



06

CONCLUSION

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Challenge and Opportunity

Cities are at the forefront of climate change and mayors and other local decision makers are facing many challenges and compounding risks. As the world's population becomes increasingly urban, cities must invest in well-planned and well-coordinated physical infrastructure and natural capital solutions that enable them to reduce their emissions and increase their resilience to climate change and other shocks and stresses. With an annual investment gap of \$2 trillion to \$3 trillion for critical infrastructure to fight climate change, cities in the developing world need rapidly expandable solutions that can leverage limited public funding to attract private investment. Infrastructure needs are particularly acute in rapidly growing cities in the Africa and South Asia, who risk locking in to high-emissions and highly vulnerable pathways.

Climate change may accelerate urbanization in some cities as subsistence farmers and pastoralists in rural areas lose their livelihoods because of drought and are forced to move to areas where other livelihood opportunities are more promising (Rigaud et al. 2018). In other cities, climate impacts may ultimately shrink the amount of land available for habitation or affect the viability of economic activity on that land (Hallegatte et al. 2013). Aging infrastructure systems may be especially prone to damage as temperature levels rise, extreme weather events grow in severity, and higher sea levels and storm surges become more problematic, overwhelming the design capacity of these systems (WBG 2018).

Climate smart urban investments will be critical for creating attractive cities that offer livable, healthy and active lifestyles. Climate investments not only improve the environment but also improve the cost efficiency of businesses and enhance through cost efficiency and improve citizen quality of life with lower pollution levels; more green and active spaces and improved citizen health. These elements help; make cities more competitive by

attracting talent and businesses. Not doing so may create the opposite effect of reverse urbanization in the future.

While not all sectors fall within cities financing purview - especially utility scale energy and industry - cities can play a crucial role in pushing their urbanization and infrastructure systems toward resilient, low-carbon pathways. The city can influence private investment by purchasing, investing in, and mobilizing capital for low-carbon goods and services. As highlighted in Table 1, cities can influence or direct private investment towards low carbon, resilient infrastructure through the implementation of standards, land zoning, permitting, taxation policies, or other incentives.

Integrated spatial planning is an important city-level policy lever to shape urban development choices and serves as a strategic point of engagement to analyze sources of urban emissions and urban vulnerabilities, identify local capacity to act and avoid carbon lock-in, model long-term implications of policy options and assess costs, benefits, and cost-effectiveness. The greatest opportunities for future urban GHG emission reduction are in rapidly urbanizing areas in developing countries where urban form and infrastructure are not yet locked in.

The private sector has an important role to play and its perception of climate investment is changing, particularly in cities. Some \$29.4 trillion in opportunities exist in developing countries alone across six urban sectors that reduce emissions: renewable energy, public transportation, climate-smart water, electric vehicles, and green buildings (IFC 2017). Climate resilience also presents significant private investment opportunities as climate change becomes an increasingly powerful macroeconomic trend impacting the real economy. As the climate change crisis gets bigger, better understood by markets, and better priced, so will the value, importance and return of companies and assets that are intrinsically resilient or provide resilience solutions.

Importance of Enabling Environment

Despite the investment potential, cities face unique barriers to financing their climate ambitions. Many of the barriers cities face in attracting private investment are rooted in their limited control over broader enabling environmental conditions, such as national policies and regulations, and limited institutional capacity to plan and design climate-aligned investment opportunities for the private sector, difficulty raising taxes or debt, the existence of sovereign credit ceilings, and inability to access concessional capital from development finance institutions and climate funds directly.

Private investors face their own challenges when financing urban climate projects. Investors are often less familiar with municipal governments and their financial conditions and finding well-structured projects suitable for private investment can be difficult. Meanwhile, underdeveloped capital markets, already a challenge in most

emerging markets and developing economies, are more pronounced in cities.

Furthermore, large, complex, and cross-sectoral investments are needed to achieve climate-smart cities. Turning the main sources of GHGs in urban areas into opportunities for green growth and creating livable cities requires integrated systems-based approaches and coordination with regional and national government agencies. The scale and complexity of investment requires capability, capacity and coordination in municipal local markets, national governments, and the private sector.

For the reasons above, supporting a positive enabling environment at the national level will be critical to attract and scale climate-smart investment at the city level. As cities are key levers in the transition to a resilient, low-carbon world, more efforts should be made to engage cities explicitly and directly in national and international processes and coalitions that acknowledge them as important climate stakeholders from the beginning.



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Importance of Innovative Financial Structures

Innovative financing, policy, and risk allocation approaches such as those highlighted in this report can help climate-smart cities address these barriers to investment and unlock private sector investment. In general:

- *Comprehensive urban planning*, including long-term strategic plans, spatial plans, and climate action plans, set the foundation for low carbon, resilient urban investment, and are supported by dedicated climate-finance grants such as the EPIC tool and City Climate Finance Gap Funds. Comprehensive planning is key to inform targeted taxes, subsidies, and other incentives deployed by city governments that can be used to encourage investment in resilient infrastructure. It does so by favoring density over urban sprawl, and by prioritizing transit-oriented development, a circular economy instead of single-use waste, and low-carbon energy over fossil-fuel sources.
- *Land value capture* mechanisms, as presented by the City Resilience Program case study, can encourage green and resilient infrastructure development while leveraging private finance. Municipal governments recover a portion of the increase in land and property values that results from public investments (transport, green spaces, resilience) to improve nearby urban infrastructure.
- *Long term PPP contractual approaches* to develop or manage municipal assets or services are a primary mechanism for financing capital-intensive sustainable infrastructure by allocating risks between parties, leveraging private sector capital and expertise, and providing performance based remuneration. As described in the Santiago e-bus project, the purchasing power of cities can be leveraged to enact change through green bulk public procurement.
- *Municipal-type bond debt financing instruments* such as the Breathe Better Bond can leverage institutional investment by allowing cities to acquire long-term debt at stable prices.
- *Concessional blended finance approaches*, such as described in the Shanghai Green Urban Financing case study, can be used to reduce risk and leverage institutional investors, using multilateral development climate finance to reduce the risks of infrastructure.
- *Climate insurance products* can be used to finance repairs and rebuilding after climate events, ensure a city's or business's long-term financial risk coverage, and ensure continuity. The Reef2Resilience case study offers an innovative insurance mechanism that leverages the economic and protective value of natural capital such as coral reefs.
- *Dedicated trust fund vehicles*, such as the International Municipal Investment Fund can be established to receive national and international donations or private sector investment to finance urban climate projects.

Call to action

Finally, as highlighted in the report, there are numerous innovative financing approaches being developed and deployed to address investment barriers for climate smart cities. However, progress in scaling up sustainable urban infrastructure finance is slow and the risk of locking in high-emissions pathways is real. Significantly more needs to be done to support subnational governments in achieving low carbon, resilient urban development pathways, especially in fast-urbanizing cities in developing countries. No single solution exists to overcome the complex, multifaceted barriers that cities face in financing climate change projects.

Meeting the need will require investments in the underlying enabling environment, policy and planning capacity and policy preparation, as well as creative investment vehicles for leveraging large volumes of capital. The options include expanding municipal green and resilience bonds, enhancing policy and regulatory reform, developing urban green banks, investing in project structuring support, and expanding access to financial risk-reduction instruments. There is a need to expand local currency approaches to scale investments namely as i) many emerging markets do not have swap markets, ii) because many regulations only allow cities to borrow in local currency, and ii) because it's most prudent since city revenues are in local currency.

Furthermore, mobilizing private investment can only be achieved through the establishment of sustainable infrastructure as an asset class. Taking the development of the green bond market as a model, this will ideally be an inclusive stakeholder process that creates a credible labeling system for sustainable infrastructure investments. All can contribute to increasing critical climate investment

in cities and upholding our global commitment to keep global warming to less than 1.5°C. The success of these approaches is contingent on cities having a long-term vision, a commitment to green investment, and a clear pipeline of projects.

International development organizations such as multilateral development banks, development finance institutions, and bilateral donors can be particularly helpful in this context. Among other things, they can play the critical role of supporting cities and infrastructure investors in allocating risk and return among transaction counterparties. International development organizations can support developing economies in leveraging private capital for infrastructure by offering a range of concessional finance products (low-interest loans, equity investments, credit guarantees) and helping mitigate risk through technical assistance.³³ In parallel, international organizations can improve the enabling environments at the municipal and national levels by developing the appropriate policies, regulations, and legal frameworks to encourage private investment.

33 See <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Public-Sector/gx-smart-cities-economies.pdf>







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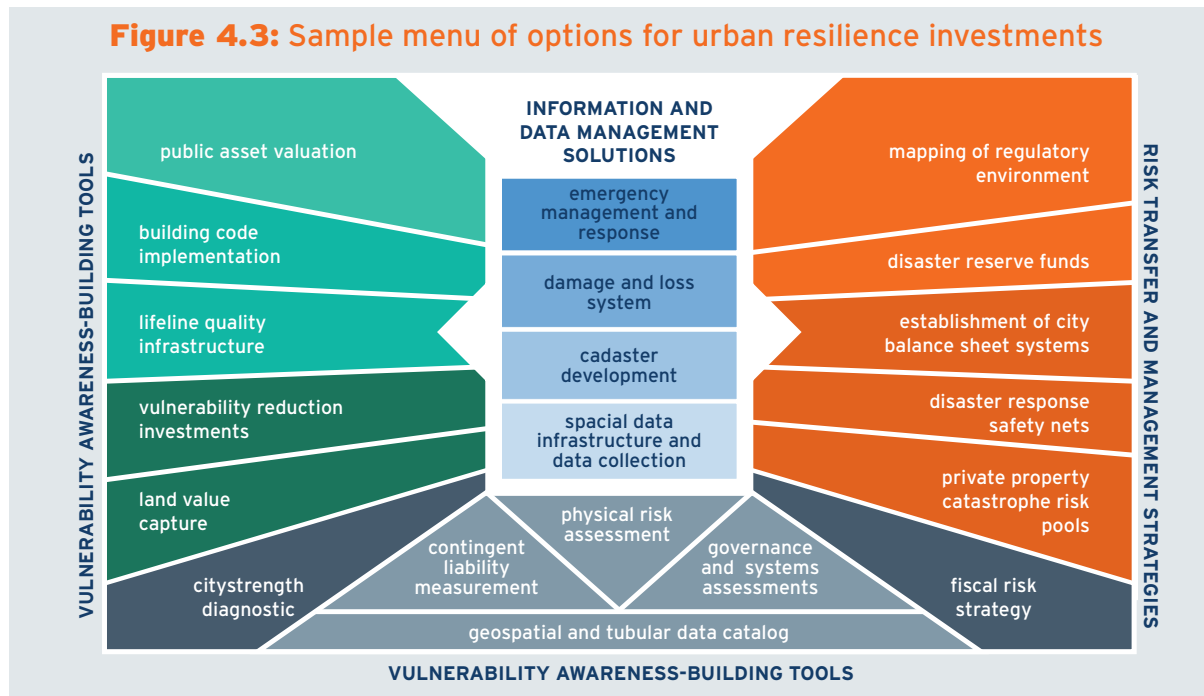
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Appendix 1: Invest4Climate

To address the climate investment gap, the World Bank Group and the United Nations Development Programme (UNDP) co-launched the Invest4Climate platform in September 2017. Invest4Climate aims to mobilize, coordinate, and deliver finance to close the climate financing gap and help countries transition to a resilient low-carbon future that supports jobs and growth.

Invest4Climate acts as a convener, facilitator and knowledge provider to leverage finance and facilitate scaled-up approaches to tackle climate's biggest challenges			
	 Convener	 Deal Facilitator	 Knowledge Provider
<ul style="list-style-type: none"> - Mobilizing existing teams and relationships in developing countries - Drawing on WBG unique suite of financial tools, resources and knowhow - Incorporating blended finance and maximizing finance for development approaches - Amplifying success stories at global scale to influence the regulatory and policy environments 	<ul style="list-style-type: none"> - Convening potential providers of finance at senior decision-making level around common challenges and specific climate mitigation and resilience investment opportunities - Convening governments, financial institutions, investors, philanthropists, and multilateral banks to support policy reform and crowd in private investment 	<ul style="list-style-type: none"> - Bringing respective UN & WBG experience in pipeline identification - Assisting potential climate focused transactions to prepare for and come to market for finance - Facilitating the identification and allocation of risks to providers of finance that can best manage them. - Leveraging investment and de-risking instruments through targeted policy and regulatory support; technical assistance and advocacy; financial engineering (loans, grants, guarantees, policy lending, results based finance) 	<ul style="list-style-type: none"> - Driving knowledge sharing and capacity building on climate action and finance - Piloting and demonstrating viable deals, standardization and new models for de-risking and scaling climate investment

Appendix 2: Sample Menu of Options for Urban Resilience Investments



Source: GFDRR 2015, 76.

Appendix 3: Key Financial Regulations and Their Effect on Institutional Investor Segments in the United States, European Union, and United Kingdom

	Legislative Region	Leverage limits	Collateral req.	Liquidity req.	Central clearing	Private equity limits	Trading tax	Brokerage fee limits	Deposit and reporting req.	Compensation limits	Pension funds	Insurance companies	Banks	Asset/wealth managers	Private equity
Dodd-Frank Wall Street Reform and Consumer Protection Act	US														
619 (12 U.S.C. 1851) of the Dodd-Frank Act (Volcker Rule)	US														
Foreign Account Tax Compliance Act	US														
Third Basel Accord / Capital Requirements Directive	All														
Undertakings for the Collective Investment of Transferable Securities V	EU														
Alternative Investment Fund Managers Directive	EU														
Solvency II Directive	EU														
Markets in Financial Instruments Directive II	EU														
European Market Infrastructure Regulation	EU														
European Commission's Liikanen proposals	EU														
Financial Transaction Tax	EU														
Packaged Retail Investment Products	EU														
International Financial Reporting Standards	EU/US														
Retail Distribution Review	UK														

Source: Better Finance, Better World 2018 Report.

