City Climate
Finance Gap Fund

CONSOLIDATED

City Climate Finance Gap Fund

Annual Report

2023

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CITY CLIMATE FINANCE GAP FUND
CONSOLIDATED 2023 ANNUAL REPORT

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Abbreviations and Acronyms

AFD	Agence Française de Dévéloppement
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
GCOM	Global Covenant of Mayors for Climate and Energy
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Risk Reduction and Recovery
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GRID	Green, resilient, and inclusive development
ICLEI	Local Governments for Sustainability
IFC	International Finance Corporation
LMIC	Low- and Middle-Income Country
LUX	Luxembourg Ministry of the Environment, Climate and Biodiversity
MDTF	Multidonor Trust Fund
NBS	Nature-based Solutions
SWM	Solid Waste Management
TA	Technical Assistance
TOD	Transit-oriented development

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Voices of Gap Fund Partners

"We are proud to see that the City Climate Finance Gap Fund (Gap Fund) has been up and running successfully for three years now and is impressively meeting the growing demand. This shows just how crucial technical assistance (TA) is in the early phases of climate action planning and project preparation. With its unique and innovative approach, the Gap Fund helps unlock the urban investment needed to meet our global climate targets." — Government of Germany

"Three years on, the growing interest in the Gap Fund on the part of local players and authorities shows that we are moving in the right direction. We have now exceeded our EUR 100 million target, which is further proof of our commitment and joint efforts. The Gap Fund is gradually becoming a key partner for local climate action." — Luxembourg Ministry of the Environment, Climate, and Biodiversity

"Cities are in a race against time to become carbon neutral, and more resilient to the effects of climate change. They also face major social and economic challenges, which place demands on their budgets. The Gap Fund is helping cities make the best use of scarce resources. This means connecting promising project ideas to preparatory support and funding, as well as enhancing local capacity to manage investment." — European Investment Bank

"Action is needed now to end poverty on a livable planet. Cities are key to boosting climate resilience while delivering steady economic growth and job creation. The Gap Fund will translate cities' climate ambitions into real investments, giving millions of people a chance to improve their lives" — The World Bank

"A highlight of 2023 on great partnerships, collaboration and on visionary leaders, that made our work more impactful for people and the planet, was the partnership under the City Climate Finance Gap Fund in mobilizing finance for cities and municipalities. Our cooperation stands for bi-multi-linkages and contributes to closing the climate finance gap! We are looking forward to enlarging those partnerships – more cooperation, coalition building, and shared visions are needed more than ever" — Deutsche Gesellschaft für Internationale Zusammenarbeit

"Cities and partners committed to the Global Covenant of Mayors for Climate and Energy share a long-term vision to combat climate change. The strategic TA the Gap Fund delivers to cities is critical to overcoming common challenges, driving progress on climate targets, and converting climate ambition into transformative action" — Global Covenant of Mayor for Climate and Energy

"Since its launch, the Gap Fund is the most relevant and successful project preparation facility for our work. The support offered by the Fund complements, strengthens, and elevates the Local Governments for Sustainability's (ICLEI) efforts helping local governments identifying and designing robust development projects and access finance to these" — Local Governments for Sustainability

"The Gap Fund plays a critical role in assisting cities in identifying and preparing projects that bolster sustainable and resilient urban development. The successes of the Gap Fund underscore the potential for enabling cities through early-stage planning and preparation, while also emphasizing the imperative to align these achievements with increased access to finance. As a proud partner at the Cities Climate Finance Leadership Alliance, we remain committed to supporting the Gap Fund in their pursuit of these goals" — **Cities Climate Finance Leadership Alliance**

"Climate action in cities is critical to meeting the goals of the Paris Agreement. Cities have done incredible work, but need funding unlocked quickly to sustain momentum. The City Climate Finance Gap Fund helps cities access resources that make our lives healthier, happier, and longer. C40 is a proud partner" — **C40 Cities Climate Leadership Group**

I. Introduction

The Gap Fund is a multi-donor 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 Multidonor Trust Fund (MDTF) in close coordination with donors, comprising of the German Federal Ministry for Economic Affairs and Climate Action (BMWK), the German Federal Ministry of Economic Cooperation and Development (BMZ), and the Luxembourg Ministry of Environment, Climate and Biodiversity (LUX). Additionally, it collaborates 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 Gap Fund in calendar year 2023 building upon the annual reports submitted by the World Bank and EIB to their respective donors according to their agreed reporting frameworks and contractual agreements.

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 Gap Fund TA for low carbon and climate resilient city development.

Section 3 presents the implementation progress of partnerships, knowledge generation, and information sharing activities.

Section 4 presents the progress made in 2023 on the consolidated Gap Fund results framework.

Section 5 provides an overview of the contributions to the Gap Fund and expenditures as of the end of 2023.

Section 6 presents a brief overview of the planned activities for 2024 including technical support, knowledge management, partnerships, and capacity development.

I.1 Context – Cities and Climate Change

Cities are critical to adapt to the impacts of climate change. 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 and increasing climate risks. 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, particularly flooding and extreme heat. More frequent and extreme rainfall events, and runoff amplified by urbanization, could flood urban infrastructure designed using specific event intensity, duration, and frequency that can be exceeded by many climate-induced extreme events. Most of the population exposed to heatwaves will live in urban centers, which will experience higher temperatures than surrounding areas due to the urban heat island effect. Even at current global warming levels, urban areas are experiencing significant impacts from climate change. Some major cities have experienced mean local warming of beyond 1.5° Celsius.

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. How urban areas are planned, designed, built, retrofitted, and managed will influence urban GHG emissions.

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

[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.

to limit the global temperature increase to well below 2° Celsius as well as strengthen climate change adaptation and resilience.

Cities face challenges in achieving climate-smart urban development. An estimated USD 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 Gross Domestic Product (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 boundaries[6] 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.[6]

Cities offer major opportunities to address climate change. 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 USD 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 USD 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.

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. 20180 Climate Investment Opportunities in Cities. An IFC Analysis. Available at: https://www.ifc.org/wps/wcm/connect/875afb8f-de49-460e-a66a-dd2664452840/201811-CIOC-IFC-Analysis.pdf?MOD=AJPERES&CVID=mthPzYg.

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.

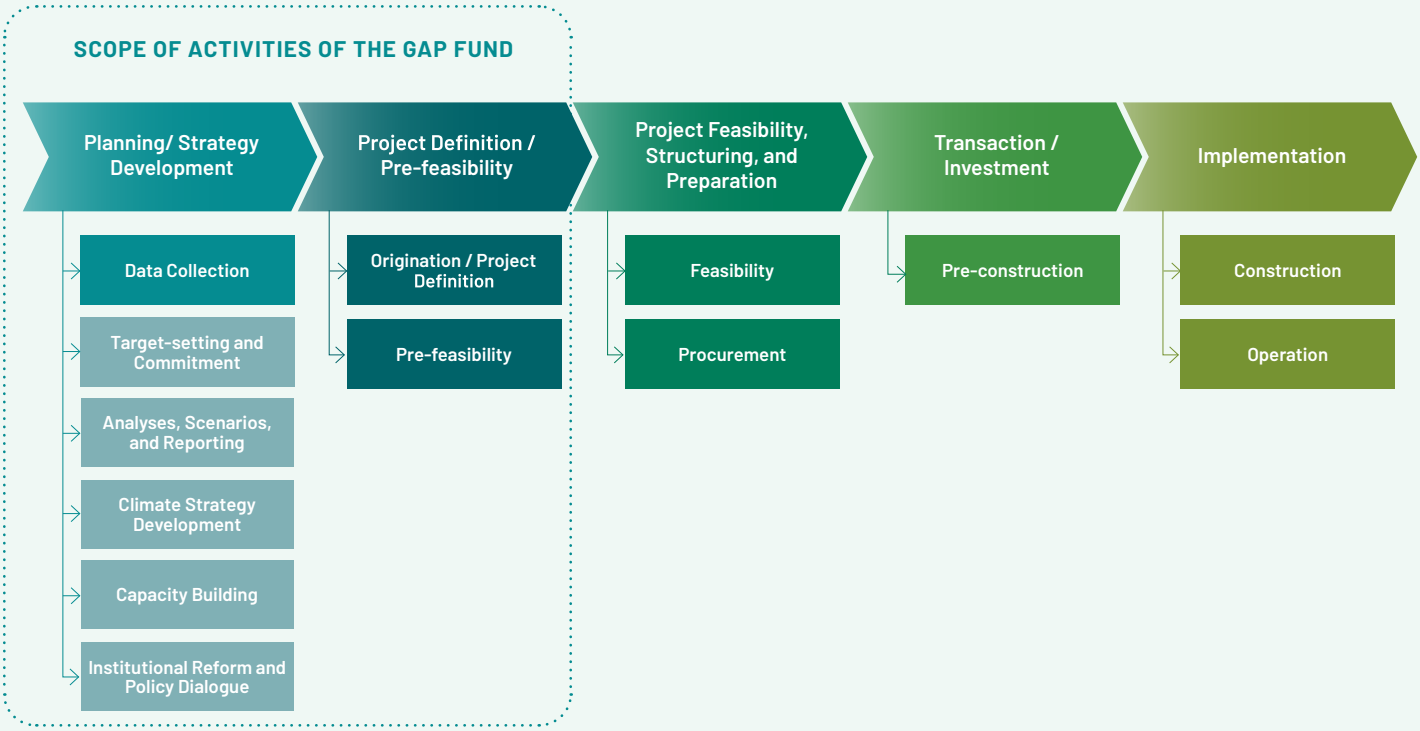
I.2 Gap Fund Mission and Objectives

The 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 change, 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



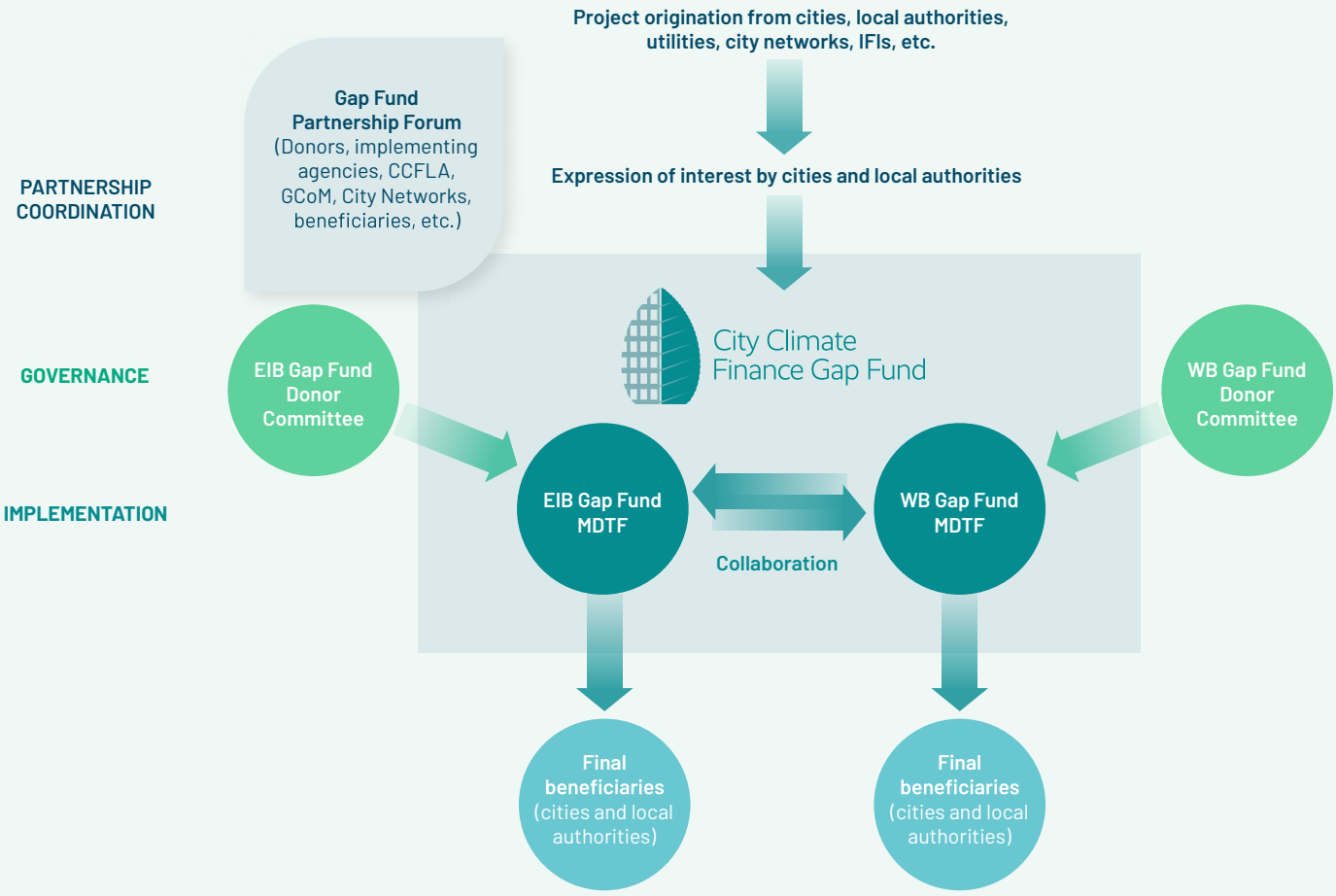
Source: Gap Fund (2021).

I.3 Gap Fund Governance and Implementation Arrangements

The Gap Fund provides support to cities through two implementing agencies: the World Bank and the EIB, which cooperates with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). These institutions bring a unique mix of long-standing expertise in sustainable development, climate finance projects, and urban development. Each implementing agency administers a MDTF with strong coordination between the two under a "One Gap Fund" architecture (figure I-2) related to governance, implementation, and partnerships.

- Governance: Donors provide strategic direction to the two MDTFs 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 MDTFs. 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 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 institutions.
- 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.

FIGURE I-2: GAP FUND STRUCTURE



Source: Gap Fund (2021).

II. Gap Fund Activities

The Gap Fund's objectives are delivered through TA for low carbon and climate resilient city development and partnerships, knowledge sharing and standardization.

- Technical assistance 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.
- Partnerships, knowledge generation and sharing, and standardization aim to strengthen technical capacity and partnerships for city climate action. Activities supported include development of flagship reports, technical notes, organization, and participation in knowledge sharing events including webinars, workshops, and Gap Fund partnership forums.

The following sections provide an overview of the TA and knowledge sharing activities carried out by the Gap Fund from January to December 2023.

II.1 Technical Assistance 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, identification of climate smart investments, and conceptualization of projects to address climate change.

This section examines the EOIs received and describes the TA approved.

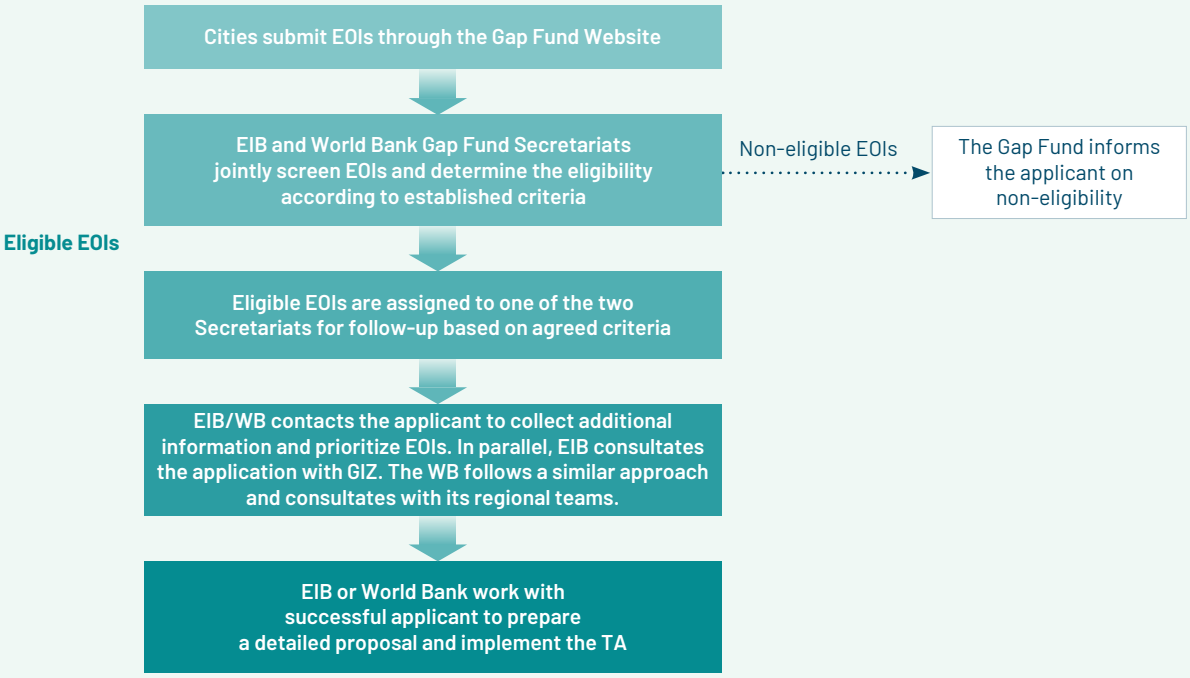
II.1.1 EXPRESSIONS OF INTEREST RECEIVED

The Gap Fund accepts EOIs on a rolling basis through the Gap Fund website[9] 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).

The Gap Fund received and screened 459 EOIs from its inception in September 2020 to end of 2023. During 2023, it received 172 EOIs, a 50 percent increase from the previous year during which it received 110 EOIs.

[9] City Gap Fund Website: https://www.citygapfund.org/.

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

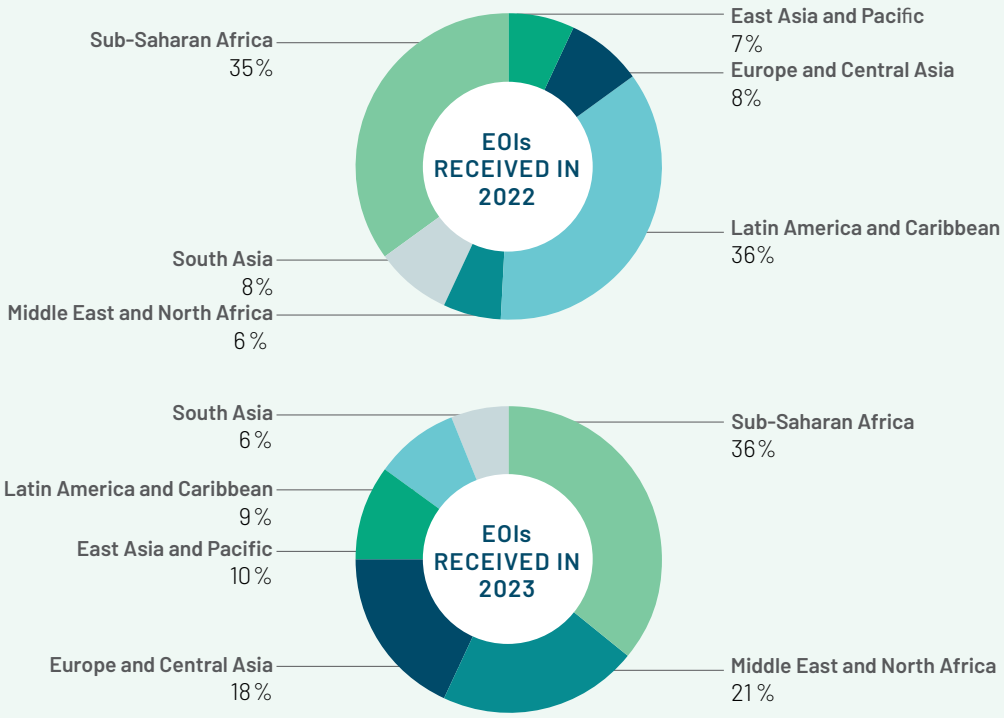


Source: Gap Fund (2024).

The regional distribution[10] of EOIs received changed between 2022 and 2023 with a decrease in the number of EOIs received from Latin America and a significant increase in the number of EOIs received from the Middle East and North Africa in 2023 (figure II-2). The changes in regional distribution reflect the shift in outreach strategy, from virtual workshops during the pandemic to present the Gap Fund, to more targeted in-person and virtual events at the regional and/or country level, leveraging the partnership between the Gap Fund and GCOM to support cities identify project ideas and prepare EOIs. This could also explain the decrease in the number of EOIs received from Latin America, where cities have a higher capacity to submit EOIs following outreach events, which explained the earlier over representation from this region.

[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.

FIGURE II-2: REGIONAL DISTRIBUTION OF EOIs RECEIVED IN 2022 AND 2023



Source: World Bank Gap Fund (2024).

Of the 172 EOIs received and screened in 2023, 75 EOIs were eligible for support. An analysis of these EOIs determined that the most frequent reasons EOIs were not eligible for support include:

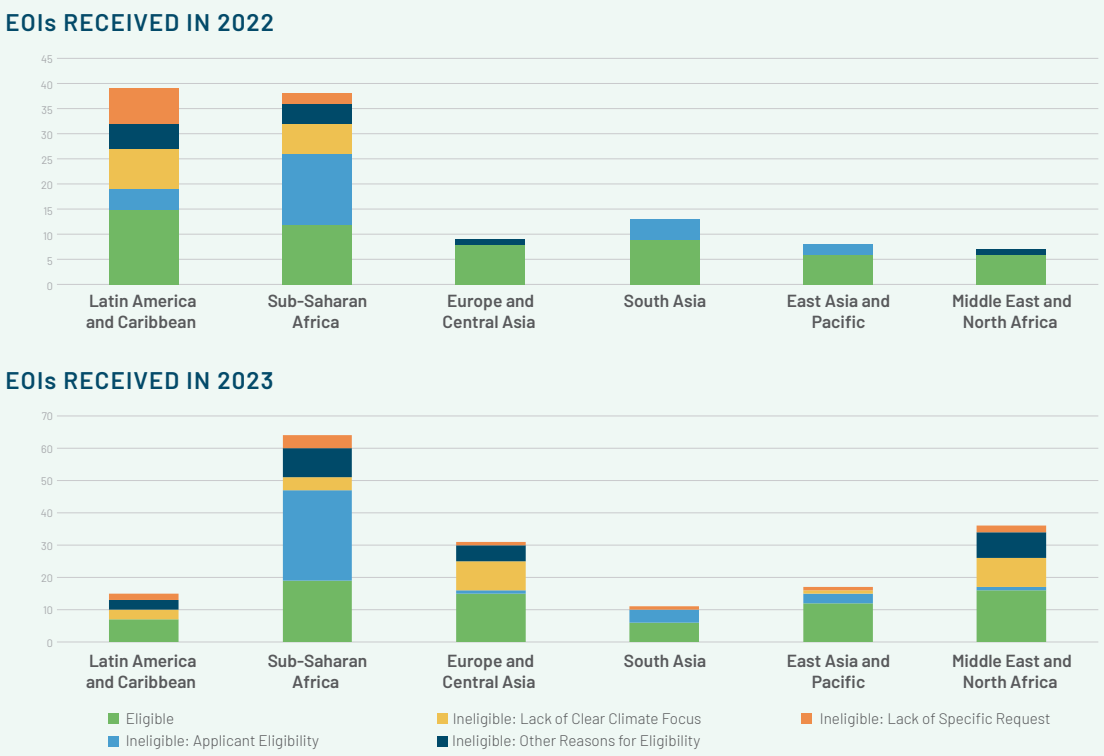
- Eligibility of the applicant (38%): EOIs submitted by an individual or a private entity with no direct link with a city administration.
- Other reasons for ineligibility (26%): Incomplete EOIs, multiple submissions on the same request, request for project implementation support, among others.
- Lack of a clear climate or urban focus (25%): 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.

This analysis suggests similar reasons for ineligibility than in 2022 when the three most frequent reasons were: eligibility of the applicant (22%), other reasons for ineligibility (11%), and lack of a clear climate or urban focus (9%).

A more detailed assessment of EOIs suggests that eligibility changed across regions in 2023 (Figure II-3). Sub-Saharan Africa, Middle East and North Africa, and Europe and Central Asia accounted for the largest share EOIs submitted, which was more than 70 percent of the EOIs submitted. EOIs from East Asia and the Pacific, Latin America and the Caribbean, and South Asia accounted for 25 percent. The largest share of EOIs considered eligible originated in East Asia and the Pacific.

The Gap Fund will continue leveraging the partnership with GCOM, as well as with other partners and city networks, to provide hands-on support to cities across regions globally to identify challenges and opportunities for climate smart urban development, organize workshops to enhance knowledge on the Gap Fund application process and capacities to prepare EOIs, assist cities in the preparation and submission of EOIs, and organize events to increase awareness on the Gap Fund support available. These activities will contribute to advancing the quality of the EOIs submitted and increasing awareness about the Gap Fund.

FIGURE II-3: EOIs RECEIVED BY REGION AND ELIGIBILITY IN 2022 AND 2023



Source: World Bank Gap Fund (2024).

II.1.2 TECHNICAL ASSISTANCE APPROVED IN 2023

Since its inception at the end 2020, the Gap Fund has approved support to 201 cities in 58 countries. In 2023, it approved support to 94 cities in 31 countries.

The section below provides an overview of the TA approved by EIB and the World Bank in 2023.

TECHNICAL ASSISTANCE APPROVED BY EIB AND GIZ

During 2023, EIB and GIZ approved 12 TA to help 16 cities in 11 countries.

Map II-1 provides a regional overview of the TA approved by EIB and GIZ in 2023.

MAP II-1: TA APPROVED BY EIB AND GIZ IN 2023

Source: EIB Gap Fund (2024).

Below is an overview of the TAs approved by EIB and GIZ in 2023.

Africa

- **Libreville and Port Gentil, Gabon**: The narrow Gabonese plains on the coast of Libreville and Port Gentil result from a long-term geological process of fluvial sedimentation, which differs from other coastal plateaus generated by the rise of the continental shelf. Therefore, both cities are much more susceptible to erosion if changes in the levels of the ocean, rivers and estuaries occur. The Gap Fund will provide technical assistance to the two municipalities to draft the terms of reference for an integrated coastal management plan to be financed by the European Union Delegation to Gabon.


Exit
DELL

The technical assistance will also identify a potential investment project portfolio. Finally, it will develop capacities of the municipalities in coastal defense green and grey infrastructure and integrating them into their urban planning practices.

- **Otjiwarongo, Namibia:** The city of Otjiwarongo wants to establish a waste resource centre to convert biodegradable household and agricultural waste into biogas, thus avoiding methane emissions and creating opportunities for the town's residents, as well as reduce emissions coming from the landfilling of organic waste. In addition, the resulting biogas will be used to power a Biomass Industrial Park project. The Gap Fund will provide a prefeasibility study encompassing the definition of project scope and preliminary technical design, a municipal solid waste generation and characterization study, a stakeholder analysis, a preliminary financial and economic cost-benefit analysis, the definition of a suitable business/operation model and a preliminary assessment of climate impacts.
- **Zanzibar, Tanzania:** Wastewater management systems in Zanzibar, in particular in Stone Town and New Town, lack adequate infrastructure and technologies, effective policy, institutional and legal frameworks to support the different actors involved in the system. Furthermore, Zanzibar faces severe energy poverty, as it relies solely on power supply from Tanzania mainland. The Gap Fund will be conducting a pre-feasibility study to assess the technical, environmental, and economic viability of a wastewater treatment system that can generate alternative income opportunities and re-use options such as generation of electricity for Stone Town and New Town in Zanzibar.
- **Nyamira, Kenya:** Nyamira municipality is located in Western Kenya, in the South Nyanza region. The municipality aims at promoting an alternative solid waste management system that will facilitate the diversion of at least 90% of collected solid waste away from disposal sites and towards various recycling centres. The municipality will work to establish missing links in the value chain, namely recycling points, composting facilities, and facilities for organic waste treatment and conversion to manure. The Gap fund will support the city in preparing a prefeasibility study encompassing a waste generation and characterisation analysis, the identification of appropriate management strategies for the different waste categories to promote recycling and reuse.
- **Kisumu, Kenya:** Kisumu City is in Western Kenya on the shores of Lake Victoria. It is Kenya's third largest city and one of the fastest growing in the country. The city aims to implement a waste-to-biogas project covering four markets and six informal settlements in the city, and to potentially extend this approach to the rest of the municipal and county territory if successful. The Gap Fund will support the city in preparing the prefeasibility study for this project focusing on organising the segregation at source and increasing collection capacity, defining the market and revenue potential of the expected products of the anaerobic digestion, i.e. biogas and liquid fertilizer, as well as building capacity among the population and existing actors operating in solid waste management on waste sorting and collection.

Europe and Central Asia

- **Gjilan and Ferizaj, Kosovo:** According to Kosovo's Integrated Waste Management Strategy, the transition to circular economy through reduction, reuse and recycle

needs to be adopted in all 38 municipalities of Kosovo. Currently, the collection rate for household waste stands at above 75% for Gjilan and Ferizaj and the municipalities have set targets to increase these figures in the coming years in their Municipal Waste Management Plans. The Gap Fund will support the municipalities with a prefeasibility study to analyse and characterise all household waste streams, identify treatment options and suitable technologies, carry out a preliminary financial analysis and economic cost-benefit analysis and a stakeholder engagement plan. This study will also explore the effect of higher recycling rates on emissions reductions.

- **Elbasan, Albania:** Elbasan is the fourth most populous city in Albania and has a historical heavy industry heritage which resulted in high levels of pollution. The city has recently joined the EU-promoted 100 Climate Neutral cities to address its challenges and to progress towards climate neutrality. The Gap Fund's intervention will fit into this context and support a prefeasibility study on energy efficiency in public buildings and smart street lighting, including preliminary technical design and scope, energy audits, financial and economic analysis, options for operation and maintenance, estimation of GHG reduction and other environmental benefits and risk analysis.
- **Nikšić, Montenegro:** Nikšić is the second largest city in Montenegro with a significant industrial production and one of the key contributors to country's economy. The city is planning a major investment project focused on improving the energy efficiency of multi-households residential buildings. The Gap Fund will support the development of a concept for a functional management model for energy efficient multi-family housing.
- **Balti, Moldova:** Balti, the second largest city in Moldova is confronted with the lack of reliable data on the energy consumption of its public building stock, most of which dates from the Soviet era. This is a pre-requisite to define energy efficiency projects that may apply for funding from IFIs. The Gap Fund will provide support in the conceptualization of a public investment program for energy efficiency in municipal public buildings, and energy audits of a sample of municipally-owned public buildings.

Latin America and the Caribbean

- **Buenos Aires, Argentina:** The Housing Institute of the City of Buenos Aires has launched an innovative project aimed at providing clean energy to residents of marginalized neighborhoods through the installation of community solar power. The Gap Fund will provide support in analyzing existing experiences of community-owned energy projects and propose a management model for the collective operation and maintenance of the installations.
- **Salvador, Brazil:** The city of Salvador aims to develop a sustainable project portfolio on the area of the former Canabrava landfill which is in a very dense and underprivileged neighborhood. The Gap Fund will provide support in developing an integrated concept for the sustainable use of the site that integrates clean energy, nature-based solutions, and solid waste management. The technical assistance will also look at identifying sustainable business and financing models that are suitable to the needs, capacities, and interests of local stakeholders.

Middle East and North Africa

- **La Marsa, Carthage, Sidi Bou Said, Tunisia**: The three municipalities are aiming to deploy a joint integrated waste management project. The Gap Fund will provide a prefeasibility study for a waste sorting and treatment unit, encompassing a diagnosis of the situation in the three municipalities, a characterization and quantification of all waste fractions, a study of available technological alternatives and a proposal of the most suitable option, a technical and financial analysis of the potential project, preliminary assessment of the social acceptability of the project and a proposal for an institutional and financial set up of the project.

TECHNICAL ASSISTANCE APPROVED BY THE WORLD BANK

During 2023, the World Bank approved 25 TA to help 79 cities in 21 countries.

Map II-2 provides a regional overview of the TA approved by the World Bank in 2023.

MAP II-2: TA APPROVED BY THE WORLD BANK IN 2023

Source: World Bank Gap Fund (2024).

Below is an overview of the TAs approved by the World Bank in 2023.

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.
- **Climate action planning (Sierra Leone):** This grant supports three cities—Makeni, Bo, and Kenema—in developing city level climate action plans. For each city, the development of the plans involve: (i) institutional and regulatory assessment; (ii) GHG emissions inventory, climate risk assessment, and scenario planning; (iii) identification of climate actions; (iv) assessment of financing options to implement the actions identified; (v) prioritization of climate change actions; and (vi) monitoring and evaluation plan to track the implementation of the plans. Furthermore, to inform the preparation of the action plans, the TA supports for each city baseline diagnostics of climate readiness and enabling environment on infrastructure investments, institutional setup, climate action financing, spatial planning, solid waste management, among other urban topics.
- **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 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.

- **Climate informed urban development (Tanzania):** This grant supports the city of Dodoma in the conceptualization of a redevelopment project for the city's Central Business District (CBD) and the provision of policy recommendations for the Dodoma Transportation Master Plan. Through a multipronged approach, this TA focuses on: (i) modelling of land use and transport development under different growth and policy scenarios to inform the location and type of investments for the redevelopment of the CBD and to provide recommendations for the Master Plan; (ii) scoping and developing of conceptual designs for public space and pedestrian-oriented features in the CBD, including identification of NBS and non-motorized transport opportunities; (iii) assessing current housing stock types and construction techniques to identify opportunities for low carbon public housing upgrading and retrofitting.
- **Scaling up low carbon and resilient investments in Kampala and 22 cities (Uganda):** This grant supports the mainstreaming of climate change 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 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.
- **Identifying and prioritizing low carbon urban investments (China):** This grant supports Shijiazhuang city in identifying and prioritizing low carbon urban investments. It focuses on: (i) a baseline GHG emissions study for the building sector in Shijiazhuang core urban area which will assess buildings of different uses (e.g., public, private, residential, commercial, etc.) and their associated levels of emissions; (ii) the identification of low carbon investments across the energy, water, waste,

and transport sectors and recommendations for their prioritization based on their potential for reducing GHG emissions using IFC's APEX tool;[11] (iii) scenario modelling of the city's existing urban form and emission patterns against alternative scenarios with diverse urban patterns.

- **Low carbon solid waste management master plans (Indonesia):** This grant supports the development of SWM masterplans to enhance service delivery systems and foster the adoption of SWM climate smart solutions in cities in Indonesia such as Balikpapan, Banjarmasin, Cirebon, Malang, and Palembang. The development of the SWM masterplan for each city involves: (i) assessing their existing SWM service delivery systems; (ii) assessing and identifying opportunities to improve the institutional set up for SWM service delivery; (iii) identifying and prioritizing SWM subproject categories; (iv) costing of activities, including sources of funds and cost of capital, operations, and maintenance; and (v) developing sector specific metrics to track the achievement of the SWM master plans. Moreover, this grant supports capacity building of government officials from selected cities on climate smart SWM planning.

- **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 tool; (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.

Europe and Central Asia

- **Low carbon and resilient solid waste action planning in Gyumri (Armenia):** This grant supports the development of an action plan for climate smart SWM. The action plan will identify and prioritize climate smart SWM municipal investments by: (i) assessing solid waste operations in Gyumri, including a sector GHG emissions analysis; (ii) identifying SWM investment needs; (iii) prioritizing SWM investments considering costs, GHG emissions reductions, and climate risks; and (iii) assessing the solid waste institutional framework, including recommendations on cost recovery, strengthening existing municipal regulations, among others.

[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.

- **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, Balikesir, 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.

- **Climate informed recovery public infrastructure investment plans (Ukraine):** This grant supports five cities in Ukraine—Zhytomyr, Vinnitsia, Kharkiv, Kyiv, and Cherkasy—in preparing climate informed recovery public infrastructure investment plans. Through a participatory approach, the TA focuses on the development of a methodology for climate informed infrastructure investment identification, prioritization, and selection, and the preparation of climate informed recovery infrastructure plans for each selected city. The TA further supports the development of factsheets for priority infrastructure investments that provide an overview of the investment and its anticipated benefits, economic analysis, estimated implementation costs, assessment of expected risks and their mitigation measures, climate change considerations, and sample render designs.

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.

- **Incorporating climate change into urban investments (El Salvador):** This grant supports four cities—Santa Ana, San Miguel, Ilobasco, and La Libertad—incorporating climate change into urban investments such as municipal markets, roads, and drainage. This is achieved through: (i) a review of pre-feasibility studies to inform the proposed market designs, including a carbon footprint assessment for each stage of construction and use lifecycle and an analysis of the infrastructure's climate resilience; (ii) the

provision of recommendations to incorporate low carbon design considerations and to reduce the lifecycle carbon footprint of the selected urban investments; (iii) the provision of recommendations to incorporate climate resilience design considerations in the investments and enhance climate resilience during their operation and maintenance.

- **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

- **Greater Beirut green urban recovery and development strategy (Lebanon):** This grant supports Greater Beirut formulate a cross-sectoral Urban Recovery and Development Strategy, through multi-stakeholder co-creation and consultations that address low carbon and climate resilient development. Additionally, it supports the identification, prioritization, and scoping of a series of pilot projects across key urban sectors as catalysts for the recovery and development of the Greater Beirut, focusing on green and resilient solutions.

- **Gaza City urban heat island mitigation strategy (Palestine):** This grant was intended to support the identification of key contributors to the urban heat island effect in Gaza City and the development of a strategy for heat island mitigation. The proposed activities included: (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; (iv) tools, methods, and policy proposals for heat island mitigation; and (vi) capacity development, including trainings and knowledge exchange programs, of municipal authorities to implement the recommendations outlined in the strategy, as well as to incorporate them into urban planning practices. Due to the ongoing conflict situation this grant was closed in November 2023, a study was carried out on urban scale climate modelling which provided a dataset on current and projected heat stress under medium and high global GHG emissions scenarios. Additionally, during the implementation of the TA, a technical advisory group, comprising several governmental agencies and multilateral partners, was established to provide an effective steering mechanism for the technical work.

South Asia

- **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.

- **Climate smart integrated urban development (India):** This grant supports the Government of Haryana identifying low carbon investment projects in selected metro station areas to guide transit-oriented development (TOD) and green, resilient, and inclusive development (GRID) along the new mass transit corridors in the state. The TA first supports a geospatial analysis and mapping of existing and planned developments to identify and select metro station areas with highest TOD potential to then identify low carbon and climate resilient investments in the selected station areas to promote TOD and GRID. These station areas will serve as pilots for reducing GHG emissions and enhancing climate resilience. Additionally, the TA supports the development of a financing strategy to inform the implementation of the investments identified.

- **Hyderabad climate change action plan (India):** This grant supports the development of Hyderabad's climate change action plan. The development of the plan involves: (i) an assessment of the city's climate risks; (ii) a spatial analysis on land use and urban sprawl to understand changes in build up area, green cover, etc.; (iii) a GHG inventory to identify main sources of GHG emissions in the city; and (iv) the identification and prioritization of climate smart investments. The grant will also support a decarbonization action plan, a study on last mile connectivity to assess the transportation sector and recommendations on low carbon connectivity, and a study on industrial processing for 1–2 priority sectors to review how they address climate change.

- **City level climate smart solid waste management 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.

- **Nature-based solutions for flood risk management in Itahari (Nepal):** This grant supports the assessment of flood risks and the identification and prioritization of NBS investments for flood risk management. The TA includes: (i) data analysis of Itahari's geological, hydrological, topographic, and rivers' hydraulic profiles; (ii) flood susceptibility mapping for multiple return periods; (iii) assessment of the major causes of flooding and mitigation measures; (iv) identification of locations for NBS for flood protection and mitigation; (v) identification and prioritization of NBS for floodplain and stormwater drainage management; (vi) costing and prefeasibility studies for priority

NBS investments. Additionally, the TA supports capacity building to integrate NBS into project design and promotes knowledge exchange on NBS for flood risk management.

- **Green affordable housing standards (Pakistan):** This grant supports the Government of Punjab in the formulation of green affordable housing standards. This is achieved through: (i) a desk review of international good practices on green housing standards and regulations; (ii) an assessment of the local housing sector; (iii) recommendations on green affordable housing standards and certification criteria; (iv) assistance in the formulation of regulatory documents to implement the green affordable housing standards and regulations. In addition, to further promote green affordable housing, the TA supports the identification of design prototypes for green affordable housing design to be used as reference by housing agencies, developers, builders, among others, and the development of a technical guideline on the provision of green infrastructure in affordable housing schemes supported by the government.

II.2 Partnerships, knowledge generation and sharing and standardization

The Gap Fund supports 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 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 Gap Fund in 2023 on partnerships and knowledge generation and sharing.

II.2.1 KNOWLEDGE GENERATION AND SHARING

The Gap Fund implemented a participatory and structured approach to assess knowledge gaps and needs and identify a list of knowledge products. It organized a series of virtual and in-person knowledge sharing and exchange events to foster capacity on climate smart urban development.

KNOWLEDGE GENERATION

During 2023, the 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.
- **"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 Gap Fund organized or co-organized the following webinars and in-person events in 2023.

Webinars

- **Low Carbon Slum Upgrading in January 2023.** This virtual event, organized by the Gap Fund and the Slum Upgrading Community of Practice within the World Bank's Urban Poverty, Inclusive Cities, and Housing Global Solutions Group, 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 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 technical note on "Greenhouse Gases – A Primer for Urban Practitioners". It provided an overview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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.

- **Green Housing Retrofits for the Urban Poor in September 2023.** This virtual event explored how to integrate climate smart considerations into low-income housing retrofitting. It focused on the case study of the Gap Fund supported TA "Building energy efficient housing strategies in Palembang, Musi Rawas, and Lubuklinggau (Indonesia)" which developed case studies on green housing retrofitting, prepared green and energy-efficient guidelines for housing retrofit and expansion, and developed sustainable housing planning tools to guide better urban development. The event included a panel discussion on indicators and costs of green housing retrofitting.
- **Smart City Solutions for Climate Change Mitigation in September 2023.** This virtual event, co-organized by the Gap Fund and the Global Smart City Partnership Program, discussed how smart city solutions can help mitigate climate change in cities and explored the solutions available to reduce GHG emissions in contexts with limited data and technical capacity. Additionally, the event presented a subset of solutions for climate change mitigation in the buildings, transport, and SWM sectors based on the technical note "Smart City Solutions for Climate Change Mitigation".
- **Maximizing Climate Adaptation and Mitigation Impacts in Urban and Disaster Risk Management Projects: The Kingston Waterfront Case in November 2023.** This virtual event presented approaches for low carbon and energy efficient urban design and construction and green building certification. It focused on the approaches implemented in the Gap Fund supported TA "Integrating low carbon infrastructure and NBS in Kingston waterfront improvement project (Jamaica)".

In-person events

- **Low Carbon Cities Workshop in Bangkok, March 2023.** This event 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 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 TOD, 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 Gap Fund, the City Resilience Program, the French Development Agency (AFD), 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.

II.2.2 OUTREACH AND COMMUNICATIONS

The Gap Fund continued coordinating with donors and partners to identify opportunities to raise awareness on climate smart urban development and increase the visibility of Gap Fund among key stakeholders. It organized and participated in multiple outreach events to raise awareness among potential beneficiaries on the Gap Fund and the type of support available.

- **Coordination with partners:** The Gap Fund continued working with the Partner Communications Working Group for a coordinated approach to communications planning, information sharing, identification of events to increase the Gap Fund's outreach, and the organization of key events, including the announcement of the Gap Fund's additional contributions and increase in capitalization from EUR 55 to 105 million.

  The Partners Communications Working Group comprises of donors and city networks including C40, CCFLA, BMWK, BMZ, EIB, GCOM, GIZ, ICLEI, LUX, and the World Bank.

- **Outreach events:** The Gap Fund co-organized and participated in the following virtual and in-person outreach and communications events.
  - "Conversapolis" in February 2023.
  - "Forum of Mayors of Sustainable Cities" in March 2023.
  - "Global NDC Partnership Conference" in May 2023.
  - "Innovate4Climate" in May 2023.
    - "Unlocking Finance for Climate Adaptation and Biodiversity at the Local and Regional Level".
    - "Enabling Urban Transformative Climate Innovation".
  - "UrbanShift Adaptation Finance Academy for Brazilian Cities" in August 2023.
  - "Urban Care Dialogues" in September 2023.
  - "Africa Climate Summit" in September 2023.

- "CCFLA Central Asia Hub Roundtable 1: What is Central Asia's current Urban Climate project preparation support landscape?" in September 2023.
- "Unlocking Climate Finance Central Asia" in September 2023.
- "High level round table dialogue on subnational finance" in September 2023.
- "How to implement climate action in cities?" in October 2023.
- "Connective Cities: Working Group renewable energy at local level" in October 2023".
- "CCFLA Central Asia Hub Roundtable 2" in November 2023"
- "Urban Transitions Mission Centre/Transformative Actions Program Virtual Marketplace" in November 2023.
- "Breaking the silos: how the Gap Fund fosters cooperation along the project preparation cycle?" in December 2023.
- "Charting low emissions pathways and climate resilience plans through ambitious Long-Term Strategies – Multilateral Development Banks join forces to support countries" in December 2023.
- "Why is MDB reform crucial to accelerating urban climate finance?" in December 2023.

II.2.3 PARTNERSHIPS

The Gap Fund continued to collaborate with partners to share information on city climate finance, enhance the capacities of cities to access Gap Fund support, and exchange knowledge to inform the direction of the Gap Fund. Key collaboration activities included the establishment of partnerships with ICLEI and GCOM, the organization of the Partnership Forum, and participation in different working groups and events. An overview of these is provided below.

Partnership with ICLEI

Early in 2023, ICLEI, with support from an EIB-GIZ Gap Fund grant, started the implementation of the Step-Up project which aims to support Gap Fund beneficiary cities in Africa and Latin America to refine their urban infrastructure projects, making them investment-ready. In addition, the project facilitates knowledge exchange and transfer, with interactive technical capacity building sessions and city "pairing-and-sharing", to help cities make informed decisions, including the identification and selection of appropriate technologies and climate-smart infrastructure solutions, provision of tips and methodologies for investor engagement, planning financial roadmaps for urban infrastructure projects, and creating a targeted community of practice.

The project, which is expected to be completed in 2025, provides tailored technical assistance for 14 core cities in Africa and Latin America. These core cities are paired and

receive customized support to address similar challenges, enabling them to share, learn, cooperate, and build connections that would last beyond the project lifetime. Core city projects will be invited to an international event and linked with funding sources or other PPFs to move the project down the project value chain.

Partnership with GCOM

In 2023, the World Bank Gap Fund started the implementation and supervision of a grant to GCOM 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 support[12].

A training of trainers was held in Brussels in May 2023 to enhance the capacity of focal points and resource persons on the Gap Fund, eligibility criteria for support, and EOI submission process. 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.

In 2023, the GCOM team participated in eight awareness raising events, reaching 245 participants from 42 cities across 13 countries in Eastern Europe and Central Asia, Latin America and the Caribbean, South Asia, and East Asia and the Pacific. It also participated in seven outreach events with 229 participants from 116 cities in 18 countries across all regions, increasing awareness on the Gap Fund and the support available, organizing hands-on workshops for cities to prepare and complete EOIs, and identifying opportunities to help cities submitting applications.

Additionally, the team has conducted an assessment of EOIs submitted between 2020 and 2023 that provided insight about the needs and challenges from cities submitting EOIs to the Gap Fund, allowing them to deliver tailored support and share learnings and experiences from cities that received Gap Fund support.

Partnership Forum

The Partnership Forum provides a platform to share lessons learned on the TA implemented, and experiences on climate smart urban development and city climate finance. It offers the opportunity to exchange information and ideas to guide the overall strategy of the Gap Fund. For the first time since the inception of the Gap Fund, the Partnership Forum was organized in-person in Casablanca, Morocco in November 2023. It had the participation

[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).

of Gap Fund partners including BMZ, LUX, WB, EIB, GIZ, GCOM, ICLEI, CCFLA, C40 and the Cities Finance Facility.

During the event, representatives from the Municipalities of Chefchaouen, Zenata, and Fez, provided an overview of the TA received, or to be provided from the Gap Fund, and discussed challenges and lessons learned on project implementation. The Deputy Mayor from Casablanca presented the City's planned projects involving climate and environmental investment, although Casablanca is not presently receiving support from the Gap Fund.

Working groups and events

The Gap Fund also participated in different working groups and events convened by 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 the 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.

III. Monitoring Results

Table III-1 presents the progress made from inception to end of 2023 on the consolidated Gap Fund results framework.

TABLE III-1: CONSOLIDATED RESULTS FRAMEWORK STATUS TO DECEMBER 2023

Objective Help cities in LMICs transition towards low-carbon and climate-resilient pathways, in line with global efforts to limit temperature increase to 1.5 degrees above pre-industrial levels		
INDICATOR	**STATUS - DECEMBER 2023**	**7-YEAR TARGET**
Number of EOIs submitted through the Gap Fund website and jointly screened by the EIB and the World Bank Gap Fund	459	900
EIB Gap Fund		
Number of approved TA	42	N/A
Number of Gap Fund supported projects taken up for further preparation support or financing	3	85
World Bank Gap Fund		
Number of approved TA	53	N/A
Number of low-carbon, climate resilient urban projects that have been taken up for further preparation support or financing	7	50

IV. Financial Update

This section provides an update of the financial status of the Gap Fund as of December 2023. It includes contributions made by donors, disbursements, and available budget.

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

IMPLEMENTING AGENCY	CONTRIBUTIONS TO THE GAP FUND	AMOUNT PLEDGED	AMOUNT RECEIVED
EIB	BMWK	40	40
EIB	LUX	8	8
World Bank	BMWK	10	10
World Bank	BMZ	40	25
World Bank	LUX	7	4
Total		**105**	**87**

TABLE IV-2: GAP FUND FINANCIAL CONTRIBUTIONS RECEIVED, DISBURSEMENTS, AND AVAILABLE BUDGET – INCEPTION TO END OF DECEMBER 2023 (EUR MILLION)

IMPLEMENTING AGENCY	AMOUNTS RECEIVED	AMOUNT DISBURSED	REMAINING AMOUNT
EIB	46	8.26	37.7
World Bank	39	9.1	29.9

V. Next steps for the Gap Fund

In 2024, the Gap Fund envisions a significant increase in the number of initiatives to support low carbon and climate resilient urban development. Below is a description of the next steps on TA, partnerships, capacity development, knowledge building, and matchmaking.

Technical assistance: Considering the additional contributions made by the Governments of Germany and Luxembourg in 2023, the Gap Fund will intensify its efforts to increase its number of TA to support low carbon and climate resilient urban development. It will continue to monitor progress and track results of ongoing and completed TA. In addition, it will strive to capture lessons learned of the TA finalized and promote knowledge exchange and expertise between cities and key partners.

Partnerships: The Gap Fund will continue working with partners and donors to raise awareness about the Gap Fund and exchange ideas and expertise to strengthen its operations. This will include: (i) collaborating through the Partner Communications Working Group to strategize on the Gap Fund's visibility and identify events to promote it; (ii) participating in and presenting the Gap Fund at events organized by partners; and (iii) organizing the Partnership Forum to share expertise and information between partners on urban climate finance and lessons learned from the TA provided.

In 2024, the partnership with ICLEI will focus on fostering capacity development through regional in-person workshops that will be organized throughout the year. These will be supported with the development of practical tools and knowledge products, as required. In addition to the core city activities, based on recommendations from EIB, GIZ and GCOM, additional local governments in Africa and Latin America will be invited to join the Regional Communities of Practice (RCoMP) to share knowledge in a broader, region-based community.

The partnership with GCOM will continue supporting cities in the identification of projects and preparation of EOIs, expanding partnerships with regional city networks and cities, and gathering data to enhance the quality of EOIs. The GCOM team will work with a communication strategist to identify key messages and optimal channels to increase understanding of the Gap Fund. It will also develop a case study library to showcase the impact of the TA provided. This will include peer learning exchanges to enable cities learn from each other's project experiences. Additionally, the GCOM team will organize a session during the World Urban Forum to share experiences on how the Gap Fund has enhanced local climate action by enhancing bankability and investment readiness.

Capacity development: In 2023, EIB and the World Bank developed a joint capacity development plan to ensure collaboration, synergies, and leverage the respective value added of both institutions in the different capacity development activities. During 2024, they will coordinate the implementation of the activities identified in the plan.

The World Bank will continue to implement and supervise the partnership with GCOM which aims to increase the capacity of cities to identify projects and programs and enhance capabilities on the type of Gap Fund support available and process for preparing and submitting an application.

Knowledge sharing: The Gap Fund will continue working with partners to foster knowledge sharing through the organization of in-person and virtual events. It will focus its efforts in promoting knowledge exchange between cities on climate smart urban development through forums and other in-person events. It will share materials and lessons learned from the TA completed in different venues, including the Gap Fund website, webinars, and workshops. Additionally, it will continue to prepare project stories and factsheets to highlight the TA provided by the Gap Fund, the activities supported and its key achievements. The "One Gap Fund" website which had 34,559 page visits in 2023, an increase from 22,323 in 2022, will be restructured to better showcase the outputs of Gap Fund TA, news, stories, events, and knowledge content developed by the Gap Fund and partners.

Knowledge generation: During 2024, the Gap Fund will publish two technical notes, on improving resilience to urban heat and reducing embodied carbon emissions in urban construction, which were already in preparation at the end of 2023. It will explore the development of new analytical tools based on the needs and demands identified through the TA provided. These include tools that could potentially help cities: (1) estimate the cost of energy-efficiency and resilience retrofits in buildings, (2) develop their GHG inventories, and (3) identify and evaluate priority policy and technology interventions that have significant emissions reduction potential. Additionally, the Gap Fund will support the development of two World Bank flagship reports , one on closing the city climate finance gap in LMICs which is due to be launched at the end of 2024, and another on SWM due to be launched in the first quarter of 2025.

Matchmaking: The Gap Fund will continue to support the identification of financing sources for the TA completed that could provide support for later stages of project implementation. This will involve increasing coordination with partners, and case by case discussions with a wide range of project preparation facilities.

Annex

List of TA Activities Approved by the Gap Fund by the End of December 2023

YEAR	INSTITUTION	ACTIVITY NAME	COUNTRY	CITY/IES
2021	EIB	Generation of Biogas from Organic Market Waste	Vanuatu	Port Vila
2021	EIB	Strengthening Data Systems for Improved Drinking Water Management	Ecuador	Cuenca
2021	EIB	Light rail from Rio Hondo to Buenavista	Mexico	Naucalpan
2021	EIB	Stormwater Masterplan	South Africa	Mbombela
2021	EIB	Green roofs combined with facades and opening of sealed surface	Montenegro	Podgorica
2021	EIB	Valorization of municipal waste and assessment of its mitigation potential	Morocco	Chefchaouen
2021	EIB	Greening of urban areas through the Alley 12.7km project	Ukraine	Vinnytsia
2021	EIB	Support to safe and climate friendly street design	Ukraine	Lviv
2021	EIB	Pre-feasibility of municipal organic waste treatment alternatives	Guatemala	Escuintla; San Jose; Iztapa
2021	EIB	Linear Parks	Brazil	Campinas
2021	EIB	Urban forest	Colombia	Santa Marta
2021	EIB	Business Model for Solar Tricycles	Côte d'Ivoire	Danané
2021	EIB	Jardim Maravilha Wetlands Park	Brazil	Rio de Janeiro
2021	EIB	Circular economy in municipal solid waste management	Uganda	Makindye; Nansana; Kira; Entebbe
2021	WB	Climate-Smart Urban Development and Urban Resilience in Ethiopia	Ethiopia	Addis Ababa
2021	WB	Low-carbon and resilient municipal service delivery in Ahmedabad city	India	Ahmedabad
2021	WB	Unlocking the full potential for low-carbon emissions and urban resilience	Democratic Republic of Congo	Kinshasa
2021	WB	Green, Low Carbon and Climate Resilient Prishtina	Kosovo	Prishtina
2021	WB	Towards a green housing program in Dakar	Senegal	Dakar
2021	WB	Building Resilient and Sustainable Cities in Indonesia	Indonesia	Palembang; Banjarmasin; Denpasar; Bandung Raya; Padalarang; and Cirebon
2021	WB	Support for a climate resilient and low-carbon recovery in Mexican cities	Mexico	San Cristobal de las Casas; Tulum

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2021	WB	Supporting Cities to develop Climate Action Planning in Morocco	Morocco	Fez-Meknes Region; City of Fez
2021	WB	Ensuring sustainable urban transformation and climate smart development associated to a low carbon aerial transportation system in San Miguelito	Panama	San Miguelito
2021	WB	Vietnam: Climate-Smart City Action Plans	Vietnam	Vinh City; Ho Chi Minh City
2021	WB	Poltava Climate Change Mitigation and Adaptation Strategy	Ukraine	Poltava City
2021	WB	Low-carbon municipal service delivery of Solid Waste Management in selected cities of Karnataka	India	Mangalore and Kolar
2021	WB	Developing Energy-Efficient and Resilient Housing Strategies for key cities in Maldives	Maldives	Malé City; Hulhumalé; Thilafushi; Gulhi Falhu; Addu City; Fuvahmulah City
2021	WB	Low-Carbon Vital Neighborhoods Bogota - LAC Cities (Phase 1)	Colombia	Bogota
2021	WB	Climate-Smart City Investments for Quezon City	Philippines	Quezon City
2021	WB	Planning for Future Climate-resilient and Low-Carbon Reconstruction in the urban context in Yemen	Yemen	Aden
2022	EIB	Smart Street Lighting	Indonesia	Mataram
2022	EIB	Scaling up Solar PV in public schools and healthcare centers in Ojodu	Nigeria	Ojodu
2022	EIB	Aménagement durable et intégré de l'éco-cité Zenata	Morocco	Zenata
2022	EIB	Pre-feasibility for waste-to-biogas Plants in Kenya	Kenya	Kericho
2022	EIB	Blue Town Model Coastal Protection Project	Fiji	Savusavu
2022	EIB	Social Housing in Kodër Kamëz,	Albania	Tirana
2022	EIB	Household waste treatment plant	Argentina	Rosario
2022	EIB	Public procurement of PV systems in small and medium-sized cities	Argentina	Marcos Juarez; Puerto Esperanza; Posadas; Belle Ville; Godoy Cruz; Lújan de Cuyo; San Martín de los Andes; Plottier; San Miguel; Mar del Plata
2022	EIB	Integrating Climate Perspectives in Dhaka Urban Regeneration Project	Bangladesh	Dhaka
2022	EIB	Reframe the urban mobility services system in Curitiba	Brazil	Curitiba
2022	EIB	Sussuapara Conecta - the City's Green Infrastructure System	Brazil	Palmas

YEAR	INSTITUTION	ACTIVITY NAME	COUNTRY	CITY/IES
2022	EIB	Low Carbon City Sustainable Urban Transport Project	China	Xianning
2022	EIB	Electric School Bus Fleet	Colombia	Bogota
2022	EIB	Data and Priority Actions for Stormwater Management	Ecuador	Portoviejo
2022	EIB	Green Zone for Comayagua (ZVC)	Honduras	Comayagua
2022	EIB	Lusaka Flood Management for Climate Adaption and City Resilience	Zambia	Lusaka
2022	WB	Building energy-efficient housing strategies	Indonesia	Palembang; Musi Rawas; Lubuklinggau
2022	WB	Nature-Based Solutions for a Green and Livable Bamako	Mali	Bamako
2022	WB	City-wide Climate Resilient Strategies for Kenya's Two Metropolitan Cities	Kenya	Nairobi; Mombasa
2022	WB	Climate Smart Capital Investments in Tanzanian Cities	Tanzania	Arusha; Dodoma; Kigoma; Tabora; Geita; Ilemela; Kahama; Mwanza; Mbeya; Morogoro; Songea; Sumbawanga; Dar es Salaam
2022	WB	Climate resilient development in selected Bangladeshi cities	Bangladesh	Rajshahi; Basail; Milandah
2022	WB	Developing Energy-Efficient and Resilient Housing Strategies for key cities in Mongolia	Mongolia	Erdenet; Darkhan
2022	WB	Promote Nature-Based Solutions to Increase Climate and Disaster Resilience in the City of Kigali	Rwanda	Kigali
2022	WB	Cambodia Sustainable Cities Initiative	Cambodia	Phnom Penh
2022	WB	Developing a platform for real time monitoring of cities GHG emissions	Egypt/ South Africa/Türkiye	Cairo; Alexandria; Luxor; Shakh Zayed City; Johannesburg, Tshwane; Ekurhuleni; eThekwini; Ordu, Trabzon; Adana; Manisa
2022	WB	Support for the development of strategies for electric mobility adoption in Buenos Aires, Argentina	Argentina	Buenos Aires
2022	WB	Porto Alegre Climate Vulnerability Assessment and Action Plan	Brazil	Porto Alegre
2022	WB	Smart and Green Amman	Jordan	Amman
2023	EIB	Coastal protection in Libreville and Port-Gentil, Gabon	Gabon	Libreville and Port-Gentil
2023	EIB	Bioenergy and resource center for waste treatment	Namibia	Otjiwarongo
2023	EIB	Organic waste management and treatment in three cities	Tunisia	La Marsa, Carthage, Sidi Bou Said

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2023	EIB	Community-owned solar energy generation	Argentina	Buenos Aires
2023	EIB	Sustainable municipal solid waste management	Kenya	Nyamira
2023	EIB	Waste to biogas production of clean energy	Kenya	Kisumu
2023	EIB	Solar energy and solid waste management for Salvador, Brazil	Brazil	Salvador
2023	EIB	Innovative climate-resilient wastewater value chain	Zanzibar	Tanzania
2023	EIB	Intermunicipal integrated waste management	Kosovo	Gjilan and Ferizaj
2023	EIB	Energy efficiency in multi-household residential buildings	Montenegro	Nikšić
2023	EIB	Energy audits for public buildings in Balti, Moldova	Moldova	Balti
2023	EIB	Facilitating climate-smart investments in Elbasan, Albania	Albania	Elbasan
2023	WB	Identification of investments in NbS for climate resilience	Central African Republic	Berberati; Bambari; and Birao
2023	WB	Identification and preparation of climate-smart investments for Cambodian cities	Cambodia	Battambang; Kampot; Kep; Poipet; Siem Reap; and Sihanoukville
2023	WB	Integrating low-carbon infrastructure and nature-based solutions in Kingston waterfront improvement project	Jamaica	Kingston
2023	WB	Supporting the development of bicycle infrastructure in Bolivia	Bolivia	El Alto
2023	WB	Chennai's solid waste management plan	India	Chennai
2023	WB	Scaling up low-carbon and resilient investments in Uganda	Uganda	Kampala; Arua; Gulu; Lira; Mbale; Soroti; Jinja; Masaka; Mbarara; Fort Portal; Hoima; Entebbe; Tororo; Kabale; Moroto; Mubende; Kamuli; Kitgum; Kasese; Lugazi; Busia; Apac; and Ntunga
2023	WB	Identifying climate-smart investments for urban development in five cities in Turkiye	Türkiye	Antalya; Balikesir; Konya; Malatya; Osmaniye
2023	WB	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
2023	WB	City-level climate-smart solid waste management plans in Meghalaya	India	Meghalaya
2023	WB	Integration of nature-based solutions in Abidjan's drainage masterplan	Cote d'Ivoire	Abidjan
2023	WB	Supporting Dushanbe's transition to a low-carbon solid waste management system	Tajikistan	Dushanbe

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2023	WB	Low-carbon investment planning for six cities in Thailand	Thailand	Bangkok, Khon Kaen, Chiang Mai, Phuket, Rayong, Nakhon Sawan
2023	WB	Greater Beirut Green Urban Recovery and Development Strategy	Lebanon	Beirut
2023	WB	Developing climate-resilient solid waste management strategies for selected cities in Indonesia	Indonesia	Malang, Palembang, Pontianak, Kendari and Toba
2023	WB	Identification and prioritization of urban investments in nature-based solutions in Nepal	Nepal	Itahari
2023	WB	Promoting climate-smart integrated urban development with mass transit and affordable housing in India	India	Haryana
2023	WB	Identification of actions to integrate climate change in urban development and promote low-carbon mobility	India	Hyderabad
2023	WB	Developing climate change action plans for three cities in Sierra Leone	Sierra Leone	Makeni, Bo, and Kenema
2023	WB	Development of a low-carbon solid waste management action plan for Gyumri	Armenia	Gyumri
2023	WB	Integrating climate change in urban market development in El Salvador	El Salvador	Santa Ana, San Miguel, Ilobasco, La Libertad
2023	WB	Low-carbon urban development in Shijiazhuang	China	Shijiazhuang
2023	WB	Low-carbon and resilient urbanization in Dodoma	Tanzania	Dodoma
2023	WB	Climate-smart Recovery Investment Planning in Ukraine	Ukraine	Zhytomyr, Vinnitsia, Kharkiv, Kyiv, and Cherkas
2023	WB	Promoting green affordable housing standards and green housing provision in Punjab	Pakistan	Sialkot, Lahore, and Attock
2023	WB	Palestine urban heat island mitigation strategy	Palestine	Gaza City

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