POLICY BRIEF

Mobilizing Private Capital for Resilient and Low-Carbon Cities

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CITIES CLIMATE FINANCE LEADERSHIP ALLIANCE

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ABOUT THE CITIES CLIMATE FINANCE LEADERSHIP ALLIANCE

The Cities Climate Finance Leadership Alliance is a coalition of leaders committed to deploying finance for city-level climate action at scale by 2030. Trillions of dollars will be required to help cities build the low-emissions, resilient infrastructure necessary to combat and react to climate change. The Cities Climate Finance Leadership Alliance is the only multi-level and multi-stakeholder coalition aimed at closing the investment gap for urban subnational climate projects and infrastructure worldwide.

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EXECUTIVE SUMMARY

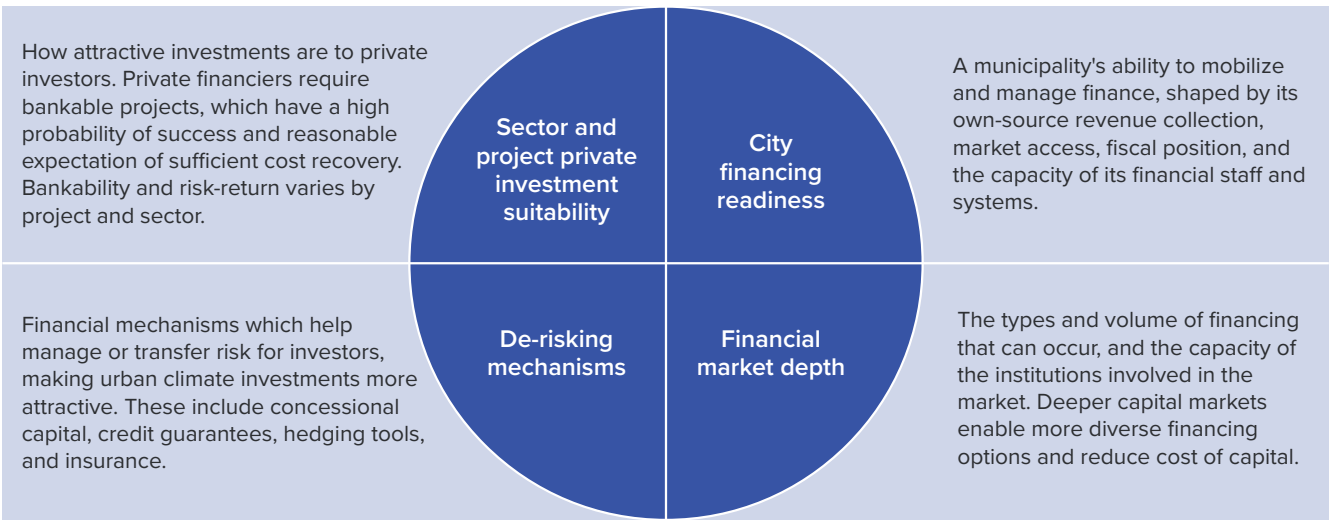
Mobilizing private capital for resilient, low-carbon urban infrastructure is essential to meeting global climate goals. Cities account for over 70% of global CO_2 emissions and face disproportionate risks from climate change impacts. Yet, they struggle to access the scale of finance required to implement necessary mitigation and adaptation actions. By 2030, cities will need upwards of USD 4.3 trillion in investment annually for climate mitigation alone—five times current finance flows (CCFLA 2024). Public resources will be insufficient to close this gap; cities' ability to mobilize private finance at scale will determine whether they can transition to low-carbon, resilient pathways.

Resilient, low-carbon urban investments offer economic opportunities for private investors, especially in sustainable infrastructure. Although private finance (excluding household investment) currently accounts for around 15% of tracked urban climate finance, its role is expanding. Institutional investors hold trillions in assets under management, far exceeding the climate investment needs of cities. Sustainable urban infrastructure—renewable energy, net-zero carbon buildings, clean transport, water systems, and other resilience projects—offers attractive opportunities for investors, including the potential for stable returns and long-term demand. Additionally, infrastructure assets can diversify portfolios and reduce volatility for investors.

This policy brief aims to support cities in mobilizing private capital by understanding the factors that shape private investment, engaging the appropriate actors, and overcoming barriers to investment. This brief is the first in a three-part CCFLA series on de-risking private investment in cities for low-carbon, resilient infrastructure—the second report maps urban infrastructure guarantees, and the third examines the role of urban insurance as an enabler of private investment.

Four factors interact to determine the extent of private participation in urban climate investment projects:

Figure ES1: Factors shaping private capital mobilization for urban climate investment



1. **Sector and project private investment suitability:** Indicates how attractive investments are to private investors. Private financiers require bankable projects that have a high probability of success and a reasonable expectation of sufficient cost recovery. Bankability and risk-return vary by project and sector.
2. **City financing readiness:** Reflects a municipality's ability to mobilize and manage finance, shaped by its own-source revenue collection, market access, fiscal position, and the capacity of its financial staff and systems.
3. **Financial market depth:** Reflects the types and volume of financing that can occur, and the capacity of the institutions involved in the market. Almost all (96%) of private urban climate finance was sourced and invested domestically in 2022/2023 (CCFLA 2024). Therefore, the availability and type of domestic capital are important to enable cheaper financing options.
4. **De-risking mechanisms:** These instruments help manage or transfer risk for investors, making urban climate investments more attractive. These include concessional capital, credit guarantees, hedging tools, and insurance.

These four factors collectively influence the potential for private investment in cities, providing insights into how to increase private capital mobilization.

- Cities need to prepare bankable projects and match them to investors that align with these projects' risk profiles. Bankability will also depend on the city's financing readiness and potentially the creditworthiness of the municipal entity seeking finance. Project preparation assistance can be beneficial, but may not be sufficient on its own to scale private investment.
- Where both city financing readiness and local financial markets are weak, private finance may be difficult to mobilize, and public finance may be more suitable.
- In contexts where city financing readiness is more developed and the capital market can provide financing, cities may be better positioned to prepare bankable projects. In this case, de-risking instruments can help reduce perceived risk, improve creditworthiness, and open pathways to mechanisms such as municipal bonds or public-private partnerships.

TARGETING THE RIGHT ACTORS

Different investors bring distinct financial capabilities and risk appetites. Understanding this landscape is critical for aligning city projects with investor requirements:

- Project developers are one of the most important early-stage investors for greenfield infrastructure.
- Pension funds and insurers seek stable, long-term income, and increasingly explore climate-aligned infrastructure. Their requirements for large-ticket investment often preclude their direct involvement in city projects.
- Banks and asset managers are experienced in project finance and deal structuring but have moderate risk appetites, requiring a pipeline of bankable projects.

- Infrastructure funds pursue higher returns and can take risks in the early stages of project development.
- Other actors—utilities, start-ups, state-owned enterprises, and national development banks—also influence investment in urban infrastructure.

OVERCOMING BARRIERS TO INVESTMENT

Cross-cutting barriers to investment may hinder private investment even in cities that are relatively advanced in one or more of the four concepts above. These barriers exist at the macro, city, and project levels, including a lack of supportive regulations and incentives for private participation, the inability to enforce contracts, and limited capacity at local levels to design, budget, and mitigate project risks. Section 4 of this brief presents potential interventions and existing programs that support cities in overcoming these barriers.

RECOMMENDATIONS FOR CITY SUPPORT AND FUTURE RESEARCH

Expanded tools, guidance, and research aligned with this conceptual framework can help overcome barriers and increase engagement with aligned private investors. We recommend the following:

- **Improve sector and project private investment suitability**: Support cities in preparing more bankable projects in sectors with high private finance potential and presenting them to investors with aligned risk-return expectations. Additional research is needed to assess the extent to which urban climate infrastructure projects in emerging markets and developing economies (EMDEs) can meet investors' risk-adjusted return expectations without subsidies. Information on the types of projects submitted, their sectors, and structure could help understand the current demand from cities for private investment.
- **Enhance city financing readiness**: CCFLA's Enabling Framework Conditions assessment helps cities and national governments identify gaps in local enabling conditions to attract both public and private climate finance (CCFLA & Urban-Act 2024). Further practical tools and targeted research can guide cities in strengthening their financing capacity and readiness. Over time, cities and supporting stakeholders can increase city financing readiness through technical assistance, capacity building, and peer learning.
- **Improve financial market depth:** MDBs can work to strengthen local capital markets, such as by scaling up local currency lending and issuing local currency bonds. Further research is needed to understand how these actions can enhance cities' financial prospects.
- **Increase availability and effectiveness of de-risking instruments**: There is a critical need for better-designed de-risking mechanisms that are accessible to cities and subnational governments. This includes expanding the availability of subnational guarantee instruments, urban insurance products, and other risk-mitigation tools that can unlock greater flows of private capital. CCFLA's forthcoming reports will explore the current availability and potential of urban infrastructure guarantees and insurance.

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1. INTRODUCTION

Cities are at the forefront of the climate crisis. They account for over 70% of global CO_2 emissions and are exceptionally vulnerable to climate change impacts due to their dense concentration of people, economic activity, and infrastructure (Dasgupta et al. 2022).

Mobilizing private capital for climate-aligned urban investments is critical for global climate progress. Local governments struggle to access finance to make their cities low-carbon and resilient. Public finance alone will be insufficient, as urban climate finance flows need to increase fivefold—from USD 831 billion in 2021/22[1] to upwards of USD 4.3 trillion annually for urban mitigation action alone (CCFLA 2024).

Private capital accounts for about 15% of urban climate finance,[2] and has significant untapped potential to scale. The 562 private finance institutions that are members of the Glasgow Financial Alliance for Net Zero (GFANZ) alone held more than USD 80 trillion in collective assets under management (AUM) in 2023—almost 200 times the private urban climate finance tracked in 2021/22 (CPI 2023; CCFLA 2024). While AUM and climate flows are not directly comparable, the figure indicates the vast scale of available capital.

Urban climate projects present an economic opportunity for private investors, especially in sustainable infrastructure such as green buildings, renewable energy, and public transit projects. Recent analysis from Global Infrastructure Basel (GIB) suggests that over a fifteen-year horizon, investment returns from sustainable infrastructure could outperform conventional infrastructure by 20% or more (GIB 2025). GIB indicates that for a typical institutional investor, a 5-percentage-point increase in portfolio allocation to infrastructure can improve performance by 0.2 percentage points annually due to diversification benefits. Beyond infrastructure, climate-aligned investing in cities offers an opportunity to meet climate targets and spur economic growth, as cities account for 70% of global GDP.

Cities need support to effectively mobilize private capital for climate-aligned investments. Mobilizing private capital remains challenging for city and local governments due to regulatory constraints, poor creditworthiness, small project sizes, and a lack of bankable projects.

This policy brief aims to demystify the factors shaping private capital mobilization in cities, including how city, sector, and financial market characteristics enable private investment. We also summarize the actor types aligned with risk-return profiles and the barriers to private sector participation, and lay out areas of future research to overcome these barriers and target technical assistance to better support cities.

1 The figure shows the annual average investment over a two-year period.

2 Excluding private household investments.

2. FACTORS SHAPING PRIVATE CAPITAL MOBILIZATION FOR CLIMATE-ALIGNED URBAN INVESTMENTS

Cities' capacity to mobilize private investment is generally determined by the marketability of the investment sector and project, a city's financing capacity, the maturity of its domestic financial markets, and the de-risking options available. This section summarizes four factors that can shape urban private investment:

A. **Sector and project private investment suitability**, such as the presence of credible business models, demonstrated repayment capacity, and the absence of constraints.

B. **City financing readiness**, based on the capacity of the entity desiring finance to absorb and manage private investment.

C. **Financial market depth**, based on the capacity of the financial market supplying private finance.

D. **De-risking mechanisms**, such as the availability of guarantee instruments and urban insurance products.

2.1 SECTOR AND PROJECT PRIVATE INVESTMENT SUITABILITY

Attracting private capital to cities requires clarity on which projects can attract private capital, which financing instruments are best suited, and how to build pipelines that match investor requirements. Private financiers require "bankable projects"—those that meet their risk-return criteria and can secure financing for implementation. Key criteria include credible revenue models, repayment capacity, and transparent financial structures.[3] Private funding can be constrained when projects either (1) deliver public goods where revenue generation is difficult or impossible, or (2) serve end-users with low ability to pay (Deuskar et al. 2025).

The following section identifies sectoral opportunities for attracting private capital to climate-aligned urban investments. It builds on data from CCFLA's 2024 State of Cities Climate Finance report and integrates other current information on private flows to cities, private investment logic, sector-specific challenges, and emerging opportunities for private investment.

3 See: https://citiesclimatefinance.org/publications/what-is-bankability.

HIGH PRIVATE INVESTMENT SUITABILITY

Transport: The transport sector represents 40% of cities' mitigation investment needs by 2030, and in 2021/22, commercial financial institutions funded 27% of transport investments (USD 52 billion) through market-rate debt (CCFLA 2024). Globally, most required climate-aligned transport investments will focus on urban areas, driven by the need for electric vehicles (EVs) and urban rail systems. These present an opportunity for private investment and blended finance.

Table 1: Investment suitability in urban transport projects

Investment Dimension	Detail
Investment Logic	Some projects will require public funding for large upfront costs, and direct revenues may only partly cover operating costs (Deuskar et al., 2025). Private investors are seen as distinct from private operators, and private finance can be attracted through investments in existing assets (privatization) or in new infrastructure via public-private partnerships (Makovšek 2019). Land value capture mechanisms, in which cities monetize rising land prices around transport infrastructure, can also be applied.
Private Investment Challenges	Transport projects often have large upfront costs, long lifecycles, and positive externalities at the local level such as lower pollution that are difficult to monetize. This means that fare revenues may not cover both operating and capital costs.
Emerging Opportunities	Cities are prioritizing EV charging networks, fleet electrification, public transit upgrades, and cycling infrastructure (CDP 2023). These have clearer revenue potential and can be attractive for private finance when structured appropriately.

Buildings & Infrastructure:[4] Cities will need large investments in buildings and infrastructure, representing 32% of annual mitigation investment needs (USD 2 trillion) annually by 2030, largely due to demand for HVAC systems for increased cooling, water heaters, and clean cooking systems (CCFLA 2024). The buildings and infrastructure sector has strong potential for private financing.

Table 2: Investment suitability in buildings and infrastructure projects

Investment Dimension	Detail
Investment Logic	Energy efficiency projects can be fully privately financed, as future savings provide predictable repayment streams (Deuskar et al. 2025). Future savings from energy retrofits and energy savings can be used to leverage upfront capital and secure commercial debt financing.

4 As specified in the sector classification for the 2024 State of Cities Climate Finance report, this is distinct from investments in overall infrastructure and refers to those aligned with decarbonized and energy-efficient buildings. See (CCFLA 2024) and the State of Cities taxonomy for more details.

Investment Dimension	Detail
Private Investment Challenges	There are payback period and ticket size barriers for building retrofits. The complexity of the building sector, with many interconnected actors, policy considerations, and potential financing costs, means that it may be difficult to structure investments to meet risk/return considerations for private investors (CCFLA 2023a).
Emerging Opportunities	Cities' projects focus on building retrofits (installation of LED lighting, insulation, and smart energy management) as outlined in CDP disclosures (CDP 2023). Energy-efficient street lighting, with performance-based contracts, is another opportunity. Innovative financing mechanisms, such as property-linked finance solutions, can help attract private capital and fund the upfront costs of projects.[5]

Energy Systems: Private finance contributed USD 87 billion to energy systems in cities in 2021/22, out of USD 152 billion total flows to the sector. While many energy investments are suitable for private finance, they often fall outside cities' or urban investments' remit. City projects tend to be smaller in scale than those for energy investors.

Table 3: Investment suitability in energy projects

Investment Dimension	Detail
Investment Logic	Private investment could be made in storage solutions and small-scale solar power to manage energy supply and demand at the city level.
Private Investment Challenges	Energy systems are complex, and cities are part of a larger energy system. Several challenges limit investment, including difficulty with inter- and intra-system connectivity, the intermittency of energy supply and demand, and the volatility of energy prices (Innovate UK Business Connect 2025).
Emerging Opportunities	Cities' energy projects focus on solar panel installations or expanding solar parks; extending or developing district heating systems; and community renewable energy programs (CDP 2023).

Water and wastewater: Current tracked flows are limited to USD 4.5 billion, with a substantial portion of this amount financed privately. Blended finance is possible, as prices for piped water and wastewater often do not reflect true economic value or service costs (Deuskar et al. 2025). While the public sector is the primary financier for piped water and wastewater in most lower and middle-income countries, private provision of water can occur where piped water does not serve all users (Deuskar et al. 2025).

5 See: https://www.greenfinanceinstitute.com/wp-content/uploads/2024/11/A-Greenprint-for-Property-Linked-Finance-in-the-UK.pdf

Table 4: Investment suitability in water and wastewater projects

Investment Dimension	Detail
Investment Logic	Private finance can provide concessions or leases for water provision where piped water is inadequate. Blended finance approaches with public subsidy covering viability gaps.
Private Investment Challenges	Tariffs are often set below cost recovery, have strong positive externalities, and are highly sensitive to politics.
Emerging Opportunities	Cities' water and wastewater projects focus on enhancing water supply systems to withstand climate impacts. These include projects on surface water capture, desalination, and small-scale rainwater harvesting systems.

EMERGING PRIVATE INVESTMENT SUITABILITY

Waste Management:[6] Revenue generation in the waste sector is generally low, and therefore, projects are usually highly subsidized by public funding (Deuskar et al. 2025). However, many municipalities leverage private financing for waste management, including equity financing to create PPPs or franchising models.

Adaptation: CPI tracked USD 4 billion private investment going to adaptation globally in 2021/22, with the majority allocated to the waste and wastewater sectors (CPI 2024a).[7] Many adaptation sectors, such as flood protection and heat resilience, have proven difficult to finance privately because their benefits are dispersed across multiple stakeholders over time (Deuskar et al. 2025). Limited data and reporting on private adaptation finance may also reinforce the perception that viable business models for adaptation are scarce, leaving significant private investment potential untapped to meet cities' adaptation needs (CPI 2024a). For example, corporations are likely investing in resilient infrastructure upgrades; consumers and households are purchasing products and investing at the transaction level; and insurers, as institutional investors, are investing in climate-resilient infrastructure and water management.

While current private climate finance tends to favor transport, buildings and infrastructure, and energy systems, there are growing opportunities for private participation in water and wastewater and adaptation. Despite their importance to cities, investments in waste, adaptation, and resilience will require some public support and more demonstration of successful business models that attract private investment before investors engage.

6 CFLA does not track climate finance for waste management as a distinct sector for climate activities, though CDP includes waste as a project category for which EMDE cities reported the most projects (CDP 2024). Cities disclose projects focused on circular economy and recycling initiatives, integrated solid waste management programs, waste-to-energy, and organic waste management and landfill remediation. Some activities disclosed to CDP as waste management overlap with CCFLA's wastewater treatment tracking due to taxonomy differences.

7 CPI's recently released private finance taxonomy includes an indication of "Cities Relevance," which corresponds to activities that enhance cities' adaptive capacity and resilience to climate risks. See https://www.climatepolicyinitiative.org/publication/tracking-and-mobilizing-private-sector-climate-adaptation-finance/.

2.2 CITY FINANCING READINESS

City financing readiness reflects a municipality's ability to absorb and manage finance, shaped by its own-source revenue collection, market access, fiscal position, and the capacity of its financial staff and systems. While there is no universal measure of readiness, assessments of the enabling environment for urban climate finance can help determine a city's ability to absorb private finance.[8]

Operational and capacity risks remain major deterrents for private investors. Many cities face gaps in technical expertise, financial management, and staffing, which slow the process of turning concepts into bankable investments. Fragmented planning processes, protracted procurement timelines, and insufficient project preparation support not only increase transaction costs but also create uncertainty around returns and project timelines. These factors create a high-risk, low-return profile that can discourage private participation.

Box 1: Municipal borrowing capacity in EMDEs

Almost all (96%) of private urban climate finance was sourced and invested domestically in 2022/23 (CCFLA 2024). Domestic resource mobilization is therefore crucial to scaling urban climate finance, and municipal borrowing will be a key element of this. Yet, municipal borrowing capacity in EMDEs is particularly constrained. Across sub-Saharan Africa, municipal borrowing is virtually absent, with South Africa the only exception: local government debt in the country stood at USD 3.9 billion in 2023, equivalent to 1% of GDP. In South Asia, India is the only country with meaningful municipal borrowing, though volumes remain minimal relative to GDP, with Indian cities' debt totaling USD 2.7 billion (0.08% of GDP) in 2021 (World Bank, 2025).

Latin America presents a more advanced but uneven picture:

- **In Brazil**, local government debt reached USD 31 billion in 2022 (1.6% of GDP), primarily financed through public banks.
- **In Mexico,** the overall municipal debt remains low at USD 2.1 billion (0.15% of GDP) in 2023, though commercial banks account for about 50% of this credit.
- **In Colombia,** the total municipal debt stock was USD 5.7 billion (1.6% of GDP), with municipal bonds representing 20% of total local borrowing in 2023.

In most EMDEs, municipal lending is dominated by government financial institutions or central governments themselves, even for larger, relatively creditworthy municipalities. However, many of these institutions raise finance in domestic capital markets before on-lending to municipalities, meaning local governments are often borrowing indirectly from the private sector.

8 See CCFLA's Enabling Framework Conditions for Urban Climate Finance, particularly the Subnational Assessment Tool, https://citiesclimatefinance.org/publications/assessing-enabling-framework-conditions-for-urban-climate-finance.

Overall, the limited borrowing capacity described in Box 1, weak institutional systems, and restrictive regulatory environments significantly constrain cities' ability to access private finance directly. Strengthening urban financial management, expanding legal and regulatory flexibility, and developing mechanisms to crowd in private capital will be essential to improve city-level financing capacity for climate-smart infrastructure. Section 4 highlights programs and initiatives that strengthen private investment in cities.

2.3 FINANCIAL MARKET DEPTH

Financial market depth reflects how effectively a country's financial system can mobilize and allocate capital at scale. The depth is determined by the types and volumes of financing available, as well as the capacity of the institutions involved in the market, ranging from central banks and other regulators to government and private financial institutions. Generally, the number, size, and variety of such institutions are a proxy for the stage of development of the capital market.

Depth of financial markets is important because it signals the availability of credit, the range of investment products, and the capacity to channel long-term savings into productive assets. Deeper markets lower the cost of capital through competition, enable long-dated financing that matches asset lives, and provide risk-management tools (hedges and refinancing options). EMDEs in some regions, particularly Asia, have experienced steady growth in depth of financial markets over the past two decades, while in others such as sub-Saharan Africa markets generally remain relatively underutilized and underdeveloped (OECD, 2025).

2.4 DE-RISKING MECHANISMS

The funding gap for urban climate action is substantial, and city governments face multiple barriers to mobilizing the finance needed. De-risking instruments that help manage or transfer risk for investors are critical to making urban climate investments more attractive. Yet, while a wide range of instruments exists, many subnational governments, particularly in EMDEs, have limited experience deploying them effectively for local projects. As a result, their use in urban climate finance remains underdeveloped.

A range of de-risking and incentive mechanisms could play a transformative role if deployed more systematically to attract private capital in cities:

- *Concessional capital*, often provided by donors or DFIs, includes grants, subordinated debt, or first-loss equity in a blended finance structure, and loans with more flexible repayment, among others. This approach improves the risk-reward profile for commercial investors in the senior tranches. CCFLA data suggests that in 2021 to 2022, about USD 30 billion was invested in cities as low-cost project debt, out of a total USD 831 billion in urban climate investment (CCFLA 2024).
- *Credit guarantees*, including subnational guarantees or political risk insurance (e.g., from the Multilateral Investment Guarantee Agency, MIGA), are risk transfer instruments in which a third party commits to cover all or part of the value of a loan, equity investment, or other financial instrument if the obligor defaults (OECD 2021). Guarantees can

facilitate investment in cities that lack a history of creditworthiness or sufficient collateral (Birch et al. 2024). A CPI study found that approximately 35 guarantee facilities currently target EMDEs, with about half provided by MDBs (CPI 2024b). Notable examples include Green Guarantee Company, GuarantCo, and the World Bank's MIGA. Credit guarantee facilities have the potential to mobilize over six times more financing than MDBs, which currently attract less than 30 cents of private capital for every public dollar spent on climate loans (Blended Finance Taskforce 2023). However, the use of guarantees remains limited. The following policy brief in this series will examine guarantees as a tool for mobilizing private capital in cities.

- *Revenue and currency hedging tools* help to manage unpredictable local cash flows and exchange rate fluctuations. Climate projects typically generate revenues in local currency, while financing is often in foreign currency, creating a mismatch. Common hedging instruments, such as forwards, futures, options, and swaps, can address this. However, such instruments can be difficult to design, limited in availability, and become costly over the long lifespans of climate projects, which can run for 20 to 30 years (Yahmed 2024). Notable instruments include Eco Invest Brazil, the Onshore DFI hedging platform, and the Currency Exchange Fund (TCX) (IISD, n.d.). Cash flows may fluctuate due to market price volatility, performance variability (e.g., solar irradiation), or changes in subsidy and tariff regulations. These kinds of revenue risks could be managed through long-term contracts like power purchasing agreements and minimum revenue guarantees (World Bank 2019). More research is needed to explore these tools' applications in cities.
- *Insurance products targeted at investments* could also be included. Urban insurance is a critical enabler of climate-resilient cities (CCFLA 2021). Cities can benefit from expanded insurance products that address additional risks, such as technical performance insurance. An example is the Energy Savings Insurance (ESI) model developed by the Inter-American Development Bank for energy efficiency projects (OECD 2023). Performance-based covers are also emerging against climate risk, such as wind farm output shortfall insurance by Tokio Marine and solar irradiation variability insurance by Swiss Re, which compensates for lost revenue in case output is low due to weather variability, helping ensure loan repayments and investor returns (Swiss Re 2016; Tokio Marine 2024).

2.5 INTERACTION BETWEEN THE **DRIVING** FACTORS

By bringing these concepts together, we can outline the scale of the potential for private financing in urban projects. Over time, cities can leverage more sophisticated financial mechanisms to reduce financing costs and enhance flexibility in funding structures.

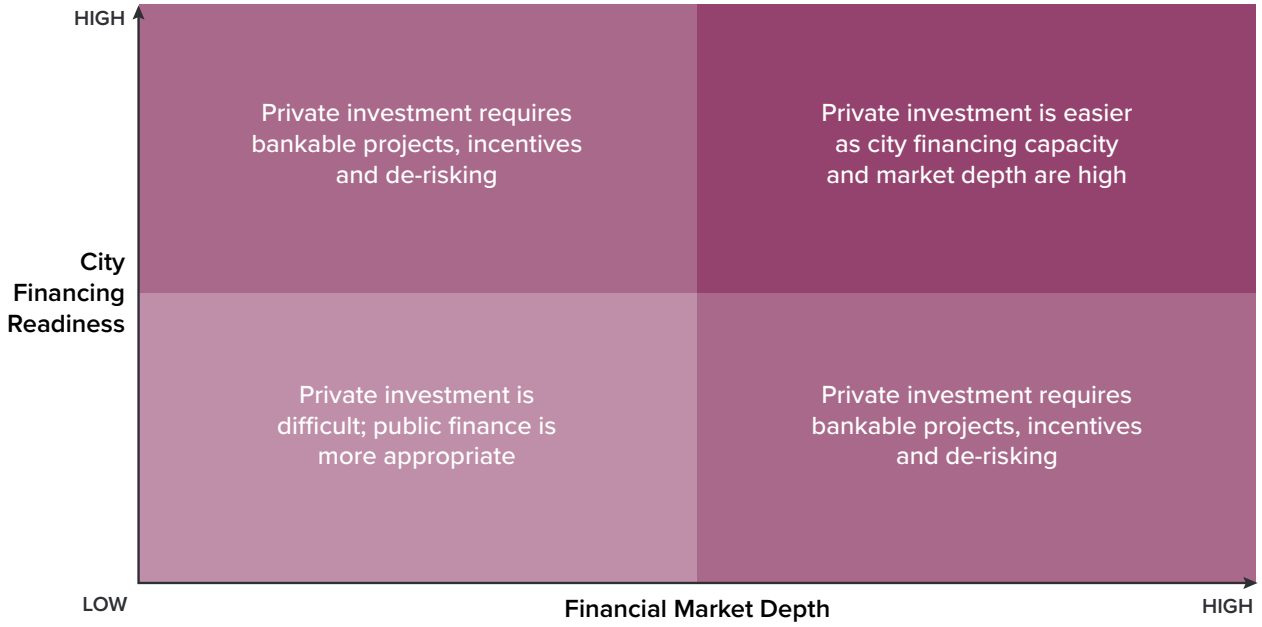
This analysis focuses on sectors with high potential for private finance. In these areas, well-prepared projects can attract private financing depending on the three other factors explained above: city financing readiness, financial market depth, and the availability of de-risking instruments. The interaction of these four factors shapes the overall opportunity for private investment. Table 5 and Figure 2 describe these interactions.

Table 5. Private financing potential for sectors with high suitability

Private financing potential	Description
Low, e.g., cities with low own-source revenue, often in underdeveloped capital markets.	When city financing capacity and local capital markets are weak, mobilizing private finance is challenging. International financial institutions, governments, national development banks, and philanthropies may play a larger role, and grants may be most relevant for cities to reach their climate goals.[9] Cities may lack the capacity to secure financing and some efforts on improving fiscal management and transparent budgeting can strengthen local markets and enable private participation.
Medium, e.g., cities with limited local capital markets or with constrained own-source revenue.	Loans and guarantees may be available, but cities might also rely heavily on grants. Private financing likely depends on the availability of de-risking instruments which can help reduce risks, enhance creditworthiness, and enable access to financing mechanisms such as municipal bonds and public-private partnerships.
High, e.g., larger cities with substantial financial and technical capacity and the presence of a local capital market with a wide range of options for sub-sovereign finance.	More sophisticated capital markets enable government resources and other funds to be blended or used for credit enhancement. This reduces the cost of private financing and increases access to private resources. An increasing role for private debt and equity funds, alongside other institutions such as pension funds and insurance companies. Participation can be achieved through funds or direct debt and equity investments, as these entities grow alongside the economy and projects expand, making increased transaction costs less significant than the total funding amount and cost. To tap these funds, appropriate project structures, such as special-purpose vehicles, are needed to channel private finance.

9 International financial institutions: MDBs and bilateral development banks (e.g., KfW and JICA), provide the most concessional resources at the international level. Their programs are increasingly shifting to focus on climate issues. These entities offer support ranging from grants, through concessional and near-commercial loans, guarantees and other forms of risk mitigation, support with bond flotation, including green bonds, and equity.

Figure 2: Interaction between city financing readiness and financial market depth



Cities require targeted support to strengthen their ability to mobilize private finance. This calls for expanded tools, guidance, and research in four priority areas:

- **Project and sector investment suitability**: Support cities in preparing more bankable projects in sectors with high private finance suitability. For sectors with lower investment suitability but high climate relevance, deploying targeted incentives, such as subsidies and risk-sharing mechanisms, will be critical to unlocking private capital. Additional research is needed to assess the extent to which urban climate infrastructure projects in EMDEs can meet investors' risk-adjusted return expectations without subsidies and to identify the level and type of public support required to scale investment in climate-relevant sectors with lower sector investment suitability.
- **City financing readiness**: CCFLA's Enabling Framework Conditions assessment helps cities identify gaps in local enabling conditions to attract both public and private climate finance (CCFLA & Urban-Act 2024). However, more practical tools and targeted research are needed to guide cities in strengthening their financing capacity and readiness.
- **Financial market depth:** While cities may not be able to improve their own financial markets, local capital markets can be strengthened through MDBs scaling up local currency lending and increasing the issuance of local currency bonds (UN DESA 2025).
- **De-risking instruments:** There is a critical need for better-designed de-risking mechanisms that are accessible to cities and subnational governments. This includes expanding the availability of subnational guarantee instruments, urban insurance products, and other risk-mitigation tools that can unlock greater flows of private capital. The following papers in the series look at guarantees and insurance as tools to mobilize private capital in cities.

3. PRIVATE FINANCE ACTOR LANDSCAPE AND INVESTMENT MODALITIES

Increasing private urban climate finance first requires understanding the private investor landscape to identify where capital is concentrated and how it is allocated.

3.1 PRIVATE SECTOR ACTOR LANDSCAPE

Private investors and financiers hold large assets that remain undeployed for climate-aligned urban investments. Table 6 presents assets by actor type, divided into capital providers and intermediaries. City infrastructure in EMDEs has traditionally been funded by public resources. However, constrained budgets, rising debt, and competing developmental priorities mean that closing the urban climate infrastructure funding gap will require private finance. Private actors can help scope, finance, and deliver projects (PwC and Global Infrastructure Facility 2020). Mobilizing this capital will require understanding the sources of capital and investor preferences, private actors, and investment modalities. Mobilizing this capital will require understanding the sources of capital and investor preferences, private actors, and investment modalities.

Different investor profiles suit different types and stages of sustainable infrastructure (Floater et al. 2017). For example, private equity and infrastructure funds seek very high returns and invest in equity in early-stage projects with strong growth potential. In contrast, pension funds look for investments that provide steady long-term income in order to meet ongoing obligations (Floater et al. 2017; Pensions Policy Institute 2024).

Table 6. Investor risk appetite and experience in infrastructure

Category	Actor (assets under management)	Risk appetite	Experience in urban infrastructure finance
Capital Providers	Insurance Companies (USD 53 trillion assets AUM)	**Medium**: Varies by insurer type, liability structure, and requirement for liquidity; generally conservative due to solvency regulations. Marked medium given insurers' typically risk-averse profiles and regulatory constraints (Shindo and Stewart 2021).	**Medium to high:** High experience in risk analytics and risk transfer; medium as direct investors in infrastructure projects.

Category	Actor (assets under management)	Risk appetite	Experience in urban infrastructure finance
Capital Providers	Pension Funds (USD 22.6 trillion AUM)	**Low to medium**: Focus on stable, long-term income to meet liabilities; lower risk appetites than commercial investors, and tend to avoid high-risk assets. They generally target around 8% return for the overall portfolio (Floater et al. 2017).	**Medium:** Increasing involvement in climate infrastructure and green deals; experience varies by fund type and geography.
Intermediaries	Asset managers (USD 128 trillion AUM)	**Medium:** Asset managers operate across a spectrum of risk appetite from low to high. However, considering challenges at the city level, the risk appetite tends to be more moderate.	**Medium:** Some direct exposure; select funds may have more targeted experience in urban infrastructure.
	Commercial & investment banks (USD 47 trillion AUM)	**Medium**: Adjust risk appetite based on deal structure, asset purpose (yield vs. appreciation), and capital position (Floater et al. 2017).	**High:** Extensive project finance and deal structuring experience in urban infrastructure.
	Infrastructure funds (AuM overlaps with other categories)	**High**: Seek higher-risk, higher-return opportunities (over 20% returns), including early-stage infrastructure. They typically favor shorter exit horizons (Amundi 2025).	**High:** Extensive project finance and deal structuring experience in urban infrastructure.

Apart from the financial sector actors mentioned above, other investors in cities include:

- **Utility providers** deliver essential services such as electricity, gas, water, and sewage. Private investors might step in to finance or run these services if the scale of infrastructure financing surpasses local government revenue capacity. Certain services, such as energy, may already be the domain of private utilities.
- **Real estate companies and project developers** are among the most important early-stage investors for greenfield infrastructure. They invest their own equity in urban projects and play a particularly important role in investing in green buildings, retrofits, and improving energy efficiency and basic services (UNEP FI 2023).
- **Startups** invest at the intersection of technology and climate action, focusing on projects on EV charging infrastructure, energy efficiency, and sustainable transport. Most startups operate at a local or regional scale, raising capital through grants, venture capitalists, and other sources to invest in cities.

Several actors also enable the private sector to invest in cities:

- **State-owned enterprises** provide strategic infrastructure assets or co-investment opportunities since they often have more flexibility both to partner with the private sector and engage with private financing.

- **Public and national development banks** can help aggregate projects and offer concessional finance, guarantees, and risk-mitigation instruments that enhance project bankability (FiCS 2025).
- **Investor and city networks** create platforms for dialogue, advocate for pro-investment policies, and build trust between public and private stakeholders.

3.2 INVESTMENT MODALITIES

Private urban climate finance can include both direct investment within city boundaries (for example, investment in green buildings), and private participation in infrastructure and service delivery projects.

Infrastructure investments, in general—not just urban and climate-related projects—are usually financed through a mix of debt and equity. Typical financing structures have a debt-to-equity ratio of about 80:20 (PPIAF and World Bank, 2025). In 2023, private investment in infrastructure followed this pattern, with 78% of private investment in infrastructure projects in debt, and 22% in equity (World Bank, 2025). The 2024 State of Cities Climate Finance Report found that urban climate investments (public and private combined) were split 38% in equity and 27% in debt.

In this context, private investment is typically structured through three broad models:

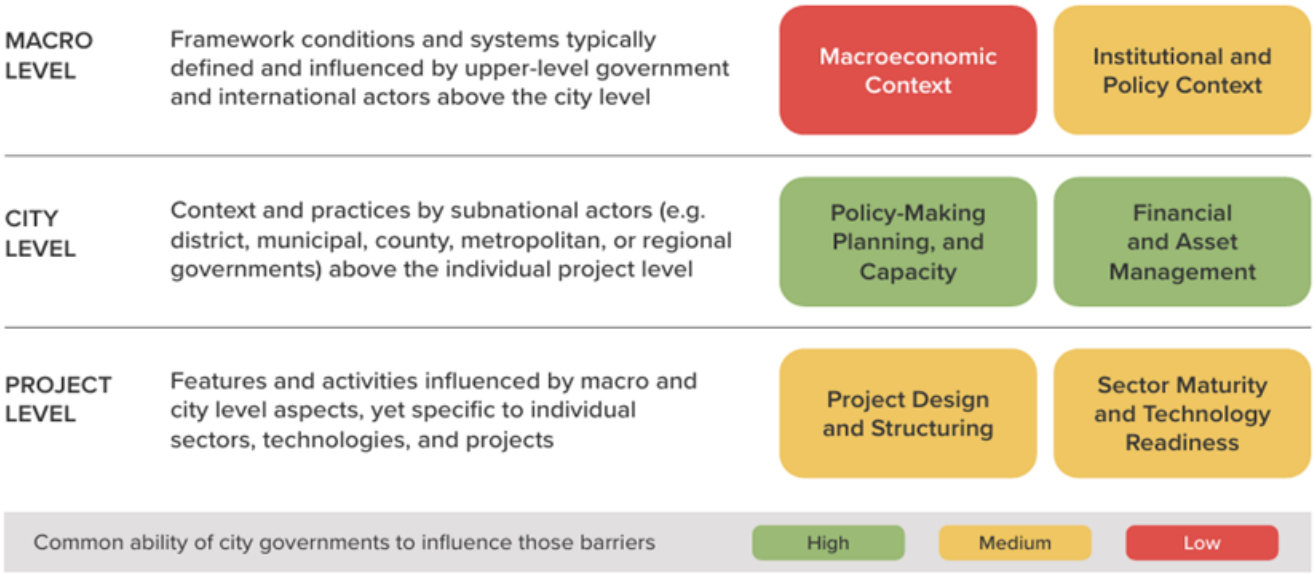
- *Direct private investment* is commonly provided for infrastructure in sectors such as energy generation or green buildings. Here, regulations that set clear performance standards and risk-mitigation levels are required, along with clear mandates for fee and tariff setting. Subsidies or public service obligations (PSOs) may be required for sustainable business models. The regulatory environment set by the city can provide appropriate incentives—for example, incentivizing the use of green / energy efficiency standards by providing floor-space ratio bonuses or exemptions from certain taxes or levies for complying development.
- *Public-Private Partnerships (PPPs),* requiring an enabling framework to establish sector-appropriate configurations of how public and private equity and debt financing are arranged. Typical arrangements involve establishing a corporate entity to implement a project, through which private financing can flow. The public sector component of a PPP will also require an appropriate enabling framework, especially concerning revenue mandates and the provision of capital or operating subsidies through mechanisms such as viability gap funding, which, in turn, enables the public sector to make availability and PSO payments.
- *Joint ventures* are a type of PPP which occurs when the city government (public entity) and the private entity contribute resources to a project, and create a new venture to share the profit/losses of that project. The city may contribute city-owned land or other assets to the venture. The ventures can take different forms, but all involve sharing risk in order to mobilize complementary resources. Examples include town center redevelopment schemes and smaller-scale redevelopment of existing market sites owned by the city.

While private capital is critical to bridging the urban climate finance gap, engagement without a clear understanding of risks and trade-offs can lead to adverse outcomes for both cities and investors. It is important to assess key factors before pursuing private investment, such as whether projects can deliver risk-adjusted financial returns, long-term fiscal implications, particularly when contingent liabilities are involved, and any social equity considerations related to access and affordability that could affect citizens (World Bank, 2018).

4. CROSS-CUTTING BARRIERS

Institutional private investors have substantial capital available, but their allocation to urban infrastructure remains limited. To better understand this disconnect, this section examines the key barriers and constraints to investing in urban climate infrastructure. Previous CCFLA and AECOM work (CCFLA 2023b) identified barriers to private sector urban climate investments at the macro, city, and project levels, as shown in Figure 3.

Figure 3. Barriers to private sector urban climate investments



Source: (CCFLA 2023b).

Additional barriers to private investment in cities, along with select examples of programs that overcome them, are listed in Tables 7, 8, and 9 below, covering macro, city, and project-level barriers.

Table 7. Macro-level barriers

Barrier 1: Lack of comprehensive sector support structures, especially for National Determined Contribution (NDC) and National Adaptation Plan (NAP) priorities, investment roadmaps, and incentives.	
Possible interventions	**Examples**
• Technical assistance (TA) support and training in long-term planning for climate-related investments at both national and subnational levels, in linking such plans to finance, and in strategy, risk assessment, research, and analysis, and in improving financial literacy. • Support national governments in building capacity for cities to structure private sector participation in green urban infrastructure to address funding gaps, promote economic growth, and ensure more efficient, resilient, and sustainable development.	• Kenya: The Financing Locally Led Climate Action (FLLoCA) Program, developed with support from the World Bank and from the Governments of Denmark and Sweden, established the first national-scale model of devolved climate finance and is designed to translate its ambitious climate agenda into scaled-up action on the ground (Arnold Zoikan, 2021)
Barrier 2: National policies limit city mandates for private sector engagement and borrowing by city-level institutions and restrict their ability to raise tax rates and charges.	
Possible interventions	**Examples**
• Support to national governments to assess the feasibility of, and modalities for, more flexible debt finance from a range of sources, including the private sector and international financial institutions. If appropriate, this could include support for credit assessment systems for subnational entities. • Support local government associations to formulate and promote flexibility in partnerships with the private sector and in providing such incentives at the local level. • Strengthen the resource mobilization mechanisms at national and sub-national levels to encourage city governments to provide counterpart financing and/or revenue streams for resourcing blended finance facilities. Establish innovative investment vehicles to leverage private capital and undertake outreach to industry associations in the NDC and NAP sectors to explore potential business models for sustainable urban infrastructure.	• Burundi: The Sustainable Development through Improved Local Governance Programme supported by the Netherlands Municipal Association strives to improve the local policies and procedures on own-source revenue (VNG International 2024). • India: The government provides capacity-building initiatives for local government units (LGU) through organizations like the Infrastructure Development Finance Company (IDFC) and the India Infrastructure Finance Company Limited (IIFCL). These programs focus on project structuring, risk assessment, and financial modeling (Government of India n.d.) • Indonesia: The Ministry of Finance offers support to LGUs through the Indonesia Infrastructure Guarantee Fund, which provides guarantees for PPP projects to mitigate risks and attract private sector investment (World Bank 2014).

Barrier 3: Poor quality of regulation of privatized utilities or PPPs.	
Possible interventions	**Examples**
• Establish appropriate support for local governments in formulating public-private partnerships (PPPs) and training courses for regulators, for example, in universities and technical colleges. • Provide clear and supportive policy and regulatory frameworks and an impartial dispute resolution system at national and subnational levels.	• The Philippine PPP Centre provides technical support for local governments, helping them structure PSP relationships and in the formulation of PPP projects (Government of the Philippines n.d.).
Barrier 4: Lack of capacity of the financial system to identify and address the characteristics of green projects/transactions and due diligence costs.	
Possible interventions	**Examples**
• Support the development and operationalization of national sustainable finance initiatives and facilities where local entities have access. This will include ensuring enabling frameworks (taxonomies, green standards, etc.) have provisions appropriate for use by subnational entities and establishing financing facilities for green investment accessible to such entities, that finance multiple sectors relevant to cities, use appropriate aggregation instruments, and support project development.	• Mongolia's Sustainable Finance Roadmap provides a sector-wide enabling framework for green finance supported by the IFC and EBRD and promoted by the Central Bank (World Bank 2018).
Barrier 5: Lack of capacity of financial institutions to support the development of projects that address credit, commercial, and increased exposure to macroeconomic risks of green projects.	
Possible interventions	**Examples**
• Develop financing mechanisms optimized to the needs of investors in sustainable urban infrastructure through the establishment of blending/risk reduction (e.g., first loss positions and guarantees), mechanisms to reduce risk (lowering interest rates and lengthening tenor) accessible to cities, and by facilitating the use of methods and/or instruments of financing that allow aggregation of sector or geographically diverse projects, such as green bonds. • Build the capacity of financial institutions to support the development of pipelines of bankable projects at the city scale, including increased knowledge of green and sustainable technical options and financing sources, and appropriate sectoral business models and financing structures.	• FINDETER (Financiera de Desarrollo Territorial) was created to facilitate decentralization and long-term financing for infrastructure projects in Colombia. As a specialized financial intermediary supported by the IDB, MIGA, and others, it channels transfers from the central government to LGs through its loans to first-tier financial institutions, primarily commercial banks. It has a project development unit to help LGs formulate projects appropriate for financing (World Bank 2022).

Table 8. City-level barriers

Barrier 1: Public financial management is weak in many city governments, and their ability to prepare and budget for a green project pipeline is lacking.	
Possible interventions	**Examples**
• Support selected local government chief finance officers (CFOs) and other concerned senior officials to develop and prioritize a funded pipeline of green projects and institutionalize this capacity within appropriate agencies. • Build the capacity of CFOs and other senior officials to develop a Green Capital Investment Plan, and in project due diligence, value for money (VFM) assessment, and contracts relevant to green projects. Institutionalize this capacity within educational institutions and/or local government associations (e.g., local government academies). • Build the capacity of cities to issue green loans and bonds to support projects such as solar energy farms, reforestation, and waste management systems. These provide a structured approach to attract private investment that ensures environmental benefits	• Bangladesh has integrated climate considerations into its public investment management by assessing the environmental impact of infrastructure projects. • Indonesia has implemented green budgeting practices by noting climate-related expenditures in its national budget, which allows the government to track and prioritize spending on environmental initiatives. Supported by the UNDP Climate Finance Network, the green budget tagging process has been extended to regional and city governments (UNDP 2023). • South Africa: The National School of Government provides training programs for municipal leaders, emphasizing ethical leadership, financial management, and service delivery improvement (Government of South Africa n.d.).
Barrier 2: Lack of sectoral investment plans for climate-related investments.	
Possible interventions	**Examples**
• Capacity development and program development support, particularly for green strategic planning. • Adopt a programmatic approach to climate action planning that includes the identification of socio-economic co-benefits. The city's climate action plan must be linked to local spending and national policy priorities, and clearly identify opportunities for private sector provision. It should be published to engage with the private sector and citizens.	• South Africa: The Green Fund, managed by the Development Bank of Southern Africa (DBSA), provides training and TA to municipalities for creating investment plans that support climate adaptation and mitigation projects (DBSA, 2020).
Barrier 3: Inability to draft and enforce efficient, transparent, and international-standard contracts with the private sector.	
Possible interventions	**Examples**
• Support city staff training on contract law and regulation.	• World Bank's PPP Resource Center: This platform provides sample PPP clauses, terms of reference for advisors, and standardized agreements. It covers various sectors and offers guidance on risk allocation and contract structuring (World Bank n.d.). • The Public-Private Infrastructure Advisory Facility has a Sub-National Technical Assistance Program, which helps local governments, public utilities, and state-owned enterprises develop their capacity to access market-based financing without sovereign guarantees (Devi and Silva 2017).

Table 9. Sector and project-level barriers

Barrier 1: Lack of viable bankable climate-related investment programs and projects.	
Possible interventions	**Examples**
• Enhance the capabilities and independence of the regulators by improving staff knowledge, particularly regarding contracting and the operations of the utilities being regulated. • Build systems to undertake project preparation for bankable climate interventions, where project identification capacity and tools are institutionalized within city-level institutions and other urban service providers. Climate investments with potential for private participation should be identified and prioritized, while city-level agencies should procure services rather than 'hardware' to achieve climate impact.	• Cities Development Initiative (CDI) for Asia has assisted cities to prepare projects across multiple sectors and link these projects to appropriate finance, most often ADB, but also World Bank and private investors (CDI n.d.). • Urban-Act Project provides support at both the national level (enabling environment) and specific early-stage project development for cities' climate projects and links them to next-stage project feasibility and financing processes (IKI 2022).
Barrier 2: Lack of a business case/basis for cost recovery/risk mitigation.	
Possible interventions	**Examples**
• Build city capacity to formulate and/or assess business case for financing viability and for suitability for PSP institutionalization. • Build capacity for improving the affordability of public services, including an understanding of how public or community service obligation (PSO or CSO) can be applied.	• C40 CFF provides support (including an embedded city project advisor) to formulate and structure projects for financing, including PPP projects. For example: solar project in Quezon City (C40 Financing Facility n.d.).
Barrier 3: Insufficiently mandated implementation agency/special-purpose vehicle (SPV)/ energy service company (ESCO).	
Possible interventions	**Examples**
• Institutional strengthening TA to ensure that, with sound legal advice, cities or state-owned enterprises are familiar with the options for implementing projects with private sector involvement, including establishing Saves or Energy Service Companies (ESCOs).	• EBRD's Corporate Governance Action Planning, a tool to improve corporate governance practices for the companies in which EBRD invests (EBRD 2019).

Barrier 4: Financially challenging cost structure—high up-front transaction costs. Climate-related or low-carbon projects have larger financial requirements compared to conventional project.	
Possible interventions	**Examples**
• Support the provision of appropriately structured blended finance facilities focused on climate investment accessible to cities. • Build capacity to structure projects so that higher upfront transaction costs can be offset with innovative implementation mechanisms to reduce perceived risks and pilot projects to assess approaches for scaling up.	• The Shandong Green Development Fund provides equity, debt, and project development support to climate-related private and PPP investments in cities through blended finance and support to project development (Jenny 2020).
Barrier 5: Lack of knowledge of green technology options and applicable business models.	
Possible interventions	**Examples**
• Support city sector leads so they are familiar with available green technology options, approximate costings, and financing potentials. • Identification and communication of the benefits of adopting green projects and buildings to city stakeholders.	• The ADB has produced a toolkit of green infrastructure and technology options by sector (ADB 2015). • The GIZ project “Constructing climate-smart buildings” in India works to implement the thermal comfort action plan 2050. Workshops are conducted to strengthen awareness and provide the necessary knowledge for policies and integration processes on thermal comfort (GIZ 2021). • The EU Green Cities Program: This program offers training for LGUs in Europe and beyond, focusing on circular economy practices, renewable energy adoption, and green infrastructure development (European Commission 2025).

5. RECOMMENDATIONS FOR FUTURE RESEARCH

Cities must be able to mobilize private capital to meet their climate investment needs effectively. This requires a clear understanding of capital sources, deeper engagement with private sector actors, and the ability to design projects at a scale and level of sophistication that meet investor expectations. Increased investment in urban climate action is not only a necessity for resilience and mitigation but also a significant economic opportunity for private investors, particularly in sustainable infrastructure.

More work is needed to engage finance actors, overcome cross-cutting barriers, and enable private investment at scale. The CCFLA Private Sector Workstream is designed to increase engagement with private finance actors and ultimately expand private investment flows into cities.

De-risking instruments are widely recognized as essential to unlocking this investment, but their application at the urban level remains fragmented and understudied. Future research should focus on practical models for private participation and on evidence demonstrating how de-risking can systematically enable private investment in climate-smart urban infrastructure. Key priorities include:

- **Aggregation mechanisms that bundle smaller or fragmented projects**—such as building retrofits, distributed solar, or electric vehicle charging infrastructure—into investment-ready portfolios. These mechanisms can reduce transaction costs, diversify risk, and align projects with institutional investor requirements. A comparative analysis of pooled facilities, municipal green bonds, and project aggregation platforms would yield valuable lessons.
- **Credit enhancement and guarantee structures adapted to the needs of city governments.** Testing tools such as sub-sovereign guarantees, viability gap funding, or performance-based insurance at the city scale could reveal which approaches most effectively improve project bankability without creating unsustainable fiscal burdens.
- **Insurance as an enabler of investment**. Understanding how insurance products can mitigate risks for urban climate projects—and how the absence of coverage may deter investors—will be critical for designing scalable solutions and ensuring the effective use of concessional resources.

Targeted research across these areas will help cities, national governments, and development partners design de-risking strategies that move beyond pilots and enable large-scale mobilization of private capital for climate-resilient urban infrastructure.

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