

GGGI Technical report: Hungary Office

Scaling Up Private Finance for Urban Climate Action: Lessons and Recommendations for Local Governments

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Executive Summary

Cities are at the forefront of the global climate challenge, as they are responsible for over 70% of global CO₂ emissions while they are also highly vulnerable to climate risks. Despite their crucial role, they face significant financial constraints in mobilising the investment required for low-carbon, climate-resilient infrastructure. Although climate finance has experienced significant growth and diversification over the past decades, cities continue to struggle with funding gaps, regulatory barriers, and limited access to private investment.

According to the latest estimations, for climate mitigation, cities require an estimated USD 4.3 trillion annually from now until 2030, and over USD 6 trillion per year from 2031 to 2050 to achieve 1.5°C pathways (CCFLA, 2024). Whilst adaptation flows are estimated to be approximately USD 10 billion annually currently, urban climate adaptation needs are projected to be USD 147 billion per year, and will need to be increased to USD 165 billion annually by 2050 to meet the cities' needs. Scaling up private finance is essential to bridge these gaps and accelerate urban climate action (CCFLA, 2024).

Addressing urban climate finance barriers and needs requires urgent steps on the part of national policymakers and city officials to create an enabling environment and take definitive steps to acquire private finance through a multi-faceted approach that includes policy reforms, financial innovation, and building capacity.

This report explores the way that cities can attract private capital by addressing financial and regulatory barriers, creating a favourable investment environment, and strategically leveraging financial instruments. Through an analysis of case studies and municipal finance structures, this report identifies five key areas that require local governments' action:

- **Enhancing municipal financial stability**—strengthening revenue streams and integrating climate priorities into financial planning
- **Creating an investment-friendly environment**—making climate targets consistent with national policies and regulatory reforms to attract private capital
- **Strengthening multi-level governance and collaboration**—improving coordination between local and national governments to access funding and policy support
- **Building institutional capacity**—equipping municipalities with the expertise and tools needed to develop investment-ready projects
- **Taking advantage of financial instruments**—expanding the use of green bonds, blended finance, and public-private partnerships to mobilise large-scale investment

By creating a conducive investment environment and taking advantage of financial instruments strategically, cities can mobilise the private capital needed to accelerate the transition to climate neutrality and resilience. Stronger governance, enhanced collaboration with national authorities, and innovative financing mechanisms will be critical to bridge the funding gap and ensure sustainable urban development.

1 Background on Finance for Urban Climate Action

Copernicus, the European Union's Climate Change Service confirmed that 2024 was warmest year on record, and at the same time, marking the first year that breach the 1.5°C threshold set by the 2015 Paris Agreement (Copernicus Climate Change Service, 2024). This adverse effect can be felt more intensely in urban areas because of their morphology, dense infrastructure, and population. Cities cover only 2% of the world's land surface, yet more than 4.3 billion people, or 55% of the world's population, live in urban settings, and this number is expected to rise to 80% by 2050. In addition to their unique vulnerability to climate change, on a global scale, cities consume over 65% of the world's energy and account for more than 70% of global CO₂ emissions (European Commission, 2021), which gives them a pivotal role in achieving climate neutrality and building urban systems' resilience.

Cities have many capabilities and responsibilities needed for progress towards sustainability, but whether they fulfil their potential depends upon raising finance for a significant expansion of low-emission climate-resilient infrastructure and urban spaces (Alexander et al., 2019). Research shows a significant gap between the amount that cities can raise and the amount they need to meet their climate mitigation and resilience needs.

This report identifies ways to overcome key barriers to scale-up the private sector's investment in urban climate action. It draws on insights from investment case studies, testimonies from city officials, and secondary research on the barriers and enablers to mobilising urban climate finance. Building on this, the report provides recommendations to cities to overcome the barriers identified to help cities attract private capital and bridge critical funding gaps.

The following chapter explores the current climate finance landscape and examines how cities can mobilise climate finance through different financial mechanisms and sources.

2 The Landscape of Climate Finance

Climate finance generally refers to financing and funding for activities intended to mitigate or adapt to the adverse effects of climate change. It is often intertwined with related and overlapping concepts of low-carbon finance, green finance, and sustainable finance. One of the definitions accepted widely is that of the United Nations Framework Convention on Climate Change (UNFCCC) Standing Committee on Finance (2014), according to which “Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing the vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts” (p. 5).

To help the reader understand the definition, the figure below shows what measures and actions are supported by “climate finance”:

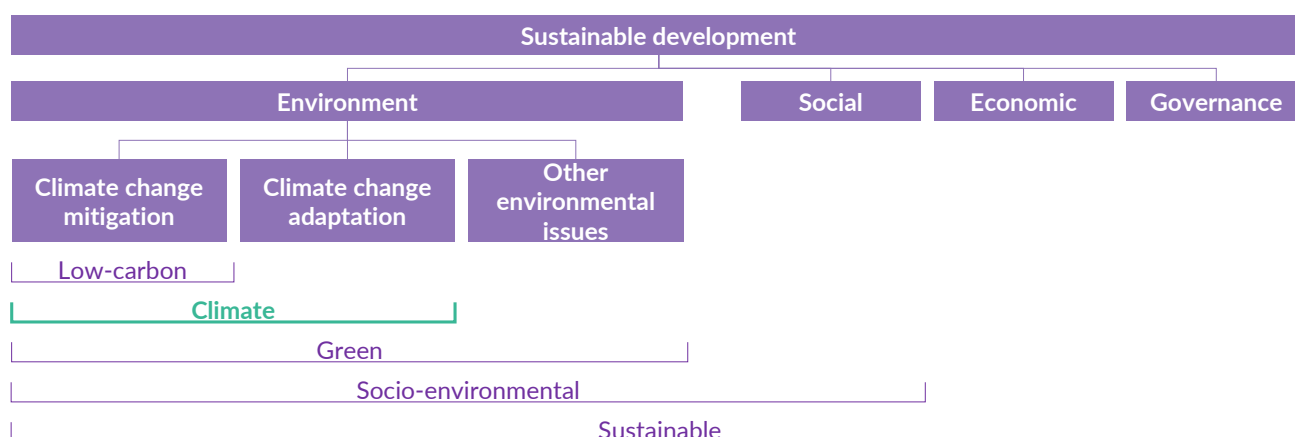


Figure 1: Diagram For Understanding Climate Finance (GGG, adapted from: (C40 Cities, 2022).

The climate financing landscape can be defined across different dimensions:

1. The source of finance:
 - According to its domain: public, private, or mixed
 - According to its provenance: sourced domestically, within national borders, or internationally (from one country to another—‘bilateral’—or from several countries to another—‘multilateral’)
 - According to whether it is derived from national or subnational governments, international organizations (including development banks), corporations, multilateral funds, financial, or another type of institution
2. The type of finance, or instrument used to provide it (e.g., development aid, equity, or debt).
3. The cost of finance, whether it comes at market rates or is in some way concessional (lower cost).
4. The economic sector and climate objective (mitigation, adaptation, or disaster recovery) of the measure or investment that is financed.

Cities have various mechanisms and instruments at hand to secure finance. For example, they can finance their climate action from their own source revenues (OSR)—which consists of citizens' charges and taxes—and from sources external to the municipality or local government. These can take the form of debts or grants, or can take advantage of private sector resources (see Figure 3).

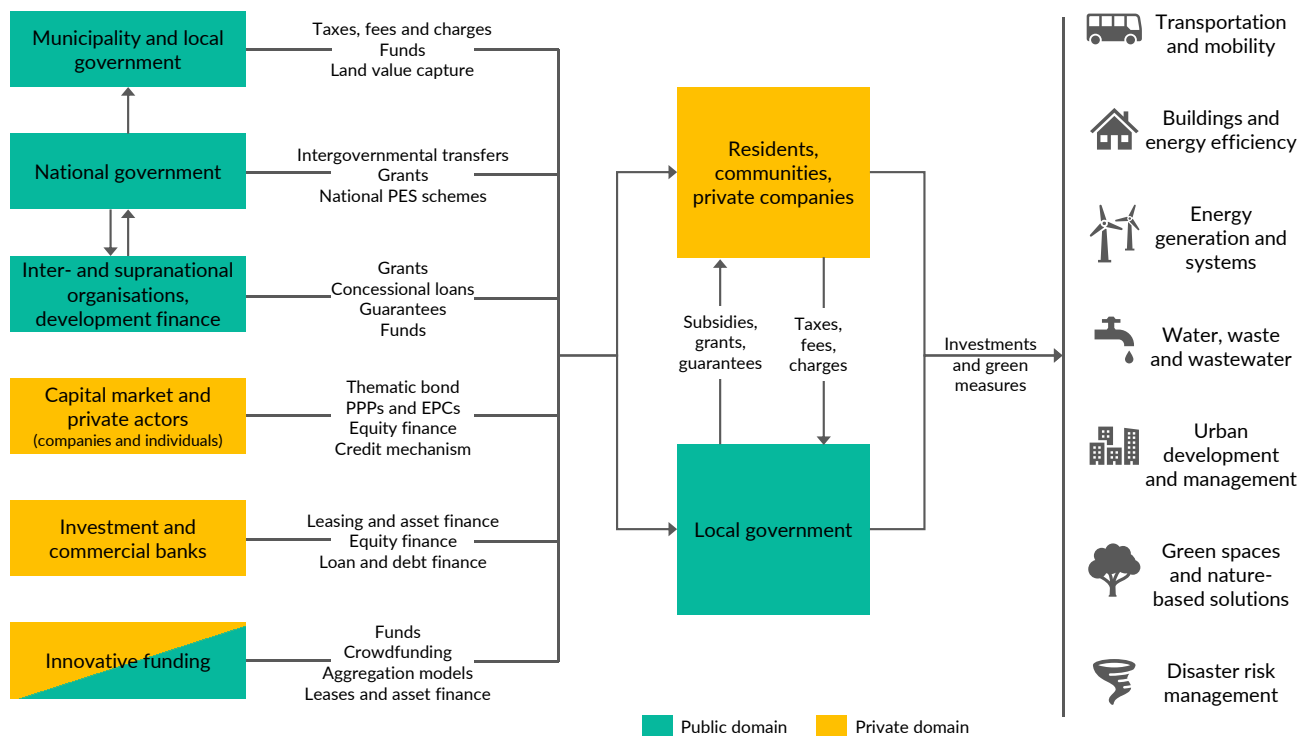


Figure 2: Sources of Finance in Municipalities and Interplay Between Public and Private Stakeholders (GGGI, modified from European Environment Agency (2023).

The following section summarises the role of stakeholders discussed in Figure 3 in climate financing:

- Municipal and local government**—As they have direct responsibility for essential services and infrastructure, local and regional governments are positioned uniquely to plan, finance, and deliver projects that build resilience and advance sustainability goals. To fund local resilience and neutrality initiatives, municipalities can take advantage of municipal budgets, issue green bonds, establish public-private partnerships (PPPs), access national and international climate funds, and introduce local taxes or fees for sustainability initiatives. The ability to access and deploy different financial instruments depends often upon the broader enabling environment, such as the degree of fiscal and financial autonomy (e.g., the ability to introduce new taxes) and national regulatory frameworks (e.g., limitation on municipality debt levels) (NewClimate Institute, 2023; OECD, 2023; ICMA, 2024).
- National government**—National governments play a key role in mobilising finance for urban climate projects, both by initiating and implementing projects directly themselves and by supporting those led by municipalities. They can provide direct funding through intergovernmental transfers, grants, and low-interest (concessional) loans that often emphasise collaboration and consistency with broader climate strategies. They can allocate revenues from carbon pricing mechanisms, such as taxes or cap-and-trade systems, to fund local climate actions. In addition, they can also create dedicated climate funds or green bond programs to channel resources to municipalities, and de-risk municipal climate initiatives by providing guarantees or co-financing to make them more attractive to private investors (C40, 2025; CCFLA, 2024; Net Zero Cities, 2022). In addition to financing, national governments play a critical empowering role. They establish supportive policies and regulatory frameworks, facilitate access to international climate finance, and enhance municipal creditworthiness, all of which help cities secure and manage funding (C40 Cities, 2025). They can also promote multilevel coordination, align national and local climate agendas, and provide technical assistance and build capacity to strengthen municipalities' ability to design, fund, and implement effective climate projects.

- **Inter- and supranational organisations, development finance**—These include international public actors, such as multilateral and bilateral development banks, global climate funds, and international (including EU-level) financing instruments that provide long-term capital and technical assistance for municipal climate action. Through such mechanisms as grants, concessional loans, guarantees, and blended finance, these institutions help cities prepare and implement climate-aligned projects while they reduce financial and investment risks. They also support municipalities with capacity building, project preparation, and access to green bonds or PPPs, and play a key role in making local action consistent with national and global climate goals, including the Paris Agreement and the Sustainable Development Goals (SDGs). Challenges with this type of financing include complex application processes, limited direct access, and internal capacity constraints to meet eligibility and reporting requirements (WRI; World Bank, 2024).
- **Capital market and private actors (companies and individuals)**—Capital markets facilitate the trading of long-term debt and equity instruments. They play a critical role in mobilising large-scale private sector investments to address climate change by providing municipalities, companies, and governments access to diversified sources of finance for climate mitigation and adaptation initiatives, through instruments such as green bonds, sustainability-linked bonds, or issuance of equities. Private companies and investors provide essential funding, expertise, and innovative solutions. They engage through mechanisms such as public-private partnerships (PPPs), direct investments, green bonds, and philanthropic contributions. To manage risk and enhance project viability, private actors often take advantage of instruments such as credit guarantees and blended finance. Their involvement brings not only financial resources, but also innovation by introducing advanced technologies such as smart grids or electric mobility solutions. However, regulatory barriers, policy uncertainty, and governance challenges can limit their participation. To attract and sustain private investment, municipalities can focus on strengthening policy predictability, improving transparency, and developing bankable, investment-ready project pipelines. Clear procurement processes, co-financing strategies, and consistent long-term climate planning also play a critical role in attracting private finance (UNFCCC, 2023; Climate Bonds Initiative, 2022; C40, 2024; World Bank, 2024).
- **Investment and commercial banks**—Banks are key players in mobilising capital for municipal climate projects, as they offer green financial products, including loans and underwriting bonds, while they also facilitate partnerships with development banks and institutional investors. By aligning their portfolios with climate objectives and advancing innovation in green banking, commercial banks help structure financing mechanisms for urban initiatives, such as renewable energy, energy efficiency, and sustainable urban infrastructure. Financing municipal climate projects through commercial banks can provide access to significant capital, scalability, and private sector expertise that allows municipalities to undertake large-scale, sustainable initiatives. Typically, commercial banks finance revenue-generating, well-structured projects, and assess creditworthiness, repayment capacity, and risk. Early project preparation and alignment with bank requirements, such as feasibility studies and clear cash flow models, can improve access to financing significantly, and is also recommended, as banks can provide expertise in structuring projects and assessing their commercial viability (World Bank, 2024; Lala & Stone, 2023).

Innovative finance includes mechanisms and solutions that increase financial flows' volume, efficiency, and effectiveness, that mobilise, govern, allocate, or distribute financial resources in addition to traditional sources of finance (United Nations Economist Network, 2023). These solutions create scalable and effective ways to channel both private and public resources from the global and local markets towards sustainable investments by engaging new partners, enhancing public finance's effectiveness through mechanisms such as blending or risk reduction, and improving financial efficiency by reducing implementation costs and time.

Blending is a key strategy for municipalities to attract additional finance. For example, by using grants strategically, it is possible to obtain further public and private investment, recycle funds through repayments, and ensure that support reaches influential, market-ready projects with strong business plans (Kupper et al., 2024). PPPs are used often to combine different financing instruments and take advantage of blending's full

potential (EBRD, 2024). By combining concessional public finance with private investment, cities can reduce risk, enhance project bankability, and take advantage of additional funding for transformative climate actions. This approach not only maximises the effect of limited public resources, but also fosters innovation and long-term sustainability through private sector expertise and operational efficiency (World Bank, 2021). Many cities have used PPPs successfully to secure finance for their climate projects. For example, the City of Bilbao formed the Management Commission of Zorrotzaurre, composed of public institutions and private landowners, to pool resources and responsibilities based upon land ownership shares. This PPP structure allowed joint funding of major infrastructure elements, such as flood protection and green public spaces, while it took advantage of both municipal budgets and private contributions to manage risks and implementation (Climate-ADAPT, 2016).

2.1 The funding gap

Over the past decade, climate finance has experienced significant growth and diversification. The Paris Agreement gave new momentum to climate finance, as countries committed to mobilise finance to support decarbonisation and climate resilience goals. At the same time, large-scale climate interventions require considerable resources to bring them to fruition. According to the latest estimations for climate mitigation alone, cities require an estimated USD 4.3 trillion annually from now until 2030, and over USD 6 trillion per year from 2031 to 2050 to achieve 1.5°C pathways (CCFLA, 2024). Climate mitigation finance reached USD 814 billion in 2021/2022, more than double the amount in 2017/2018 (USD 376 billion), falling short of estimated needs (CCFLA, 2024). The gap is particularly great in the transport, energy, and buildings and infrastructure sectors (see Figure 1). This highlights the urgent need for targeted policy interventions and scaled-up investment to align finance flows with climate goals.

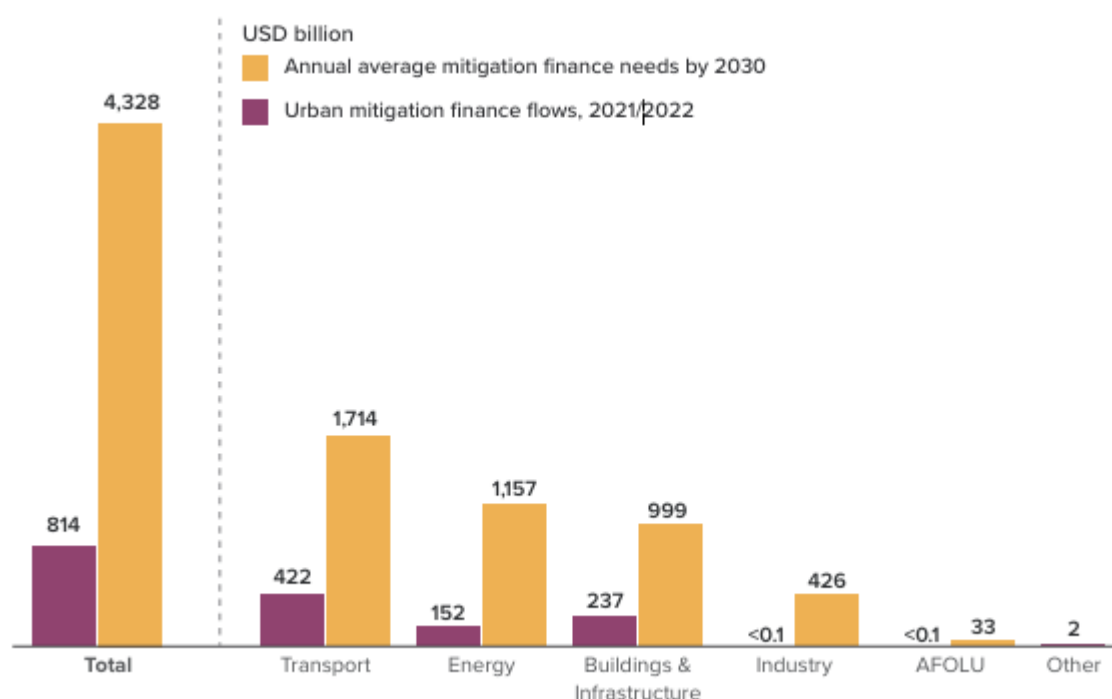


Figure 3: Climate Finance Flows and Needs in Key Urban Mitigation Sectors (CCFLA, 2024).

Climate adaptation needs are more difficult to project, and CCFLA's calculations cover such trends only in emerging markets and developing economies. According to their estimations, urban adaptation finance rose from USD 7 billion in 2017/2018 to USD 10 billion in 2021/2022. However, cities' adaptation finance needs will increase to USD 147 billion annually by 2030 and will continue to increase to USD 165 billion between 2030 and 2050 (CCFLA, 2024).

Research and feedback from city officials emphasises this funding gap further (IFC, 2018; Alexander et al., 2019; World Bank, 2023; Ulpiani et al., 2023; Kupper et al., 2024) , which revealed that accessing and securing finance remains one of the greatest challenges that cities face in implementing their climate action plans. The challenge is not simply to increase the amount of money for investments, but also to create a conducive environment that encourages existing and new financing to flow from a broad spectrum of sources, as well as ensures that climate finance is spent effectively and efficiently.

2.2 The role of private finance

Cities' investment capacities through OSR in constrained fiscal and monetary environments are limited, which creates significant hurdles for them to raise necessary finance. Local governments often have budget capacity constraints and are unable to finance the large volumes of low-carbon and climate-resilient infrastructure needed to realise climate transitions. Limited taxation powers are exacerbated by the difficulty of increasing taxes in the current economic (and political) environment. Taxpayers are weary of having to provide any more funds following several years of overlapping negative shocks and record-high inflation. In addition, competition for scarce public budgets—divided among priorities such as the digital transition, military spending, and social infrastructure—together with inflation and debt costs, limits resources for the green transition. Municipal budgets have been strained further by the effects of COVID-19, the energy crisis, and geopolitical tensions.

This underscores that the efficient use of local, national, and international finance together with private sector investment, is pivotal to close the gap, but significant efforts are needed to raise contributions from these domains. Municipalities often face challenges in accessing international climate finance because of structural, technical, and institutional barriers. They need to build their technical capacity, improve creditworthiness, align projects with national policies, take advantage of partnerships, and use de-risking mechanisms to attract international investment from inter- and supranational organizations and other sources of international development finance (Beavor et al., 2023). In the case of private finance, municipalities may struggle to stimulate private finance as it entails more than just standard courses of action. Private lenders and investors may be deterred from supporting projects that are perceived to be high risk (e.g., macroeconomic instability or regulatory uncertainty) or projects that cannot capture their benefits in a way that pays a return on the capital invested (e.g., in the case of some climate adaptation projects). Thus, cities must work to mobilise additional private capital by creating innovative financing solutions and mechanisms that act as catalysts and ensure their climate finance's effectiveness.

Given the limited availability of public finance, it is essential to take advantage of innovative financial instruments to attract private investment, which is poised to play a more prominent role in financing the transition to climate neutrality and resilience (Barbarà & Hadap, 2024). Cities must use public funds strategically to acquire private investment and bridge the financing gap. Private investment in urban development can take two forms: (1) private sector participation in investments (e.g., commercial banks, pension and investment funds, companies) and (2) private investment on the part of individuals and private corporations in the development of urban space (e.g., housing, offices, factories etc.). Apart from investors and funders, private sector organizations may be operations and maintenance providers (e.g., operating a bus franchise), and those that deliver infrastructure (e.g., design and building contractors).

3 Methodology

In this report, we rely on data and information gathered during the [UP2030 Horizon Europe project](#), which combines a literature review, direct engagement with European cities, and case study analysis to examine climate action financing and urban resilience. The literature review provides a theoretical foundation and identifies key financial barriers, regulatory constraints, and innovative funding mechanisms for cities. Through workshops, surveys, and discussions with cities that participated in the project, we identified real-world financial challenges, municipal needs, and strategies for mobilising investment. These case studies were selected from established collections compiled by organizations such as the CCFLA, Net Zero Cities project, European Environment Agency, National Adaptation Plan Global Network, and others. The selection was designed to illustrate the application of key financing instruments, with a focus on covering a broad range of mechanisms. By integrating these three dimensions, our findings present a comprehensive perspective on the financing landscape for urban climate resilience, on which we base recommendations to overcome barriers to attract private finance.

The UP2030 project engaged ten city municipalities in Europe: Belfast; Budapest; Granollers; Istanbul; Lisbon; Milan; Muenster; Rotterdam; Thessaloniki, and Zagreb. These cities gave insights into needs and barriers in workshops, a financing needs survey, and focused discussions on financing and funding urban climate action and measures. The needs and barriers identification workshops helped cities articulate their challenges and experiences in raising finance. A survey on financing needs and barriers gathered insights on city-specific funding sources, budget structures, and financial limitations and capacities that provided a comparative basis to understand common financial constraints. In addition, focused workshops allowed cities to provide direct feedback on financing challenges and help influence the development of financial guidance tools. Discussions were held to gain in-depth insights on specific challenges and needs that the cities indicated (such as on budgetary constraints, access to funding, and engagement with private sector stakeholders).

3.1 Overview of case examples

To complement our engagement with UP2030 cities, we conducted a high-level analysis of 44 case studies on the implementations of financial instruments and mechanisms in urban climate and resilience projects. The case studies drawn from 31 countries and all six world regions provided examples of the way that various financial instruments and mechanisms have been applied in practice to advance urban climate action. Of the cases examined, 29 focused on individual cities, while 15 covered multiple municipalities at regional or national levels, and thus offered a diverse perspective on financing strategies across different governance scales. The cases analysed covered six economic sectors and focused on actions that target climate mitigation, adaptation, or both.

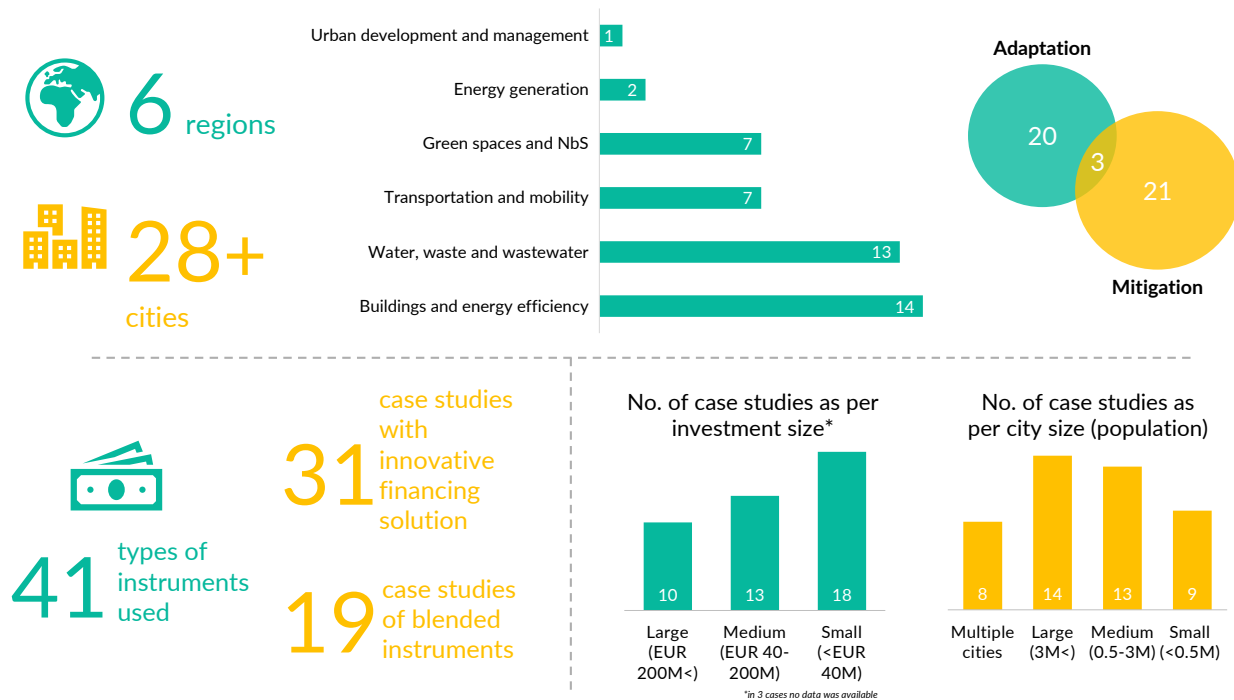


Figure 4: Overview of Case Studies Analysed (GGGI).

While the case studies did not allow in-depth contextual analyses—such as regulatory conditions, local governance structures, or municipal financial capacities—they offered concrete examples of financial solutions in action. Each case study was categorised according to the following key dimensions:

- Climate action type (mitigation, adaptation, or both)
- Urban sectors
- Financial instruments and mechanisms used
- Blending of public and private financing
- Role of different financing stakeholders involved (public sector, private sector, international finance, etc.) and whether a third party provided technical assistance
- Role of the national government in initiating or facilitating the project
- Project investment size and population
- Level of private sector involvement

4 Overcoming Barriers: Recommendations for Local Governments to Scale-up Private Finance

Despite the growing recognition of the critical role that private finance plays in funding urban climate action, local governments continue to face significant barriers to mobilising investment. While traditional sources of finance (public funding, international grants, loans etc.) remain the primary sources of financing for urban climate initiatives, they are often insufficient to meet the scale of investment needed, which makes it essential for cities to take advantage of private capital through innovative financial mechanisms.

The case studies revealed that the majority of projects financed involved some form of private investment, whether through green bonds, direct private financing, commercial loans, or crowdfunding. These examples highlight that private sector participation is possible across diverse financing models, but also underscore the need for favourable conditions that facilitate scaling up investments. However, many cities still struggle to attract private finance because of unclear regulations, high investment risks, and a lack of financial expertise. Drawing on insights from the literature review, engagement with UP2030 cities, and analysis of the case studies, we identified strategic actions that local governments can take to overcome barriers and acquire new funding opportunities, de-risk private sector participation, and accelerate their transition towards climate neutrality and resilience.

4.1 Strengthening municipal fiscal stability

Weak fiscal conditions, poor budget planning, and overreliance on subsidies make cities financially unstable and unattractive to private investors. Cities often lack dedicated climate budgets, which forces sustainability initiatives to compete with other municipal priorities, such as healthcare, education, and public safety. For example, Milan has faced challenges in financing sustainable transport because of competing budget priorities that delayed key urban mobility projects (Kupper et al., 2024). In addition, low creditworthiness (or lack of credit rating) and limited ability to raise capital restrict access to affordable financing.

Recommendations

1. **Improved fiscal stability to create an enabling environment for private finance.** This could be accomplished by (1) adopting green budgeting, (2) integrating climate considerations into financial planning—to embed climate priorities in municipal spending rather than treating them as secondary concerns, (3) improving open access to financial data, and (4) integrating robust climate risks into financial planning.
2. **Strengthening cities' own revenue sources**—such as property taxes, lease agreements, and land value capture—to create predictable funding streams, enhance financial stability, and reduce dependency on unpredictable external funding. Several larger cities have introduced climate-aligned revenue sources already, such as congestion charges; for example, the net revenues from Congestion Charges in London reached EUR 370 million in 2021/22 (Transport for London, 2022). Cities must ensure that they have predictable and reliable sources of income to repay financing, de-risk investments, and pay for operations and maintenance after projects are implemented.

4.2 Creating a favourable environment to take advantage of private finance

Unclear long-term sustainability targets lead to investors' uncertainty and lack of confidence in municipal climate commitments. Many cities lack comprehensive climate action plans or long-term strategies consistent with national plans that send strong signals to private investors about financing needs. Without a stable policy framework, investors are reluctant to commit capital to long-term infrastructure projects. For example, in the EU Cities Mission, 66% of cities cited the lack of funding or financing schemes as a critical barrier to climate action attributable to policy uncertainty (Ulpiani et al., 2023). Regulatory and policy gaps fail to encourage private investment in sustainable infrastructure. In many cities, existing financial regulations do not provide clear incentives for climate-friendly projects, which makes it difficult to redirect private capital towards sustainability. For instance, in Johannesburg, regulatory inflexibility prevented the city from contracting third parties for off-balance sheet funding, and thus delayed energy efficiency initiatives (C40 Cities, 2016).

Recommendations

1. **Set long-term sustainability targets** that are consistent with national and regional climate strategies and other local development strategies to provide clear investment signals that offer investors greater certainty, for example, developing Sustainable Energy and Climate Action Plans (SECAPs).
2. **Introduce regulations and standards to direct private capital to sustainable activities:** Municipal policies, such as mandatory energy efficiency standards for buildings, low-emission transport regulations, and green procurement rules, can create demand for sustainable investments. The Tokyo Metropolitan Government's Emissions Trading Scheme and Brazil's Forest Code illustrate how regulatory interventions can incentivise private investment in climate-friendly solutions.
3. **Understand and enhance creditworthiness to attract low-cost private financing.** Cities should seek credit ratings, as higher-rated municipalities signal financial stability and reduce perceived risks for investors. For example, Cape Town's green bond issuance secured EUR 79 million in 2017 with an investment-grade Moody's rating. After Detroit filed for bankruptcy in 2013, it restructured its debt, improved its revenue collection, and implemented cost-saving measures to rebuild its financial stability and credit rating. By 2018, several agencies had upgraded Detroit's credit rating, which reflected its improved fiscal health and allowed it to issue bonds at more favourable rates. Therefore, cities can take several key steps to increase their creditworthiness (C40, 2016):
 - Increase OSR and manage expenditure
 - Introduce best practices for financial management processes
 - Develop a 'climate smart' long-term capital investment plan
 - Build a pipeline of public infrastructure projects
 - Undertake a 'shadow' credit rating assessment

4.3 Working with higher levels of government to increase access to financial resources

Legal and regulatory frameworks that national governments set can limit access to certain types of finance. Lack of fiscal autonomy limits cities' ability to borrow (e.g., through regulatory debt limit), issue bonds, or introduce climate-related taxes, which restricts their financial independence. Studies have indicated that 56% of countries forbid any kind of borrowing on the part of local governments (including issuing municipal bonds), and only 16% of countries allow any taxation powers (Negreiros et al., 2021). Most countries in Europe impose some form of regulatory or legal limits on local government borrowing and tax-raising abilities, and typically require higher-level approval or adherence to strict regulations to ensure fiscal responsibility and prevent accumulation of excessive debt (Geißler et al., 2019). Although the goal is to prevent local authorities from becoming indebted, regulatory red tape, unclear climate legislation, and misalignment between national and local policies exacerbate these issues. In addition to limited taxation powers, cities may also be restricted legally from introducing or collecting fees (e.g., congestion charges, environmental levies, or service tariffs), which could otherwise help fund or guarantee climate investments. Constraints on innovative mechanisms, such as PPPs, and inflexible procurement processes deter private sector involvement further. For example, public procurement laws often prioritise lowest-cost bidding rather than lifecycle value or sustainability. This prevents cities from choosing innovative, low-carbon solutions that may have higher initial costs but better long-term outcomes. Moreover, national legislation may not allow local governments to engage with certain types of private finance or international funds directly. Finally, regulatory frameworks often lack the agility and flexibility needed to accommodate local needs or take advantage of emerging funding opportunities, which ultimately hinders municipalities' ability to raise finance.

Fragmented national and local policies prevent cities from accessing climate finance or making municipal investments consistent with national priorities. A lack of a shared goal, vision, or priorities between government bodies—including discrepancies between the project's scope and geographical jurisdiction—prevents effective coordination and city-level action. Many climate finance mechanisms operate at the national level, which makes it difficult for cities to secure direct funding if targets and measures are not consistent at different levels of governments. Bureaucratic inefficiencies and complex approval processes can also pose a significant barrier that discourages private-sector involvement and slows project implementation.

The case studies showed that national governments typically do not initiate projects that involve a single city. Instead, they engage in larger programmes or launch funding programmes at the national or regional level in which cities participate, such as the Property Assessed Clean Energy (PACE) or Warehouse for Energy Efficiency Loans (WHEEL) aggregation platform programmes in the US. On several occasions, the national government's role was to provide finance (e.g., via subsidies), act as a guarantor, or provide other support. Examples include:

- Residential energy efficiency instruments in Lithuania, implemented by the Ministry of Finance and Ministry of Environment
- Indonesia's Sovereign Blue Bond issued by the Government
- Fiji's Sovereign Green Bond issued by the Government
- Malmö's climate adaptation projects in its new harbour district, subsidised by the Government of Sweden

Recommendations

At the national level, stronger economic governance, including improved business regulations and responsible debt management, can increase investor confidence and attract capital inflows. In addition, strategic policy interventions and multifaceted, targeted legislation and regulation can create a favourable environment to stimulate private investment in urban climate projects and alleviate governments and cities' fiscal burden. To mobilise private finance for climate action effectively, municipalities must ensure strong alignment between local, national, and regional policies. Cities should identify clearly what action the national government and other authorities or agencies need to take to facilitate the implementation of measures. Climate action planning, climate budgeting, and other relevant processes and documents can become lobbying tools themselves (C40 Cities, 2024). Municipal governments must engage proactively and improve communication with higher levels of government and national stakeholders to:

1. **Align municipal action plans with higher-level strategies to secure government support and access to national climate funds.** City officials should promote continuous discussions with national governments to catalyse vertical integration and long-term goals and plans' consistency. Moreover, municipalities should engage with national ministries, regional agencies, and national development banks to integrate local projects into broader development frameworks.
2. **Advocate for greater fiscal autonomy to finance local climate initiatives,** including the ability to issue municipal green bonds, implement climate-related local taxes, and promote and facilitate innovative financial mechanisms (such as PPPs) and develop mechanisms to share risks and rewards between public and private partners.
3. **Engage national ministries proactively in joint financing mechanisms.** In addition, effective coordination can enhance access to national climate funds, infrastructure programs, and regulatory support mechanisms, such as Romania's Emissions Trading Scheme, which allocated carbon credit revenue to urban green infrastructure in Bucharest.
4. **Lobby for streamlined regulatory and administrative processes,** work with national authorities to improve procurement frameworks, and establish clear investment regulations. Simplifying permitting procedures, adopting standardised PPP agreements, and ensuring policy consistency across governance levels can reduce transaction costs for investors significantly, for example by allowing municipalities to issue municipal bonds, introduce climate-related taxes, and assume responsible borrowing.
5. **Take advantage of national de-risking mechanisms**—such as government guarantees, tax breaks, and subsidies to access international funds, as well as sovereign green bonds, national infrastructure funds, and international climate finance.

4.4 Improving governance and internal capacity

Cities often face institutional barriers, such as fragmented responsibilities and insufficient administrative capacity or local knowledge, all of which impede effective climate action. Limited municipal expertise in financial structuring and investment planning makes it difficult for cities to develop investor-ready, bankable projects that can attract public or private investment. While project ideas exist, they are often structured poorly and require resource-intensive technical, feasibility, and impact studies that cities cannot afford because of tight budgets and limited access to preparatory finance (Carter & Boukerche, 2020). Many municipalities lack in-house teams that specialise in blended finance, PPCs, or green bond issuance. Cities expressed a strong need to build capacity in such areas as knowledge of climate finance, investment planning, and project development to become finance-ready (Ulpiani et al., 2023; Kupper et al., 2024).

Just as lack of collaboration with higher levels of governance hinders climate action, insufficient coordination between financial and climate planning departments also results in inefficiencies and missed investment opportunities. For instance, Budapest has indicated that the lack of coordination and communication within projects and organizations is a significant barrier. UP2030 cities indicated a strong demand for technical guidance and improved internal processes to develop bankable projects and manage climate finance effectively.

The scope of these barriers changes based upon the city's profile. For example, incumbent cities with experience issuing green bonds (e.g., Paris, Cape Town, Gothenburg, Miami) have fewer administrative capacity barriers and rely less on traditional instruments. Moreover, they have an understanding of mobilising finance and implementing financial agreements for high capital-intensive urban infrastructure projects, such as transportation systems and local electricity production investments.

Our selected case studies revealed a weak correlation between the city sizes (a rough indicator of the municipality's institutional capacity) and size investments: small cities (< 0.5 M population) and medium-sized cities (0.5-3 M population) typically implemented projects with budgets under EUR 200 million. However, the size of the investment is determined strongly by its purpose (i.e., wastewater treatment plan versus community garden) and whether the project was initiated by an international, national, or regional programme. However, notable outliers exist. For example, Copenhagen, Denmark, a medium-sized city, realised a significant investment of approximately EUR 1.5 billion to manage heavy rains and stormwater by introducing water charges.

Recommendations

1. **Develop institutional expertise and instate a dedicated climate finance team** to strengthen financial planning and project preparation. Specialised municipal finance teams should enhance relationships with private stakeholders, liaise with investors, and ensure financial due diligence. Appropriately planned financing strategies can create investment vehicles that are attractive for private investment, potentially even in cities that lack creditworthy status or have limited internal capacity on private finance (e.g., cannot access debt because of regulatory limitations). For example, Lisbon's EPAL water utility secured EUR 2.5 billion in EIB loans by structuring a well-prepared project pipeline and demonstrating financial viability.
2. **Integrate financial, technical, and environmental planning and enhance collaboration between city departments** to improve project preparation and pipeline development. Cities should streamline processes necessary to move projects from concept to investment readiness. This should include input from all relevant departments and may involve creating a high-level coordination unit or adopting integrated approaches to prevent silos and inefficiencies. For example, coordination units can facilitate collaboration across departments to align technical and financial perspectives while preparing projects.
3. **Take advantage of external technical assistance (TA)** from development banks, financial advisory institutions, and Project Preparation Facilities (PPFs) to build investment-ready project proposals. A variety of stakeholders is available to support the development of bankable projects through technical assistance and capacity building. The most practical solution for many cities and potential financiers is to work with PPFs, which provide a range of support in preparing suitable investment proposals. PPFs can advise on project design, align projects with investors' expectations, and ensure that appropriate financing mechanisms are created, which makes them valuable partners in building institutional capacity and enhancing non-expert government officials' financial and environmental skills and knowledge. Of 44 case studies, TA was provided in eight by one or more of the stakeholders involved that covered a range of capacity-building, project preparation, financial structuring, and advisory support to facilitate local climate and resilience investments. Examples include:
 - The United Nations Development Programme (UNDP) provided technical assistance in developing Indonesia's Sustainable Development Goals Government Securities Framework and Climate Budget Tagging, which supported the issuance of Indonesia's Sovereign Blue Bond.
 - In Bratislava's Climate Adaptation Strategy, the EU Cities Adapt project (2012–2013) provided technical assistance and capacity-building support, which helped Bratislava develop its adaptation strategy.
 - The Inter-American Development Bank (IDB) provided \$3.6 million in technical assistance to promote SME investments in renewable energy and energy efficiency in Argentina.

4.5 Using financial instruments strategically

The literature, feedback from cities, and case studies show a heavy reliance on traditional funding sources, which limits financing flexibility. Traditional sources include city taxation, user charges and fees, central government grants and subsidies, other grants, and various loan types. However, bridging the gap between the funding available for climate mitigation and adaptation and developing countries' substantial needs requires moving beyond conventional financing sources—such as grants and concessional loans—towards more innovative financial tools and approaches that can help mobilise private sector investment.

Emerging instruments (e.g., carbon pricing, social impact bonds) are recognised increasingly to be key to scaling up the investments required for countries and cities to meet their mitigation and adaptation targets (NAP Global Network). These instruments can help secure capital from a range of actors, including financial institutions, private and institutional investors, philanthropic foundations, and others, and they can be combined with traditional financing to enhance their influence overall. For example, Miami took advantage successfully of an innovative financing instrument, a social bond, referred to as the Miami Forever Bond, to fund critical climate resilience and social equity initiatives. This USD 400 million bond allowed the city to invest in infrastructure upgrades and resilient housing while it distributed the costs over time through a modest property tax that made large-scale climate adaptation financially feasible. The bond also addresses social dimensions of climate risk by prioritising affordable housing and targeting support to low-income and marginalised communities, which are affected disproportionately by flooding, storm surges, and other adverse climate events (City of Miami, 2023). However, many cities lack experience using innovative financial instruments such as green bonds, guarantees, and blended finance (Ulpiani et al., 2023). High transaction costs and lengthy procurement processes make it difficult for cities to implement innovative financing solutions efficiently. In addition, high initial and/or maintenance costs, capital costs hurdles, no direct or quantifiable cost savings, and low return on investment can all hinder the ability to obtain finance from private sources. Private investors perceive that urban climate projects are too risky, particularly in cities without established creditworthiness. Information asymmetry and insufficient familiarity and interaction between private actors and municipalities are significant causes of the lack of engagement. These issues can increase transaction costs further, as private investors need to perform additional due diligence (C40 Cities, 2016; CCFLA, 2015).

Recommendations

When planning climate investments, emphasis should be given to financial instruments and mechanisms that seek to increase the equity proportion of finance or encourage the strategic use of public funds and concessional finance to mobilise significantly more private capital. To attract private finance, cities must structure deals and financing strategies that are attractive to investors. Cities have the following tools and strategies that they can employ:

1. **Leverage blended finance to de-risk investments** by combining public and private funds to mobilise capital for projects considered too risky otherwise. The case studies showed that in most instances, a single source of finance is inadequate to implement large scale projects. Blended finance models involve the strategic use of below-market-rate public funds and grants to mobilise additional private capital for city projects deemed 'too risky' for private finance alone. Successful examples highlight the strategic combination of financial instruments to mobilise private finance, such as non-repayable grants paired with partial self-finance or grants blended with debt financing. To de-risk investments, concessional and sub-ordinate loans, credit guarantees, and grants that use public capital (domestic public funding or official development assistance (ODA)) can be used to catalyse private investment in activities that the investors would consider too risky or unfamiliar otherwise (UNEP, 2023). In addition, municipalities often integrate various financial instruments with their OSR to enhance their effect. Lithuania's Energy Efficiency Fund used loan guarantees successfully to reduce financing costs for municipal projects.
2. **Expand the use of green and thematic bonds** that offer low-cost capital for sustainability projects. Examples include Ontario's Green Bond Program, the Miami Forever Bond, and Gothenburg's Green Bonds, which have financed resilient infrastructure, sustainable transport, and energy efficiency projects. Bonds raise debt finance from multiple investors, with stable returns and low risk. Green bonds may be particularly attractive to issuers because they can benefit from a "greenium," or a premium experience through interest rates lower than conventional bonds. Bonds allow issuers to allocate funds across diverse projects, which is beneficial for governments that seek to address a wide range of priorities. However, they come with heavy reporting requirements and are more challenging to establish in cities with low credit ratings.

3. **Enhance public procurement strategies:** In sectors where the city represents a large share of the market, public procurement is a powerful tool to engage private actors. There are often significant opportunities in areas such as electricity and water supply, building retrofits, construction projects, fleet vehicle replacement, electric vehicle charging, and contracted waste-management services. Cities can use 3 ways to drive climate action through sustainable procurement practices:
- i. Embrace flexible and adaptive solutions to encourage innovation where sustainable solutions are not readily available. Most cities have norms and processes that favour cost-effective, proven solutions, a low appetite for new, experimental products and services, and procurement processes that are considered burdensome, slow, complex, and biased towards large, established providers (C40 Cities, 2024). City government should take steps to improve procurement processes to achieve greater flexibility and robustness. For example, the Shenzhen Bus Group (SZBG) used an innovative financial leasing model to reduce the high initial costs to transition its entire fleet to electric buses in Shenzhen.
 - ii. Integrate sustainability considerations into procurement guidelines and regulations to ensure that procurement decisions prioritise sustainable solutions. This can be applied for mature products and services, e.g., alternatives to single-use plastic items, or landscaping required for nature-based solutions to increase resilience.
 - iii. Use pooled procurement to combine inputs for multiple climate projects that allow local governments to enhance bargaining power, reduce transaction costs, access experts and better technologies, and improve delivery times. For example, Santiago, Chile, used pooled procurement to secure a fleet of 455 electric buses.
4. **Scale up PPPs** to share investment risks while taking advantage of private expertise. PPPs share the risk of large investments, allow access to the initial capital that is available more readily in the private sector, and take advantage of expertise and capacity. A private actor can assume the role to free a city from implementing some climate actions. There are four main types of PPPs:
- i. **Operation and maintenance:** The private actor is hired by the city for a fixed fee to operate and/or maintain public assets.
 - ii. **Concession:** The private actor receives the right to use public assets and takes responsibility for operating, maintaining and/or investing in the asset. Usually, the private actor charges the user for the service provided. For instance, the Kigali Bulk Water Supply Project in Rwanda used a concession to improve water supply.
 - iii. **Joint ventures:** Public and private actors become shareholders in a joint entity, or the private actor buys shares in a public entity. The resource-constrained Rustenburg Municipality collaborated with private and public partners and formed the Rustenburg Water Services Trust (RWST) as a special-purpose vehicle (SPV). Supported by two platinum mines and financed by ABSA bank, the RWST secured a 25-year concession to upgrade and operate critical water infrastructure.
 - iv. **Energy Performance Contracts (EPC),** one type of PPP, is an agreement in which a range of services is outlined, and the service provider guarantees a minimum level of energy savings or sustainability outcomes. An Energy Service Company (ESCO) executes a tailored energy service package that includes planning, construction, operation and maintenance, optimisation, fuel procurement, (co-) financing, and influences users' behaviour. For example, EPCs were used in the Dolomites to redevelop 60 buildings energetically, including schools, and enhance 17,000 public street lighting points.

5. Other notable instruments and mechanisms to attract private finance include:

- **Establish municipal climate funds** to pool capital for large-scale urban resilience investments. Santiago's Water Fund, which blends public and private finance for nature-based solutions, serves as a leading model.
- **Aggregation** can allow cities to create a demand above the threshold that may be needed for private investment. Aggregation can pool finance for small projects that are too small to attract investment because of investor thresholds and diversify risks at the same time. Municipalities can either bundle smaller projects into one or collaborate with other municipalities in their region to combine projects.
- **Investment through municipal utilities and subsidiaries.** These public companies are able to access bank and capital market funding in the event that municipalities are limited by regulation or lack institutional or organization capacities. For example, in Lisbon, the public water utility EPAL (Empresa Portuguesa das Águas Livres) mobilised finance successfully to address water losses attributable to aging infrastructure.
- **Economic instruments that correct market failures and market signaling by changing stakeholders' behaviour.** For example, market signaling through green taxonomies and corporate sustainability transparency requirements. Economic instruments include traditional fiscal instruments, such as subsidies, taxes, charges, and fiscal transfers; instruments, such as tradable pollution permits or tradable land development rights, and instruments that represent conditional and voluntary incentive schemes, such as payments for ecosystem services.

5 Summary of Recommendations

This final chapter consolidates the key insights and presents a structured set of recommendations to guide municipalities in ways to mobilise private finance for climate action. Cities play a pivotal role in delivering climate action, but face key barriers to mobilising finance. To address these challenges and help close the urban climate finance gap, we outline a set of actions that municipalities can take to attract and scale-up private investment. To support effective implementation, the recommendations are organized into short-, medium-, and long-term priorities that reflect the expected timeframe required to execute them based upon the complexity of reforms, resource needs, and institutional readiness.

	Short Term (0-2 years)	Medium Term (3-5 years)	Long-term (5+ years)
1. Strengthen municipal fiscal stability and revenue generation	• Adopt green budgeting and integrate climate priorities into financial planning • Enhance own-source revenue (e.g., taxes, land value capture, climate-aligned charges)	• Implement climate-related financial disclosure and reporting systems and strengthen internal financial management practices • Implement “shadow” credit rating	• Improve creditworthiness and obtain a credit rating for lower-cost financing
2. Create a favourable environment for private investment	• Conduct a regulatory review to identify legal barriers to private sector participation in climate finance	• Introduce regulations to direct private capital into sustainable projects	• Set long-term sustainability targets consistent with national strategies
3. Strengthen multi-level governance and collaboration with national actors	• Align municipal plans with national climate policies	• Advocate for fiscal autonomy and streamlined regulatory processes • Leverage national/international finance to de-risk investments	• Institutionalise multi-level coordination platforms to enhance collaboration at different government levels
4. Enhance municipal capacity and project preparation	• Take advantage of technical assistance (TA) and Project Preparation Facilities (PPFs) • Improve interdepartmental coordination to plan for climate finance	• Develop dedicated finance teams to structure investment-ready projects	• Develop processes, toolkits, and templates to prepare for climate projects
5. Optimise financial instruments to mobilise private capital	• Leverage blended finance to de-risk investments and attract private capital • Strengthen public procurement	• Explore innovative instruments (e.g., municipal climate funds, aggregation)	• Expand green and thematic bonds for low-cost capital • Scale-up PPPs

Acronyms and Abbreviations

AFOLU	Agriculture, Forestry, and Other Land Use
CCFLA	Cities Climate Finance Leadership Alliance
EIB	European Investment Bank
ENEF	Lithuanian Energy Efficiency Fund
EPAL	Empresa Portuguesa das Águas Livres
EPC	Energy Performance Contracts
ESCo	Energy Service Company
ESF	Energy savings fund
ESG	Environmental, social, and governance
EU	European Union
EUR	Euro
M	Million
ODA	Official development assistance
OSR	Own source revenue
PACE	Property Assessed Clean Energy Program
PES	Payments for ecosystem services
PPFs	Project Preparation Facilities
PPPs	Public-private partnerships
RWST	Rustenburg Water Services Trust
SECAP	Sustainable Energy and Climate Action Plan
SPV	Special purpose vehicle
SZBG	Shenzen Bus Group
TA	Technical assistance
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar

WHEEL	Warehouse for Energy Efficiency Loans platform
WONE	Water Optimization for Network Efficiency
ZAR	South African Rand

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