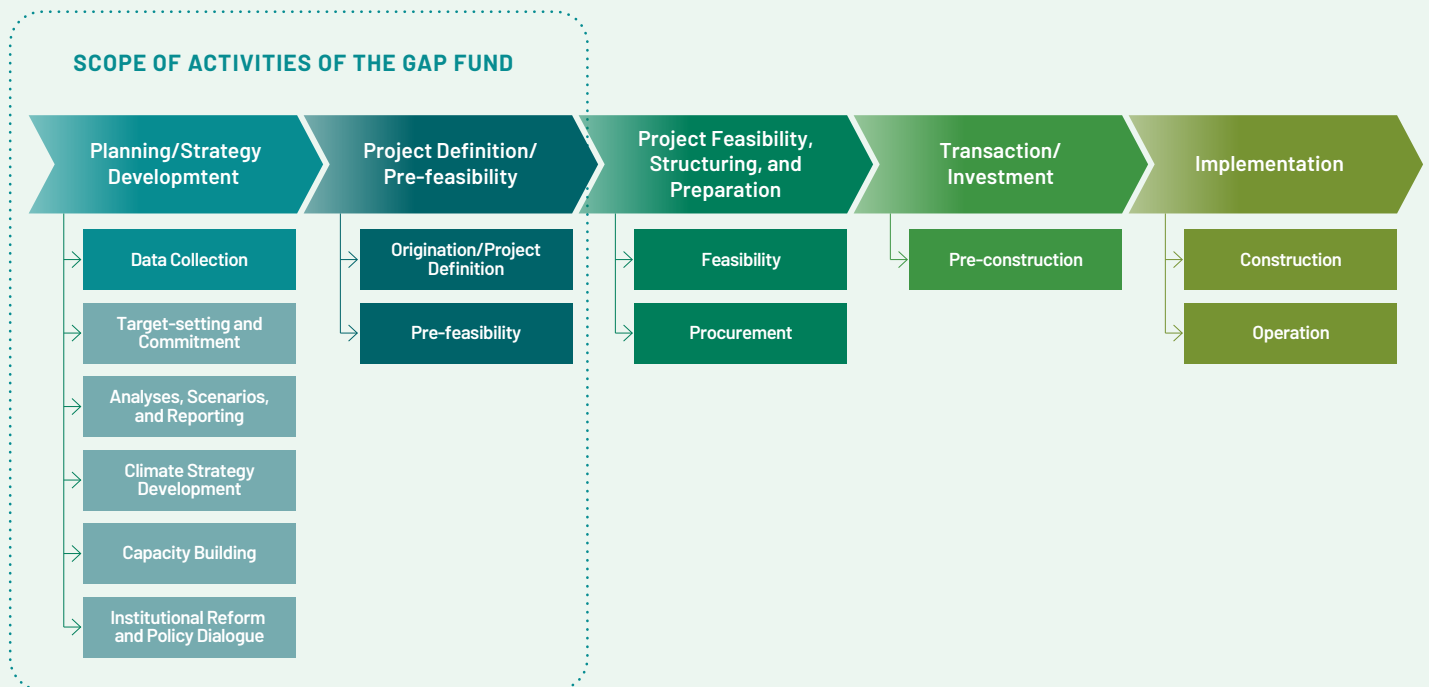
I.2 Gap Fund mission and objectives

The development objective of the Gap Fund is to help cities in LMICs transition toward low carbon and climate resilient pathways, in line with global efforts to limit the temperature increase to 1.5°Celsius above pre-industrial levels. It aims to increase funding for early stage project preparation, helping cities address climate adaptation and mitigation, along with capacity gaps at the municipal level.

In its efforts to achieve these goals, the Gap Fund assists cities (figure I-1) in the early stages of project preparation to:

- Develop city level climate change strategies and generate in-depth analytics to assess potential of plans, strategies, and investment programs to address climate change.
- Identify and prioritize low carbon and climate resilient investments.
- Define project concept and components of prefeasibility studies.
- Develop financing strategies and identify financing sources for climate smart urban infrastructure investments.
- Build capacity for low carbon and climate resilient urban development.

FIGURE I-1: SCOPE OF SUPPORT PROVIDED BY THE GAP FUND



Source: Gap Fund (2021).



I.3 Gap Fund governance and implementation arrangements

The Gap Fund provides support to cities through two implementing agencies: EIB and the World Bank, which bring a unique mix of long-standing expertise in sustainable development, climate finance projects, and urban development. Each implementing agency administers a MTDF with strong coordination between the two under a “One Gap Fund” architecture (figure I-2) related to partnerships, governance, and implementation.



Partnerships: The Partnership Forum provides a platform for sharing experiences and expertise and exchanging information and ideas between key players in the city climate finance arena to inform the overall strategy and direction of the Gap Fund.



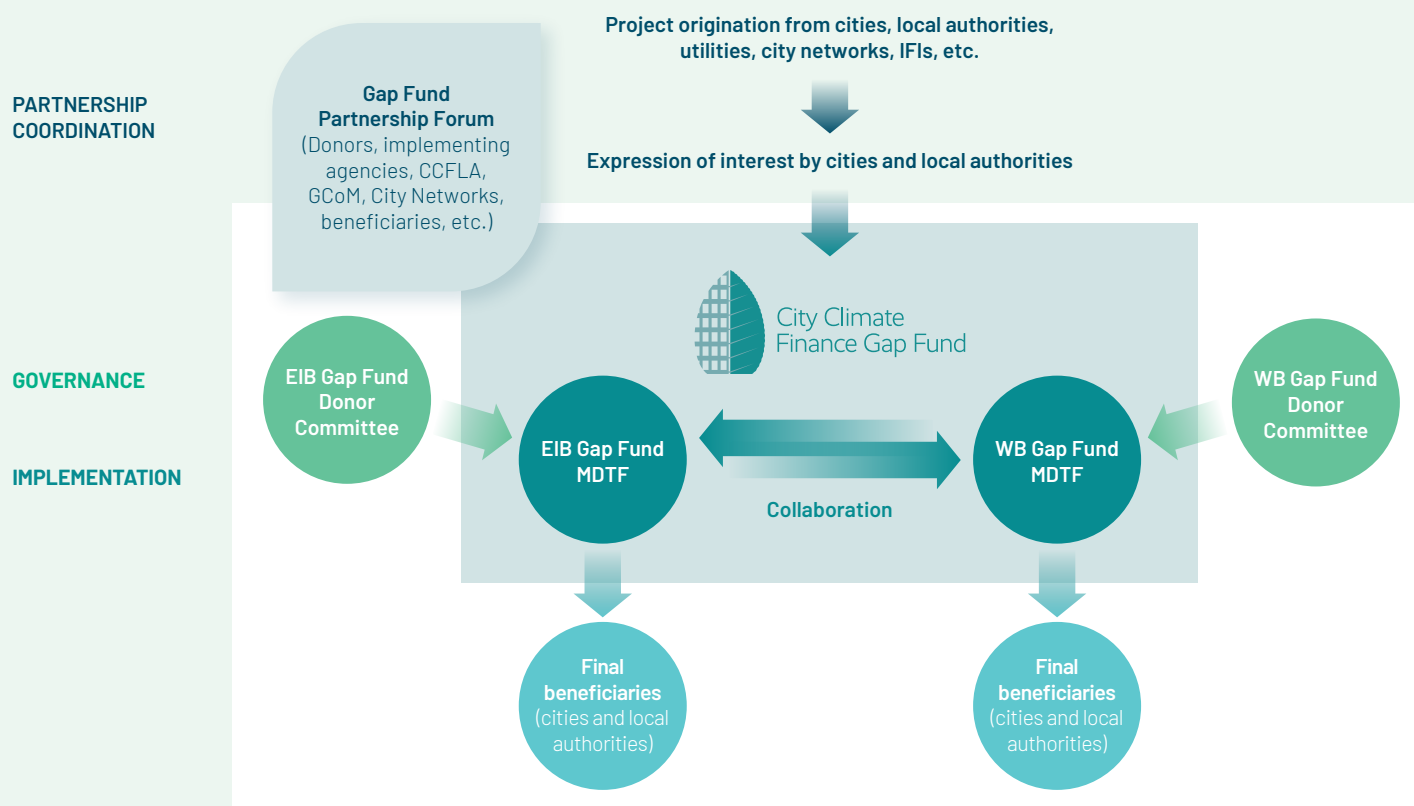
Governance: Donors provide strategic direction to the two MTDFs through their respective donor committees. They are held in parallel with cross participation from EIB and the World Bank as observers in each other’s donors committee to ensure coordination and consistency between the two MTDFs. The committee meets annually, although meetings with donors are organized periodically to inform on the progress of the Gap Fund.



Implementation: EIB and the World Bank coordinate implementation along with other key partners, including city networks, to ensure integrated outreach, selection, and support mechanisms under the “One Gap Fund” architecture. This includes:

- Joint outreach, communication, and knowledge sharing activities, which are organized in partnership with city networks and other key partners.
- One Gap Fund website, which offers information on the Gap Fund, including information on how to submit an expression of interest (EOI) to request funding for technical assistance (TA), knowledge resources on climate smart urban development, and information on TAs that are being implemented.
- Coordination mechanisms between EIB and the World Bank to screen and assess EOIs and discuss further processing by one of the two MDTFs. These decisions are taken jointly during bimonthly meetings of the two Secretariats.

FIGURE I-2: GAP FUND STRUCTURE



Source: Gap Fund (2021).

I.4 World Bank Gap Fund activities

Activities of the World Bank Gap Fund are organized into three tracks.

- **Track 1** – Technical support for low carbon and climate resilient city development, supports cities in the development or update of climate strategies, plans, and policies; the identification and prioritization of climate smart investments; and early stage preparation of climate smart urban projects.
- **Track 2** – Partnerships, knowledge sharing, and standardization aim to strengthen technical capacity and partnerships for city climate action. Activities supported under this track contribute to develop flagship reports, technical notes, and organize knowledge sharing events including webinars, workshops, and annual meetings of the Gap Fund Partnership Forum.
- **Track 3** – Program management and trust fund administration support the World Bank Gap Fund program. It facilitates annual work programming, monitoring and evaluation, coordination between stakeholders, reporting, and trust fund administration and governance in accordance with the World Bank's policies and procedures.



Konya, Türkiye

II. Status of Implementation of World Bank Gap Fund Activities

This section provides an overview of the track 1 and 2 activities that the World Bank Gap Fund carried out in FY23.

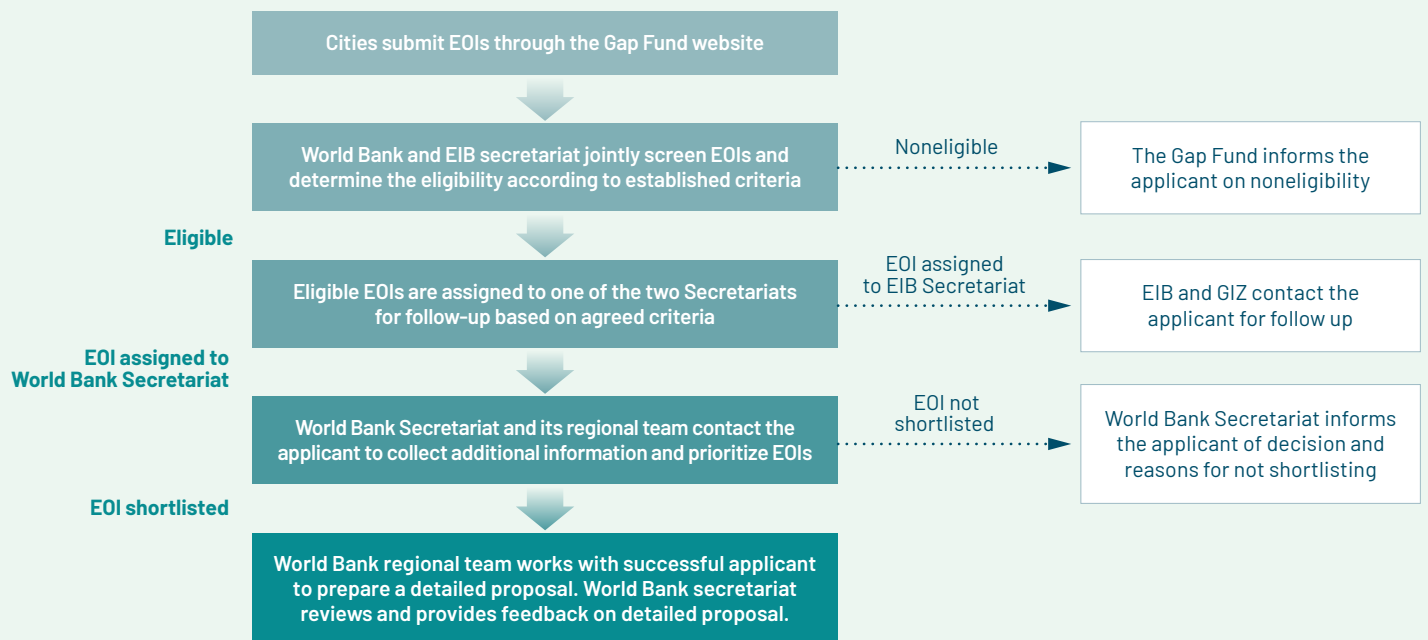
II.1 Track 1 – Technical support for low carbon and climate resilient city development

The Gap Fund proactively facilitates demand from a broad range of cities for support on climate change strategy formulation and analytics, focusing on the high potential for climate impact.

EXPRESSIONS OF INTEREST RECEIVED

The Gap Fund accepts expressions of interest (EOIs) on a rolling basis through the Gap Fund website⁹ where applicants can access EOI forms and identify the city’s existing climate change plans and studies on climate change, indicate the type of support requested, and assess the eligibility of the proposed activity. EIB and the World Bank then screen the EOIs submitted during bimonthly meetings under the guidance of eligibility criteria (figure II-1).

FIGURE II-1 OVERVIEW OF THE GAP FUND EOI REVIEW PROCESS

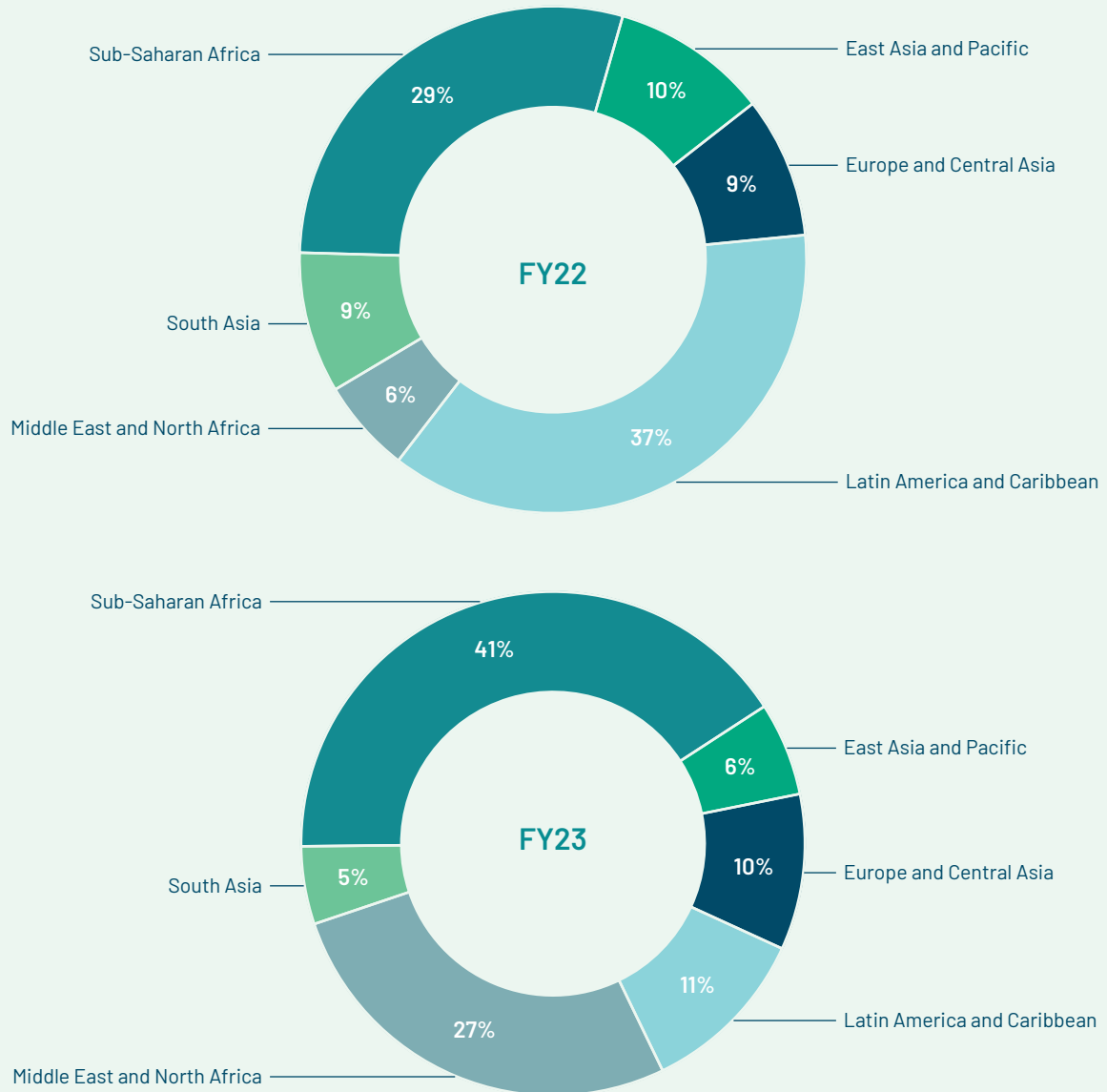


Source: Gap Fund (2021).

⁹ City Gap Fund Website: <https://www.citygapfund.org/>

The Gap Fund received and screened 371 EOIs between its inception to end of FY23. During FY23, it received 128 EOIs, as had occurred the previous financial year during which it received 127 EOIs. The regional distribution¹⁰ of EOIs received changed between FY22 and FY23 with a decrease in the number of EOIs received from Latin America and an increase in the number of EOIs received from Middle East and North Africa in FY23 (figure II-2).

FIGURE II-2: REGIONAL DISTRIBUTION OF EOIS RECEIVED IN FY22 AND FY23



Source: World Bank Gap Fund (2023).

¹⁰ This report uses the regional definitions outlined in the following link: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>

Of the 128 EOIs received and screened in FY23, 56 EOIs were eligible for support. An analysis of these EOIs determined that the most frequent reasons EOIs were not eligible for support include:

- Eligibility of the applicant (47%): EOIs submitted by an individual or a private entity with no direct link with a city administration.
- Other reasons for ineligibility (22%): Incomplete EOIs, multiple submissions on the same request, request for project implementation support, among others.
- Lack of a clear climate or urban focus (19%): EOIs requesting support for project preparation without identifying a specific focus on climate change mitigation or adaptation or focusing on rural areas.
- Lack of specific request (11%): EOIs that do not clearly state the support requested from the Gap Fund.

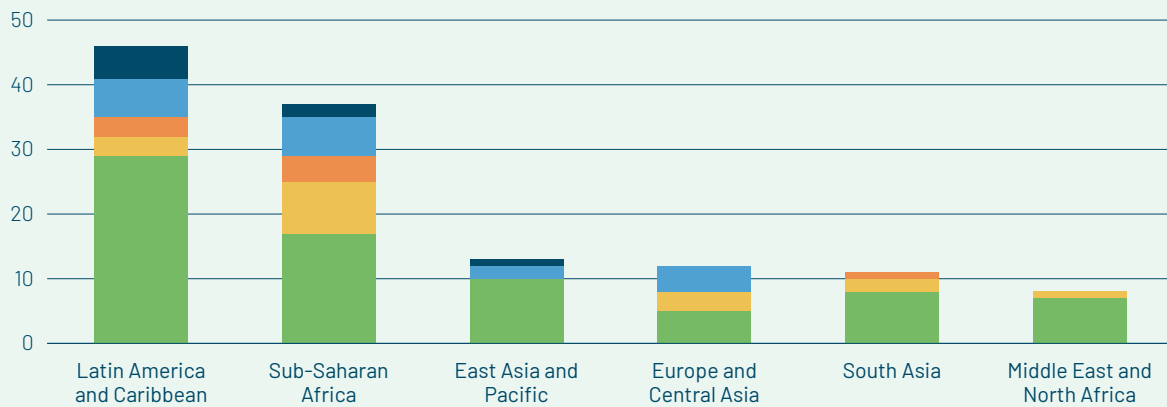


Bogotá, Colombia

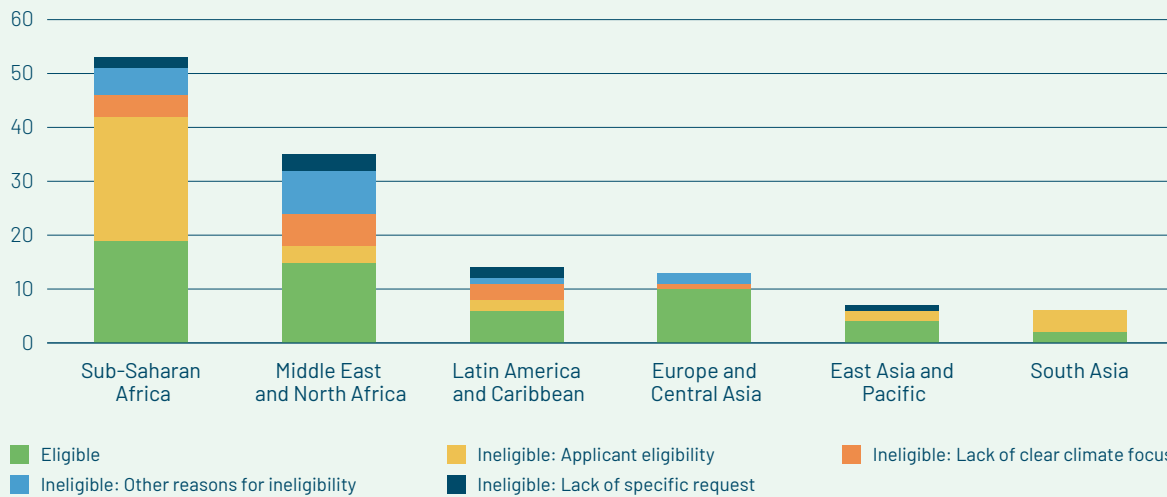
A further assessment of EOIs suggests eligibility changed across regions in FY23 (figure II-3). Sub-Saharan Africa and Middle East and North Africa accounted for the largest share of EOIs submitted, which was more than 60 percent of EOIs received. EOIs from Europe and Central Asia, Latin American and the Caribbean, East Asia and Pacific, and South Africa accounted for only 30 percent. Among the EOIs deemed eligible, those that originated in Europe and Central Asia had the largest share.

FIGURE II-3 EOIS RECEIVED BY REGION AND ELIGIBILITY IN FY22 AND FY23

FY22



FY23



Source: World Bank Gap Fund (2023).

The World Bank Gap Fund will continue to work with partners and cities to guide and advise preparation of EOIs through capacity building activities and participation in events organized by partners to present the Gap Fund.

TECHNICAL ASSISTANCE ACTIVITIES APPROVED IN FY23

During FY23, the World Bank Gap Fund approved 18 technical assistance grants totaling EUR 5.3 million (approximately USD 5.6 million) to help 59 cities in more than 17 countries to transform their climate ambitions into finance-ready projects. The grants approved in FY23 are supporting cities in Bangladesh, Bolivia, Brazil, Cambodia, Central African Republic, Côte d'Ivoire, India, Jamaica, Jordan, Lebanon, Palestine, Tajikistan, Tanzania, Thailand, Türkiye, Uganda, and Vietnam.

Map II-1 provides a regional overview of the TA activities approved by the World Bank Gap Fund in FY23.

MAP II-1: TA ACTIVITIES APPROVED BY WORLD BANK GAP FUND IN FY23



Source: World Bank Gap Fund (2023).

The following section provides a summary of TAs approved by the World Bank Gap Fund in FY23 and the activities they are supporting.

AFRICA

Nature-based solutions to address climate change in Bangui and multiple secondary cities (Central African Republic): This grant supports the identification and prioritization of investments in NBS in Bangui and selected secondary cities such as Bambari, Berberati, and Birao. It focuses on: (i) data collection and mapping of local vegetation, flood levels, and local topography to identify potential locations for NBS opportunities; (ii) implementation

of participatory planning activities to develop NBS-informed neighborhood development plans; and (iii) prioritization of NBS investments. Further, it analyzes prioritized NBS to develop design and implementation guidelines.

Integrating nature-based solutions in Abidjan’s drainage masterplan (Cote d’Ivoire):

This grant supports the integration of NBS into Abidjan drainage master plan and specific investments in urban drainage. It focuses on: (i) the identification of NBS opportunities; (ii) the provision of technical recommendations on the types of NBS to be prioritized, co-benefits of the different types of NBS, and (iii) locations for implementation. Furthermore, it supports the identification of potential NBS to deliver the activities mapped in the drainage masterplan and the development of prefeasibility studies for priority NBS interventions. Additionally, this grant enhances the capacity of city officials by providing training on integrating NBS into urban infrastructure and their maintenance.

Developing a city level framework to promote low carbon transport and waste management infrastructure in Dar es Salaam (Tanzania):

This grant supports the development of a city level framework for non-motorized transport and the identification of investments on recycling, resource recovery, and energy generation to reduce GHG emissions in the solid waste management (SWM) sector. It focuses on: (i) recommending best routes and infrastructure options for non-motorized transport for different user groups and market segments; (ii) developing prefeasibility studies for preferred routes and infrastructure options; (iii) preparing terms of reference for the development of Dar es Salam’s strategy for non-motorized transport; (iv) recommending low carbon SWM technology options; and (v) prioritizing SWM investments to reduce GHG emissions.

Scaling up low carbon and resilient investments in Kampala and 22 cities (Uganda):

This grant supports the mainstreaming of climate change adaptation and mitigation in municipal investments by local governments in the Greater Kampala Metropolitan Area and local governments supported under the Uganda Support to Municipal Infrastructure Development Program. It supports the development of an investment menu for low carbon and climate resilient subprojects in different sectors including SWM, roads and infrastructure for non-motorized transport, and stormwater drainage infrastructure. Each category of a subproject will be assessed to identify opportunities to increase resilience and reduce GHG emissions. A screening tool will be developed to identify and prioritize investments based on their contribution to climate change adaptation and mitigation. Furthermore, the TA supports the development of technical guidelines for priority subprojects categories.

EAST ASIA AND THE PACIFIC

Identifying and preparing climate smart investments (Cambodia): This grant supports six cities – Battambang, Kampot, Kep, Poipet, Siem Reap, and Sihanoukville – in developing city level strategies to prepare and implement climate smart investment programs. These are achieved through the assessment of existing plans, strategies, and investment programs to reduce climate risks and GHG emissions. Additionally, it supports the six selected cities to identify climate smart infrastructure and service delivery needs through: (i) the provision of planning and policy recommendations on climate smart urban development; (ii) prefeasibility studies for subprojects; and (iii) financing strategies to assess finance needs and potential financing sources.

Low carbon investment planning (Thailand): This grant supports six cities in Thailand – Bangkok, Khon Kaen, Chiang Mai, Phuket, Rayong, Nakhon Sawan – to mainstream climate change into city investment planning and to implement low carbon interventions. It supports Bangkok’s local government: (i) identify and prioritize low carbon investments based on their costs and potential for reducing GHG emissions using IFC’s APEX tool¹¹; (ii) consider the objectives stated in the city’s master plan on climate change; (iii) assess municipal policies and planning measures to enhance the impact of low carbon investments; and (iv) identify potential financing mechanisms to implement the investments identified. Furthermore, this grant supports the assessment of the market size and enabling environment to: (i) implement low carbon interventions, including energy efficiency, renewable energy, and electric mobility in Bangkok, Chiang Mai, Khon Kaen, Nakhon Sawan, Phuket, and Rayong; and (ii) provide technical recommendations for short- to medium-term low carbon interventions in each of these cities.

Identifying and planning low carbon investments in Ho Chi Minh City: This grant supports the Government of Ho Chi Minh City in the development of a low carbon city dashboard to provide user interface for four models – energy efficiency retrofits, e-motorbikes, rooftop solar, and LED streetlighting – that enable decision makers better understand the expected financial and economic impacts of various approaches to climate smart investment identification and execution. It supports the development of two additional models that will be integrated into the dashboard. Furthermore, through capacity building and knowledge exchange activities, this grant fosters knowledge on planning to mobilize capital for policies and investments that scale up efforts to address climate impacts and to frame investments based on resilience trends and opportunities that leverage carbon finance.

EUROPE AND CENTRAL ASIA

Supporting Dushanbe’s transition to a low carbon solid waste management system (Tajikistan): This grant helps identify and assess options for low carbon waste management in Dushanbe. It includes a technical assessment of its solid waste collection system and an analysis of the existing landfill. In addition, it supports the development of recommendations for upgrading the collection system and the identification of options for improving the city’s landfill, including landfill gas capturing systems.

Identifying climate smart investments for urban development (Türkiye): This grant supports the development of city level climate investment plans in Antalya, Balıkesir, Konya, Malatya, and Osmaniye. For each city, the TA includes the review of existing green growth and resilience strategies, baseline GHG emissions assessments and identification of potential actions for GHG emissions reduction. It further supports the prioritization and costing of investments, estimates the impacts of the investments identified in GHG emissions, and other socioeconomic indicators of urban development.

¹¹ Advanced Practices for Environmental Excellence in Cities (APEX) is a software that helps identify and prepare climate-smart investments in four key areas: energy water, waste, and public transport. APEX harnesses data insights from advanced green practices around the world and cities’ climate change action plans to create tailored solutions for cities.

LATIN AMERICA AND THE CARIBBEAN

El Alto Bike plan (Bolivia): This grant supports the development of El Alto's bicycle infrastructure plan and cycling promotion strategy. The development of the bicycle infrastructure plan reviews technical, legal, and financial conditions to promote cycling in El Alto. The plan examines local best practices for cycling promotion and an origin and destination survey and analyses and evaluates pre-existing infrastructure design standards. It also reviews: (i) development of new infrastructure design criteria; (ii) cost – benefit analysis; (iii) a proposal for a cycling infrastructure network design; and (iv) implementation strategy for the long, medium, and short terms. In addition, the TA supports the development of a communication and stakeholder engagement strategy to promote cycling in El Alto.

Porto Alegre climate action plan (Brazil): This grant supports the municipal government of Porto Alegre to develop its climate action plan. It includes a baseline diagnostic of vulnerability and climate change risks, a study on water sector vulnerabilities to climate change, and a participative process to identify and prioritize actions to reduce GHG emissions and adapt to climate change.

Integrating low carbon infrastructure and NBS in Kingston waterfront improvement project (Jamaica): This grant supports technical inputs to promote low carbon construction practices, non-motorized transportation, and NBS into the conceptual design of Kingston's waterfront improvement project. The TA includes: (i) recommendations on clean construction standards and tools to be applied to the waterfront improvement project, and (ii) identification of opportunities to reuse construction materials from existing infrastructure. It identifies opportunities and supports the development of design guidelines to integrate NBS. Finally, it identifies a pipeline of low carbon and resilient investments to upgrade basic infrastructure in the district adjacent to the waterfront.

MIDDLE EAST AND NORTH AFRICA

Strengthening Amman's local framework for low carbon urban development (Jordan): This grant supports the Greater Amman Municipality (GAM) to identify reforms that would increase its ability to shape more efficient compact growth and to finance investments in climate smart infrastructure. It includes: (i) a comprehensive review of Amman's land use planning and legal framework to support efficient, sustainable, compact, and climate smart urban planning and development; (ii) the identification of critical actions and reform areas, (iii) a diagnosis of the financial sustainability of the municipality, and (iv) the development of recommendations for a sustainable financing framework for green investments identified in the Amman climate action plan and GAM's 2022 – 2026 strategic plan.

Greater Beirut green urban recovery and development strategy (Lebanon): This grant supports Greater Beirut formulate a strategy and identify priority investments for sustainable and climate resilient urban recovery. Through a multistakeholder participatory process, the strategy will identify, prioritize, and integrate urban resilience and climate change mitigation thematic sectors. Moreover, the grant helps identify, prioritize, and scope a series of pilot projects to strengthen climate mitigation and resilience of key urban sectors in Greater Beirut.

Gaza City urban heat island mitigation strategy (Palestine): This grant supports the identification of key contributors to the urban heat island effect in Gaza City and the development of a strategy for heat island mitigation. It focuses on: (i) the development of an urban heat map, using satellite data on land surface temperatures and wind speed simulation mapping; (ii) the assessment of the social impacts of heat islands; (iii) the identification and cost estimate of interventions in the short, medium, and long term; and (iv) tools, methods, and policy proposals for heat island mitigation. Furthermore, it supports capacity building of municipal authorities to implement the recommendations outlined in the strategy, as well as to incorporate them into urban planning practices.

SOUTH ASIA

Planning for low carbon and resilient urban development in Basail, Milandah, and Rajshahi (Bangladesh): This grant supports three cities in Bangladesh develop low carbon and climate resilient urban development strategies. For each city, the TA includes the development of potential urban growth scenarios and the assessment of climate risks, urban heat, and GHG emissions in different scenarios. The strategies developed for each city will identify priority investments for low carbon and resilient urban development and it will include recommendations for financing and implementation of the proposed investments. Moreover, the TA supports the development of guidelines for other urban local governments in the country to incorporate climate smart growth in capital investment plans, annual budget, operation, and maintenance.

Chennai's solid waste management plan (India): This grant supports Chennai's city government prepare its first 20-year SWM masterplan. This includes: (i) the assessment of climate smart technologies for SWM and their applicability in the context of Chennai; (ii) the development of sector specific metrics to track progress in implementing the masterplan; and (iii) modeling GHG emissions and reduction from the implementation of the masterplan. In addition, it provides support designing four pilot interventions on waste minimization and dry waste management value chain.

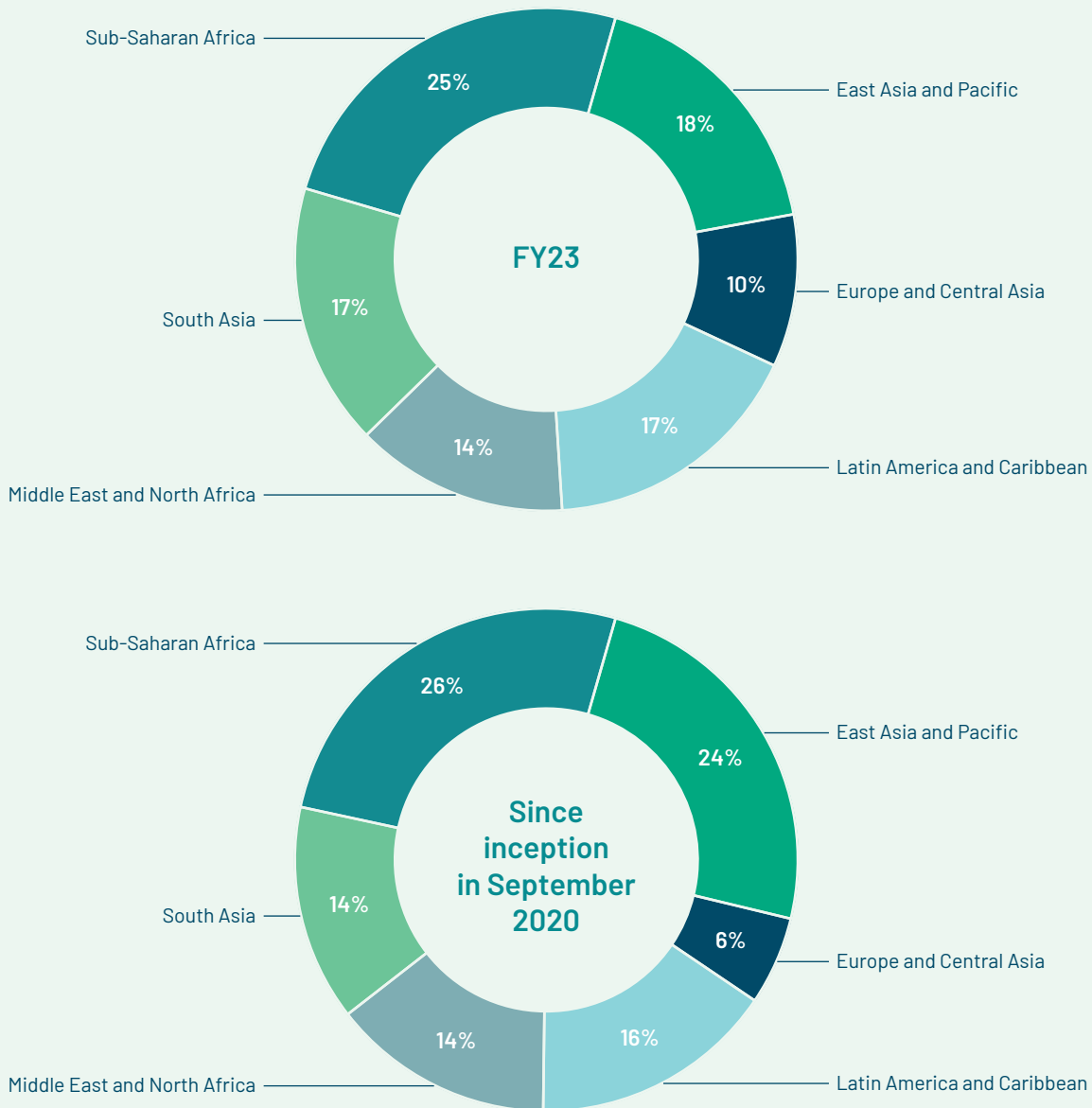
City level climate smart SWM plans in Meghalaya (India): This grant supports the State Government of Meghalaya develop its SWM strategy and low carbon and climate resilient SWM investment plans for three municipalities – Cherrapunjee, Shillong, and Tura. It focuses on: (i) a diagnostic of the sanitation infrastructure in Meghalaya; (ii) a state level review of existing SWM policies, guidelines, and regulatory framework to implement SWM projects; (iii) the assessment of the demand for SWM services; (iv) the analysis of existing SWM practices; and (v) the identification of service delivery and infrastructure gaps across the SWM value chain. This grant further supports the assessment and strengthening of existing customary institutional systems in the delivery of climate smart urban services.

Figure II-4 provides the regional breakdown of track 1 TA activities approved in FY23 and since the Gap Fund's inception in September 2020.

A quarter of the approved amounts went to Sub-Saharan Africa, where four activities supported 28 cities. South Asia, Latin America and the Caribbean; and East Asia and Pacific together accounted for half of the approved grant amounts. These grants supported

eight countries in the three regions including five cities in South Asia, three cities in Latin America and the Caribbean, and 14 cities in East Asia and Pacific, along with Europe and Central Asia, accounted for 14 and 10 percent of the amounts approved respectively. In the Middle East and North Africa, the grants supported three cities in three countries, whereas in Europe and Central Asia they supported six cities in two countries.

FIGURE II-4: REGIONAL BREAKDOWN OF APPROVED GRANT AMOUNTS IN FY23 AND SINCE INCEPTION



Source: World Bank Gap Fund (2023).

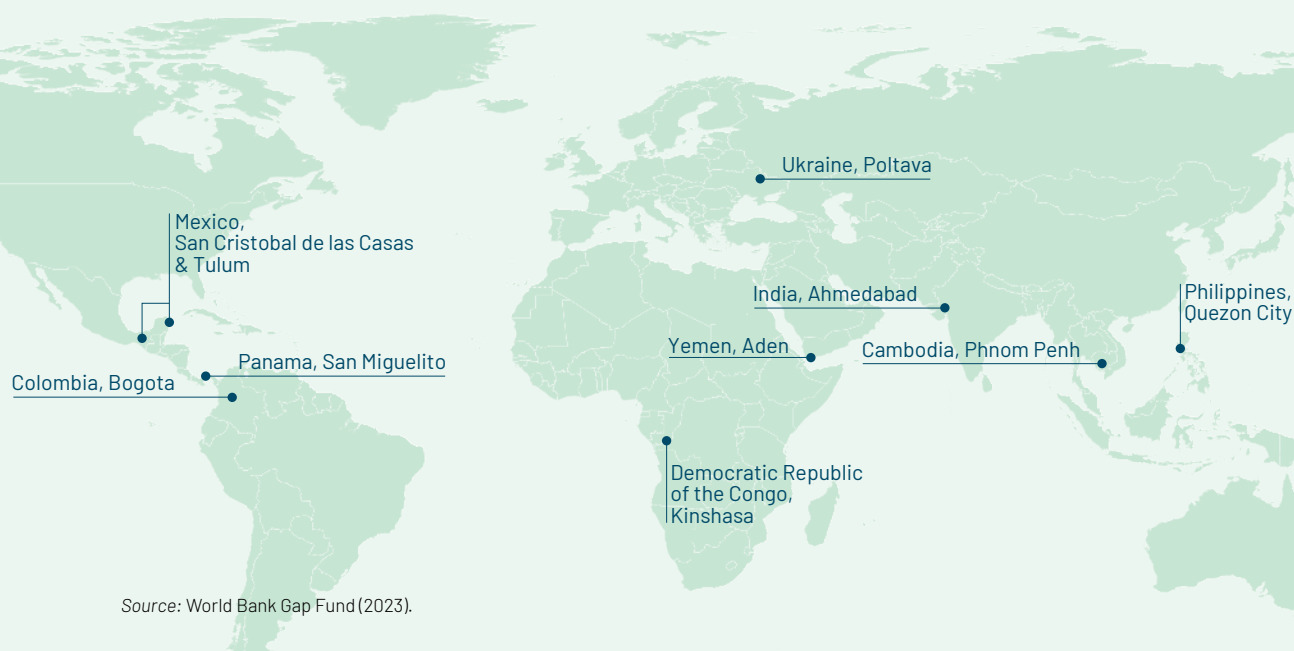
TECHNICAL ASSISTANCE ACTIVITIES COMPLETED IN FY23

The World Bank Gap Fund supported the following nine TAs, which were completed in FY23:

- Investments identified and prioritized in nature-based solutions in Kinshasa, Democratic Republic of Congo.
- Urban planning strengthened and actions identified that address climate change in Phnom Penh, Cambodia.
- Climate smart city investments and e-bus infrastructure identified for Quezon City, Philippines.
- Low carbon and resilient urban recovery strategy in Poltava, Ukraine.
- Low carbon vital neighborhoods promoted in Bogota, Colombia.
- Climate action plans for San Cristobal de las Casas and Tulum and climate smart urban design guidelines, Mexico.
- Climate smart interventions identified around the new cable car infrastructure in San Miguelito, Panama.
- Climate resilient and low carbon reconstruction in Aden, Yemen.
- Low carbon and resilience municipal service delivery in Ahmedabad, India.

Map II-2 provides a regional overview the TA activities completed by the World Bank Gap Fund in FY23.

MAP II-2: TA ACTIVITIES COMPLETED BY THE WORLD BANK GAP FUND IN FY23



The section below provides a summary of the activities carried out and the results achieved under each completed TA.

AFRICA

Identification and prioritization of investments in NBS in Kinshasa (Democratic Republic of Congo): The rapid population growth and unplanned urban development has worsened climate and environmental challenges in Kinshasa, including increased exposure to the urban heat island effect, decreased water quality for urban agriculture, soil contamination, and greater exposure to climate hazards.

Kinshasa sought to address these challenges by seeking Gap Fund’s support to develop a strategy to integrate NBS in urban development. Gap Fund’s technical assistance involved: (i) data collection and mapping of natural assets; (ii) identification of potential NBS locations; (iii) quantitative analysis to measure the carbon sequestration potential of each NBS identified; and (iv) the selection, costing, and prioritization of NBS interventions per potential location. Furthermore, it supported the conceptualization of pilot projects for erosion control in the Kin Elenda basin.

Through this technical assistance activity, the Gap Fund helped the local government increase their understanding of NBS opportunities, including potential costs and strategic investments sequencing. The NBS strategy identified investments, estimated at a cost of US\$153 million, and it informed the city’s investment program and priority investments in the Kimwenza neighborhood, taken up for financing under the World Bank’s Kin Elenda project.



Kinshasa, Democratic Republic of Congo

EAST ASIA AND THE PACIFIC

Strengthening urban planning and identifying actions to address climate change in Phnom Penh (Cambodia): Phnom Penh developed its Green City strategic plan to articulate national priorities on green growth and sustainable urbanization. However, a key challenge for its implementation were insufficient analytics, limited city level coordination to plan and implement policy, and limited information on urban investment choices to address climate change.

Phnom Penh sought Gap Fund support to address these challenges. The assistance provided included a technical assessment – GHG baseline inventory, climate scenario modeling, cost – benefit analysis of actions to address climate change – to update the existing Phnom Penh Green City strategic plan, and recommendations for climate smart spatial and land use planning systems, and low carbon urban infrastructure and service delivery systems. It also supported the identification and prioritization of low carbon urban infrastructure investments and policy to foster climate smart urban development.

This technical assistance activity increased the local government’s understanding of climate change risks in Phnom Penh and helped them identify urban development actions to reduce climate risks and mitigate GHG emissions.

Identification of climate smart city investments and e-bus infrastructure for Quezon City (Philippines): Quezon City developed its local climate change action plan (LCCAP) aiming to contribute to the national climate commitments and updated it for 2021 – 2050. The updated LCCAP details the city’s plan to mainstream actions to address climate change into its local development plans, land use plan, sectoral development plan, and investment program.

Quezon City requested Gap Fund assistance to identify and assess climate change mitigation investments opportunities identified in the LCCAP 2021 – 2050 in four key areas: built environment and energy, transportation, solid waste, and water and wastewater. By using IFC’s APEX tool to evaluate investment opportunities based on costs, payback, and potential impact on GHG emissions reduction, Gap Fund supported the development of a green investment pipeline. This pipeline identified investments in the four key areas valued at US\$1.4 billion and included financing strategies identifying various sources of financing. The city is working on investment proposals based on the financing strategies identified through the Gap Fund TA.

Additionally, the TA’s activities included a study to assess the electrification of the city’s bus network and provided recommendations on route optimization, service planning, and infrastructure financing options to implement e-buses. The findings of the study are now helping plan the implementation of electrification of the city bus network through a public-private partnership structure.

EUROPE AND CENTRAL ASIA

Low carbon and resilient urban recovery strategy in Poltava (Ukraine): The City of Poltava requested Gap Fund support to develop its climate change adaptation and mitigation strategy to assess climate risks and key sectors contributing to GHG emissions, and to identify actions that address climate change. Furthermore, the TA activity aimed to introduce a systematized methodology and approach to plan climate action planning and develop capacity.

It was expected to: (i) take stock of existing sectoral and integrated urban plans to identify areas of focus for climate action planning; (ii) assess climate change risks and GHG emissions inventory; and (iii) identify and prioritize investments for climate smart urban development. However, following the Russian invasion of Ukraine in early 2022, these activities had to be revised and adapted due to the extraordinary circumstances. They were adjusted to provide: (i) pre-war GHG emissions inventory and identify key sectoral priorities to decarbonize the city; (ii) just-in-time advisory support to the design of climate smart building to host internally displaced people; and (iii) capacity building on the development of a GHG emissions baseline through existing local data and proxies available at regional and global levels.

Technical engagements kept the city's strong interest in the agenda of climate smart and resilient urban recovery. The city has derived lessons on how to mainstream climate actions across cities for urban recovery planning. These lessons will be utilized in designing a TA program for Ukrainian cities to undertake housing and urban recovery.

LATIN AMERICA AND THE CARIBBEAN

Promoting low carbon vital neighborhoods in Bogota (Colombia): The City of Bogota developed the low carbon vital neighborhoods (LCVN) strategy to foster non-motorized transport and support the transition to low carbon urban development. That initiative focused on the redistribution of public space – dedicated to the circulation of vehicles – to promote low carbon urban development through interventions of tactical urbanism and infrastructure.

The City of Bogota sought Gap Fund assistance to develop the LCVN implementation roadmap. Gap Fund's support comprised the provision of analytics and policy recommendations to include: (i) the strategy in the new land use and mobility master plans; (ii) tactical urbanism design advisory for one pilot area, including methods to quantify the impacts of tactical urbanism actions on GHG emissions, air quality, and environmental co-benefits; (iii) guidelines conceptualized and developed and design parameters to promote sustainable mobility; low carbon and resilient public space; and (iv) strengthened infrastructure for public facilities, in two areas selected as case studies.

The analytics and policy recommendations provided through this activity contributed to the integration of the LCVN strategy into Bogota's new land use master plan and its sustainable and safe mobility master plan, providing legal footing for its implementation.

The LCVN implementation roadmap estimated that the costs of implementing the program are valued approximately at US\$2.01 billion, if implemented in Bogota's 33 neighborhoods. Conceptual designs are developed for two neighborhoods with a total of USD 92 million investments identified. The TA also led to identify tactical urbanism initiatives that will be implemented and piloted in five neighborhoods.

Climate action plans for San Cristobal de las Casas and Tulum and climate smart urban design guidelines (Mexico): Tulum and San Cristobal de las Casas have experienced rapid urbanization since 2000. This has led to unplanned urban sprawl, an increase in energy consumption in commercial and residential buildings, and inadequate SWM and wastewater systems. These developments have increased the cities' exposure to climate risks while also contributing to GHG emissions.

To address these issues, San Cristobal de las Casas and Tulum requested Gap Fund support to develop a municipal climate action plan for each city and strengthen its capacity to address urban growth pressures and foster climate smart urban development. Gap Fund's analytics and diagnostics included: (i) climate vulnerability assessments; (ii) GHG emissions inventories to understand key sectors contributing to GHGs and identify opportunities for emissions reduction; and (iii) scenario analysis to identify future emission trends. Gap Fund provided recommendations to San Cristobal de las Casas and Tulum to reduce GHG emissions in the short, medium, and long terms. It identified low carbon investments and developed financing strategies for priority investments.

In San Cristobal de las Casas, the municipal climate change action plan was adopted by the local government, which is preparing a strategy for its implementation. In Tulum, the municipal climate action plan is in the process of being submitted for approval.

Moreover, through this technical assistance activity, Gap Fund supported the development of mandatory design guidelines to strengthen the mitigation and adaptation potential of investments under the National Urban Upgrading Program, which aims to improve urban development planning in mid-sized cities in Mexico. Gap Fund supported: (i) the assessment of different investment types to be financed under the program; (ii) the development a series of design guidelines for each investment types considering their adaptability to different climatic zones and sustainability; and (iii) the development of a monitoring and evaluation system for the program to ensure it strengthens capacities for GHG accounting of infrastructure investments.

The climate smart design guidelines are already being applied in infrastructure investments under the National Urban Upgrading Program and they are informing the design and construction works of 262 urban projects in 69 municipalities in Mexico, contributing GHG emissions and climate resilience in urban areas.

Identification of climate smart interventions around the new cable car infrastructure in San Miguelito (Panama): San Miguelito, a low income and marginal district located in Panama Province has experienced chronic urban connectivity and accessibility deficits. Climate-related disasters, including flooding and landslides, have further exacerbated these issues.

In response to these challenges, the Government of Panama prioritized the construction of a public aerial cable car system in San Miguelito and sought Gap Fund support for conceptual planning and prioritization of investments to implement the cable car system. Gap Fund assisted in the development of schematic designs for two cable car stations in the areas of Torrijos Carter and Samaria. It accomplished this through cartographic analysis, the definition of a matrix for prioritization criterion, along with site visits and workshops with stakeholders. This work also included an implementation timeline and an indicative budget of US\$67 million. Additionally, Gap Fund contributed to the design and intervention criterion for the development of designs in in water and risk management, connectivity, and urban generation.

The recommendations from this TA activity are being integrated in San Miguelito's district plan, which sets the legal framework for the district's future urban development. In addition, the Ministry of Finance has expressed interest in including the investments identified in the government's investment pipeline.



MIDDLE EAST AND NORTH AFRICA

Climate resilient and low carbon reconstruction in Aden (Yemen): The conflict in Yemen has resulted in major damage to infrastructure and disrupted municipal service delivery across Yemeni cities. The temporary capital city of Aden has been one of the most affected cities. Estimates indicate that a quarter of the city's infrastructure has been damaged and a third of the municipal services have become dysfunctional because of the conflict. The city has also been impacted by climate-related disasters including urban flooding.

To support reconstruction efforts, Gap Fund helped develop a study on a climate resilient and low carbon reconstruction pathway for Aden. It analyzed existing GHGs emissions and future emissions reduction from prioritizing low carbon investments in water and sanitation, urban mobility, SWM, and housing. It estimated that Aden could achieve seven percent GHG

emissions reduction by 2025, 15 percent by 2030, and 22 percent by 2040 by: (i) considering energy efficient measures in the reconstruction of residential buildings; (ii) enhancing low carbon solid waste management practices; and (iii) fostering sustainable modes of transport. In addition, the study included economic and financial analysis to assess low carbon and business as usual pathways for reconstruction and provided recommendations and policy actions to prioritize low carbon investments.

The recommendations provided in the study for Aden are informing the preparation of additional financing for the World Bank's Yemen Integrated Urban Services Emergency Project – Phase II. It contributed to prioritize SWM investments to address the city's issues on landfill management, limited services coverage and quality, and lack of institutional capacity.

SOUTH ASIA

Low carbon and resilient municipal service delivery in Ahmedabad (India): Ahmedabad has experienced rapid urbanization and geographical expansion. Although the local government strived to improve access and quality of municipal service delivery by expanding infrastructure investments, systematic constraints limit their capabilities to focus on long term, climate smart urban infrastructure. Another limitation is to be able to service a rapidly expanding urban population without increasing their exposure to climate risks and reducing GHG emissions.

Ahmedabad's Municipal Corporation (AMC) sought support from Gap Fund to address these challenges and develop a strategy to prioritize and finance low carbon and climate resilient urban infrastructure. The objective is to identify institutional, financial, and service delivery actions to drive low carbon and resilient urban growth. Gap Fund's support included: (i) the development of a geographic information system (GIS) for climate risk hotspots and city level GHG emission estimation models for land use, heat stress, flooding, and GHG; (ii) scenario development and assessment of potential transitional pathways to reduce GHG emissions in green buildings, energy efficiency, transportation, wastewater and solid wastewater treatment; and (iii) recommendations for low carbon and resilient spatial and land use planning systems, as well as for climate smart municipal service delivery planning systems.

The strategy enabled the identification of a pipeline of climate smart urban infrastructure investments valued at US\$360 million, and climate financing options. AMC plans to explore these options in the future to raise finances and to meet the investments needs.

AMC is preparing feasibility studies for four investments identified in the strategy on wastewater treatment, including sludge and wastewater recycling. The recommendations from the strategy also inform the review and update of the city's Urban Development Plan 2031 to ensure it integrates low carbon and resilient urban considerations.



Ho Chi Minh City, Vietnam

II.2 Track 2 – Partnerships, knowledge generation and sharing, and standardization

Track 2 activities support the generation and sharing of knowledge on low carbon and climate resilient urban development, and the strengthening of partnerships between cities, national governments, and city networks. They aim to address the following key challenges:

- Knowledge and methodology gaps that exist in assessing urban level GHGs and climate smart urban development, as well as in channeling climate finance to cities.
- Coordination across the local and national government to achieve a whole-of-government and whole-of-economy approach, where cities are recognized as a key actor to achieve climate action.
- Standardization and harmonization of approaches for climate smart urban development across cities, national governments, civil society, and the private sector.

The following subsections highlight the progress made by the World Bank Gap Fund during FY23 on partnerships and knowledge generation and sharing.

KNOWLEDGE GENERATION AND SHARING

World Bank Gap Fund organized consultations with partners to assess knowledge needs and gaps in cities and identify a list of activities and knowledge products. It organized and participated in global and regional conferences and delivered a series of knowledge sharing webinars and in-person meetings to foster capacity on climate smart urban development.

KNOWLEDGE GENERATION

During FY23, the World Bank Gap Fund produced the following three technical notes on low carbon urban development and climate change mitigation in cities.

“Smart City Solutions for Climate Mitigation”: This note serves as a primer on smart city solutions for climate change mitigation in urban areas. It introduces this concept and describes the role such solutions can play in mitigation pathways. It assesses low carbon smart cities solutions for top emitting urban sectors, including buildings, transportation, and solid waste; and discusses the implications and challenges associated with these solutions to mitigate climate change.

“Carbon Crediting and Urban Climate Change Mitigation”: Assessing Potential Impacts” – This note analyses urban climate change mitigation activities implemented in Istanbul, Türkiye, and Bogota, Colombia, to evaluate if the activities implemented might become financially feasible with carbon credits priced within the range of prices in existing carbon crediting programs – an approximate of up to US\$100 per ton.

“Greenhouse Gases – A Primer for Urban Practitioners”: This note provides an overview of urban greenhouse gases and discusses the varying sources and impacts of carbon dioxide, methane, nitrous oxide, black carbon, particulate matter, and other non-carbon dioxide pollutants. It analyses how urban development affects these emissions and provides an overview of activities that cities can implement to address their contributions to climate change.

KNOWLEDGE SHARING

The World Bank Gap Fund organized or co-organized the following webinars and in-person events in FY23.

Webinars:

Energy Efficiency Approaches to Housing and Buildings in September 2022. This virtual event provided an overview of citywide tools and approaches to energy efficiency in the building sector including: (i) retrofitting existing buildings; (ii) updating building and energy codes; (iii) promoting energy efficient affordable housing; and (iv) developing sustainable district heating or cooling systems. Additionally, it explored the cost and benefits of building certifications such as EDGE and discussed the involvement of the private sector in achieving energy efficiency.

Nature-based Solutions and Greening of Urban Areas in September 2022. This virtual event focused on the adaptation and mitigation potential of integrating NBS and green urban infrastructure in the Democratic Republic of Congo, Panama, Brazil, Montenegro, and Sri Lanka.

Low carbon slum upgrading in January 2023. This virtual event provided an overview of potential entry points to implement low carbon approaches to slum upgrading. It presented experiences and lessons learned from local governments, non-governmental organizations, and social enterprises to apply innovative, low cost, low carbon solutions in slum upgrading interventions, and policy levers to incentivize the adoption of low carbon measures while upgrading slums.

Climate Action Plan Analysis in Latin America and the Caribbean in March 2023. This virtual event presented the results of the World Bank Gap Fund technical note on “City Climate Action Plan Analysis in Latin America and the Caribbean”, which assessed gaps and actions in 30 city climate action plans. Additionally, the event, included a discussion on how urban infrastructure can help address climate change based on Carbon Disclosure Project’s study on “Latin America’s Cities: Addressing the Climate Crisis through Urban Infrastructure at Scale”.

Understanding the various greenhouse gases emitted by cities: A climate science primer for urban practitioners in May 2023. This virtual event presented the World Bank Gap Fund technical note on “Greenhouse Gases – A Primer for Urban Practitioners”. It provided an overview of the climate science underlying climate change, with a focus on explaining how the various GHGs and other pollutants emitted in urban areas differ in their sources, life cycles, and impacts, and how it affects climate change mitigation in cities.

IN-PERSON EVENTS:

Low Carbon Cities Workshop in Bangkok, March 2023. This event, co-organized by the World Bank Gap Fund, facilitated learning sessions and shared relevant international experiences on urban infrastructure financing options to promote low carbon city development, the use of data and analytics to shift from sectoral to spatial solutions, and the mobilization

of capital for prioritized investments through public-private collaboration. The event also focused on strengthening municipalities' financial capacity in framing investments based on resilience trends and opportunities to leverage carbon finance.

Technical deep dive on Cities and Climate Change in Yokohama, April 2023. This event was co-organized by the World Bank Gap Fund in collaboration with the World Bank Tokyo Development Learning Center and the Global Facility for Disaster Reduction and Recovery (GFDRR). It aimed to share good practices in urban climate change adaptation and mitigation, including transit-oriented development, NBS, SWM, and resilient and efficient infrastructure. It included site visits that focused on spatial planning and investments in the built and natural environment and that showcased cross-sectoral actions and integrated elements of social inclusion, highlighting how investments can address several climate objectives simultaneously.

Technical Workshop on Cities and Climate Change in Sub-Saharan Africa in Mombasa, May 2023. This event was co-organized by the World Bank Gap Fund, the City Resilience Program, the French Development Agency, and GFDRR. It aimed to develop an understanding of integrating climate change strategies into infrastructure planning. It offered an opportunity to city and central government officials from 14 African cities to tackle climate change-related challenges, including funding and financing for their climate smart investments. It included training sessions, panel discussions, and case studies on climate change in Africa, challenges of moving from planning to implementation, and financing measures to address climate change.



Workshop in Mombasa, Kenya

OUTREACH AND COMMUNICATIONS

The World Bank Gap Fund organized and participated in multiple outreach events to raise awareness among its potential beneficiaries. As in previous financial years, Gap Fund worked with the Partner Communications Working Group, comprising 10 Gap Fund partners including the CCFLA, C40 Cities Climate Leadership Group (C40), Federal Ministry for Economic Affairs and Climate Action (BMWK), EIB, Federal Ministry of Economic Cooperation and Development of Germany (BMZ), German Agency for International Cooperation (GIZ), GCOM, Local Governments for Sustainability (ICLEI), Luxembourg Ministry of Environment, Climate and Sustainable Development, and the World Bank, to identify opportunities to raise awareness on climate smart urban development and increase the visibility of Gap Fund among key stakeholders.

The World Bank Gap Fund, in partnership with EIB, co-organized and participated in the following outreach and communication events:

- ICLEI – Daring Cities Global Forum in October 2022.
- 27th UN Climate Change Conference of the Parties (COP27) in November 2022. The Gap Fund contributed to the following subsidiary events during COP27:
 - “Effectively accelerating climate action in urban environments through innovation, partnerships, and finance access” in the French Pavilion
 - “Supporting cities in preparing climate action projects: lessons learnt from urban technical assistance facilities” in the EIB Pavilion
 - “Addressing subnational contribution to Nationally Determined Contributions (NDCs)” in the NDC Partnership Pavilion
- “UrbanShift Latin America: Finance Academy for Latin American Cities” in November 2022.
- “Conversapolis” in February 2023.
- “Innovate4Climate” in May 2023.
 - “Unlocking Finance for Climate Adaptation and Biodiversity at the Local and Regional Level”
 - “Enabling Urban Transformative Climate Innovation”

PARTNERSHIPS

The World Bank Gap Fund continued to collaborate with partners during FY23 to share information on city climate finance, enhance capacity of city governments to access Gap Fund support, and exchange knowledge to inform the direction of Gap Fund.

The Partnership Forum provided a platform to share experiences and expertise, as well as exchange information and ideas to inform the overall strategy of the Gap Fund. It was organized virtually in November 2022 in coordination and collaboration with EIB. The Forum had the participation of Gap Fund partners including BMWK, BMZ, LUX, WB, EIB, GIZ, GCOM, ICLEI, CCFLA, C40 and the Climate Policy Initiative.

The World Bank Gap Fund participated in different working groups and events convened by Gap Fund partners including CCFLA's Annual Assembly, which discussed the mobilization of finance for city level climate action at scale by 2030 and promoted cooperation on a vision, roadmap, and metrics for scaling urban climate finance. Additionally, it participated in periodic events including workshops and meetings on leadership for urban climate investment (LUCI) to foster the identification of potential matchmaking opportunities and GCOM's International Coalition for Sustainable Infrastructure Action Track on Financing.

RECIPIENT-EXECUTED ACTIVITIES

The World Bank Gap Fund started to implement and supervise a recipient-executed grant to GCOM in FY23 to: (i) raise awareness among cities about the Gap Fund; (ii) support them in the identification of programs and projects; and (iii) organize capacity building activities on the type of support available and process for preparing and submitting an application.

With support of the grant, GCOM has set up a team of global and regional focal points and technical resource persons to support project identification and preparation of EOIs. These personnel are providing support to GCOM member cities in countries eligible for Gap Fund support¹². A training of trainers was held in Brussels in May 2023 (box II-1) to enhance the capacity of focal points and resource persons on the Gap Fund, eligibility criteria for support, and EOI submission process.

The GCOM team participated in eight awareness raising events up to the end of FY23, reaching 245 participants in 42 cities across 13 countries. It has also participated in seven workshops with 229 participants from 116 cities across 18 countries.

¹² These include cities from emerging and developing countries eligible to receive official development assistance as defined by the Organization for Economic Co-operation and Development's Development Assistance Committee (known as the DAC list of ODA Recipients).

BOX II-1: WB GAP FUND PARTNERSHIP WITH GCOM – TRAINING OF TRAINERS

As part of the grant to GCOM to support cities through outreach and knowledge sharing events, a training of trainers was organized at the headquarters of GCOM's Global Secretariat. The event took place in Brussels between May 9 and 11. Its objectives were to start the implementation activities of the grant, strengthen capacities of the GCOM team, and enhance and strengthen the regional and global expertise around the Gap Fund. Thirty participants from EIB and the World Bank Gap Fund team, GCOM regional focal points and technical resource persons, ICLEI, C40, and CCFLA joined the event both in-person and virtually.

The objective of the two-day workshop provided participants the opportunity to:

1. Familiarize with the work of GCOM, the Gap Fund, and the objectives of the GCOM-Gap Fund partnership.
2. Increase capacities to deliver technical support to cities to submit stronger EOIs by:
 - a. Increasing understanding of the Gap Fund, the eligibility criteria, the process of submitting an EOI, the selection process and the challenges that cities face.
 - b. Presenting tools, materials, and technical notes available to support cities and local governments to access Gap Fund support.
 - c. Sharing knowledge and learnings arising from Gap Fund TAs and learnings other project preparation facilities.
3. Reflect on opportunities to organize regional or thematic knowledge sharing events, and awareness raising activities to amplify outreach, including Gap Fund partners engagement.

During the event, the World Bank and EIB Gap Fund teams presented the program and progress and completed TAs to participants. It included a session on preparing and selecting an EOI. The event also provided an opportunity to receive feedback on the EOI forms and application process.



III. Monitoring Results

Table III-1 presents the progress from inception to end of FY23 on the World Bank Gap Fund results framework.

TABLE III-1: RESULTS FRAMEWORK INCEPTION TO END OF FY23

Track 1 – Support on climate strategy formulation, climate analytics, and capacity development			
INDICATOR			STATUS – END OF FY23
Number of cities supported by the World Bank Gap Fund			119
Upstream Support			
CATEGORY	INDICATOR	STATUS – END OF FY23	
Formulation and implementation of strategies, plans and policies	Number of new or strengthened city-formulated low carbon/climate resilient strategies, plans and policies	13	
	Number of low carbon/climate resilient strategies, plans and policies that have been adopted/ implemented	11	
Downstream Support			
CATEGORY	INDICATOR	STATUS – END OF FY23	
		NUMBER	ESTIMATED COST (US\$ MILLION)
Project/ investment identification and preparation	Number and estimated project costs of high impact, low carbon, climate resilient urban projects that have been identified and supported	15	637.6
	Number and estimated project costs of high impact, low carbon, climate resilient urban projects that have been taken up for further preparation support or financing	8	471
Capacity Building			
INDICATOR			STATUS – END OF FY23
Number of city officials whose capacity has been substantially increased			330
Track 2 – Partnerships, knowledge, and information sharing and standardization			
CATEGORY	INDICATOR	STATUS – END OF FY23	
Knowledge generation and sharing	Number of technical knowledge products produced on low carbon, resilient urban development	12	
	Number of views or downloads of urban climate knowledge material shared by World Bank Gap Fund	28,878	
	Number of knowledge-sharing events organized in person and virtually	21	

CATEGORY	INDICATOR	STATUS – END OF FY23
Knowledge generation and sharing (cont.)	Number of cities participating in in-person knowledge exchange events supported by World Bank Gap Fund	31
	Number of city officials, partners, and other stakeholders participating in virtual knowledge exchange events	579
Partnership, outreach, and support	Number of partnership forums organized	4
	Number of Gap Fund outreach activities organized (supported by World Bank Gap Fund)	33
	Number of EOIs completed and submitted through the portal and jointly screened by the EIB and World Bank	371

IV. Financial Update

This section provides an update of the financial status of the World Bank Gap Fund as of the end of FY23. It includes financial contributions made by donors and disbursements made to the three different tracks of activities.

TABLE IV-1: GAP FUND DISBURSEMENTS – INCEPTION TO END OF JUNE 2023 (EUR MILLION)

TRACK ACTIVITIES	OVERALL BUDGET	AMOUNTS APPROVED	AMOUNTS DISBURSED
Track 1 – Technical support for low carbon climate resilient development	25.4	11.4	5.1
Track 2 – Partnerships, sharing knowledge, and standardization	5	3.9	1.2
Track 3 – Program management and trust fund administration	1.6	1.6	0.9
TOTAL	32	16.9	7.2

Note: The Approved Amounts reflect the new grants approved, additional allocation to existing grants to address the impact of fluctuation in exchange rates and other cost escalations, as well as reflows from closed grants. Currency is in euros.

TABLE IV-2: GAP FUND FINANCIAL STATUS – INCEPTION TO END OF JUNE 2023 (EUR MILLION)

	CUMULATIVE TOTAL
Contributions pledged	32
Unpaid contributions	0
Contributions received	32
Investment income	0.4
TOTAL RECEIPTS	0.4
Less: Amounts Approved	16.9
AMOUNTS AVAILABLE	15.5

Note: The currency in this table is in euros.



Kampala, Uganda

V. Next Steps

Looking forward, the World Bank Gap Fund aims at further increase of its activities in FY24 in the context of a broader scale-up of the Gap Fund. The Governments of Germany and Luxembourg have committed additional contributions to the World Bank Gap Fund, as well as the EIB Gap Fund. Together, these additional contributions will bring the total capitalization of the Gap Fund from EUR 55 million to EUR 105 million, making it one of the largest early stage technical assistance fund for cities and climate. The Gap Fund implementation period will also be extended to the end of calendar year 2027. Accordingly, the World Bank Gap Fund envisions a significant increase in the volume of activities implemented annually.

The World Bank Gap Fund will significantly enhance its efforts to provide technical support to low carbon and climate resilient urban development through track 1 activities, with a target of 20–25 grants to be approved in FY24. It will continue to closely monitor progress of ongoing activities and capture results and lessons learned of the approximately 20 TA activities that will be completed in FY24.

The Gap Fund partnership with GCOM is in full implementation, and the outreach and support to GCOM member cities to apply for Gap Fund support is expected to contribute to the increase in the volume of city level TAs approved annually, starting in FY24.

In the context of the Gap Fund's scale-up, the World Bank and EIB are developing a joint capacity development workplan to ensure collaboration, synergies, and leverage the respective value added of both institutions in the different capacity development activities.

The World Bank Gap Fund will also continue to advance the strong collaboration and coordination with the EIB, donors, and partners to raise awareness on the Gap Fund and exchange ideas to inform its direction. This will include the continued coordination with partners on outreach and communication, and the participation and presentation of the Gap Fund in events organized by partners. It will also include the organization of the Partnership Forum, which will be held in Casablanca in November 2023.

APPENDIX A

List of TA activities approved by the World Bank Gap Fund by the end of FY23.

FY	ACTIVITY NAME	COUNTRY	CITY/CITIES
FY21	Developing a green building market in Dakar	Senegal	Dakar
FY22	Supporting cities to develop climate action planning in Morocco	Morocco	Region of Fez-Meknes and the City of Fez
FY22	Planning for low carbon and climate resilient cities in Indonesia	Indonesia	Banjarmasin, Denpasar, and Semarang
FY22	Low carbon municipal service delivery of solid waste management	India	Kolar and Mangalore
FY22	Energy efficient and resilient housing and densification strategies for key cities in Maldives	Maldives	Addu City, Fuvahmulah City, Malé City, Hulhumalé, Thilafushi, and Gulhi Falhu (managed by Hulhumalé)
FY22	Integration of low carbon and climate resilient infrastructure into urban development in Tanzania	Tanzania	Arusha, Dar es Salaam, Dodoma, Geita, Ilemela, Kahama, Kigoma, Mbeya, Morogoro, Mwanza, Songea, Sumbawanga, and Tabora
FY22	Operationalization of climate change actions plans in Nairobi and Mombasa	Kenya	Mombasa and Nairobi
FY22	Development of energy efficient and resilient Ger housing strategies in Mongolia	Mongolia	Darkhan and Erdenet
FY22	Identification and prioritization of NBS to address climate change in Bamako	Mali	Bamako
FY22	Mainstreaming of NBS in neighborhood upgrading investments in Kigali	Rwanda	Kigali
FY22	Strengthening the framework to foster e-mobility adoption in Argentina	Argentina	Buenos Aires
FY22	Development of a platform for real-time monitoring of cities GHG emissions	Egypt, South Africa, Türkiye	Alexandria, Cairo, Luxor (Egypt); Adana, Antalya, Konya, Manisa, (Türkiye); Ekurhuleni, eThekweni Johannesburg, and Tshwane, (South Africa)
FY23	Identification and planning of low carbon and climate resilient investments in Vietnam	Vietnam	Ho Chi Minh and Vinh City
FY23	Porto Alegre Climate Action Plan	Brazil	Porto Alegre
FY23	Planning for low carbon and resilient urban development	Bangladesh	Basail, Milandah, and Rajshahi

FY	ACTIVITY NAME	COUNTRY	CITY/CITIES
FY23	Identification of actions and strengthening the city level framework for low carbon urban development in Amman	Jordan	Amman
FY23	Identification of investments in nature-based solutions for climate resilience in Central African Republic	Central African Republic	Bambari, Berberati, and Birao
FY23	Identification and preparation of climate smart investments for Cambodian cities	Cambodia	Battambang, Kampot, Kep, Poipet, Siem Reap, and Sihanoukville
FY23	Integration of low carbon infrastructure and nature-based solutions in Kingston waterfront improvement project	Jamaica	Kingston
FY23	Supporting the development of bicycle infrastructure in Bolivia	Bolivia	El Alto
FY23	Chennai's solid waste management plan	India	Chennai
FY23	Palestine urban heat island mitigation strategy	Palestine	Gaza
FY23	Scaling up low carbon and resilient investments in Uganda	Uganda	Arua, Apac, Busia, Entebbe, Fort Portal, Gulu, Hoima, Jinja, Kabale, Kampala, Kamuli, Kasese, Kitgum, Lira, Lugazi, Mbale, Mbarara, Masaka, Moroto, Mubende, Ntungwa, Soroti, and Tororo
FY23	Integration of nature-based solutions in Abidjan's drainage masterplan	Cote d'Ivoire	Abidjan
FY23	Development of a city level framework to promote low carbon transport and identification of investments in solid waste management in Tanzania	Tanzania	Dar Es Salaam
FY23	Identifying climate smart investments for urban development	Türkiye	Antalya, Balikesir, Konya, Malatya, Osmaniye
FY23	City level climate smart solid waste management plans in Meghalaya	India	Meghalaya
FY23	Low carbon investment planning for six cities in Thailand	Thailand	Bangkok, Chiang Mai, Khon Kaen, Phuket, Nakhon Sawan, and Rayong
FY23	Support for Dushanbe's transition to a low carbon solid waste management system	Tajikistan	Dushanbe
FY23	Greater Beirut Green Urban Recovery and Development Strategy	Lebanon	Beirut

APPENDIX B

List of TA activities completed by the World Bank Gap Fund by end of FY23.

FY	ACTIVITY NAME	COUNTRY	CITY/IES
FY22	Climate smart urban growth planning for Prishtina	Kosovo	Prishtina
FY22	Assessment investments for climate smart urban development in Addis Ababa	Ethiopia	Addis Ababa
FY23	Climate Action Plans for San Cristobal de las Casas and Tulum and urban upgrading design guidelines	Mexico	San Cristobal de las Casas and Tulum
FY23	Identification of climate smart interventions around the new cable car infrastructure in San Miguelito	Panama	San Miguelito
FY23	Identification and prioritization of investments in nature-based solutions in Kinshasa	Democratic Republic of Congo	Kinshasa
FY23	Climate resilient and low carbon reconstruction in Aden	Yemen	Aden
FY23	Low carbon and resilience municipal service delivery in Ahmedabad city	India	Ahmedabad
FY23	Low carbon and resilient urban recovery strategy in Poltava	Ukraine	Poltava
FY23	Integrating climate smart considerations in urban development in Bogota	Colombia	Bogota
FY23	Identification of climate smart city investments for Quezon City	Philippines	Quezon City
FY23	Strengthening planning and identifying actions to address climate change in Cambodia	Cambodia	Phnom Penh

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