



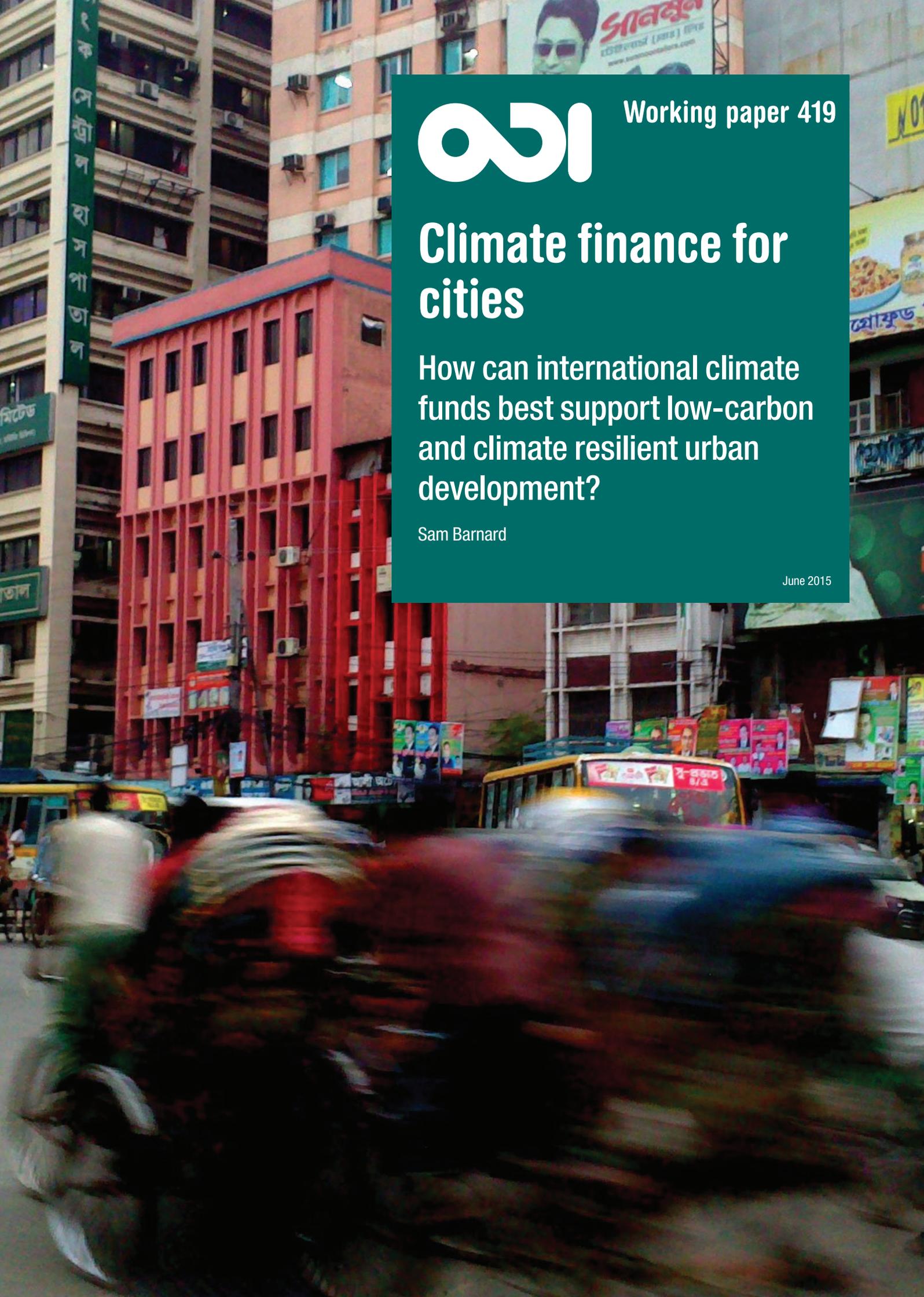
Working paper 419

Climate finance for cities

How can international climate funds best support low-carbon and climate resilient urban development?

Sam Barnard

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Overseas Development Institute

203 Blackfriars Road
London SE1 8NJ

Tel. +44 (0) 20 7922 0300
Fax. +44 (0) 20 7922 0399
E-mail: info@odi.org.uk

www.odi.org
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Acronyms

ADB	Asian Development Bank	MDB	Multilateral development bank
AFD	Agence Française de Développement	MIC	Middle income country
ASTUD	Asian Sustainable Transport and Urban Development programme	MoHURD	Ministry of Housing, Urban and Rural Development (China)
BRT	Bus rapid transit	NAPA	National Adaptation Plan of Action
CDIA	Cities Development Initiative for Asia	NGO	Non-governmental organisation
CTF	Clean Technology Fund	NMT	Non-motorised forms of transit
EIB	European Investment Bank	PPCR	Pilot Program for Climate Resilience
GCF	Green Climate Fund	SCCF	Special Climate Change Fund
GDP	Gross Domestic Product	SHF	Sociedad Hipotecaria Federal (Federal Mortgage Society of Mexico)
GEF	Global Environment Facility	STAP	The Scientific and Technical Advisory Panel of the GEF
GHG	Greenhouse gas	UN-DESA	United Nations Department of Economic and Social Affairs
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	UNFCCC	United Nations Framework Convention on Climate Change
IPCC	Intergovernmental Panel on Climate Change	UN-HABITAT	United Nations Human Settlements Program
LDC	Least developed country	UNISDR	United Nations Office for Disaster Risk Reduction
LDCF	Least Developed Countries Fund	WEF	World Economic Forum
LIC	Low income country		
LFI	Local financial institution		

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Executive summary

The way in which cities develop over the coming decades will play a major role in determining the success of climate change mitigation efforts and the degree to which climate change impacts those at risk. Yet most cities in the developing world face severe barriers to planning and financing the key infrastructure investments necessary to steer their growth in a climate compatible way. International public climate finance is a fraction of total financial flows, but has the potential to play a pivotal role in helping municipal governments and other urban actors overcome the many barriers they face.

This paper reviews the approaches taken by multilateral climate funds in the period 2010-2014¹ to support low-emission and climate resilient development in developing country cities. It identifies US\$ 842 million in approved climate finance for explicitly urban projects,² which equates to just over one in every ten dollars spent on climate finance over these five years. The majority of this finance has supported low-carbon urban transport systems in fast-growing middle income countries. Adaptation funds financed only a handful of explicitly urban projects in the review period.

The report highlights the following implications for future climate fund engagement at the urban level:

Climate funds must focus on catalysing action by others.

Public climate finance is a very small fraction of total urban infrastructure investment flows. Climate funds should direct their resources with the primary goal of enabling and leveraging scaled-up action by others. This might mean crowding-in further finance for specific infrastructure investments, allowing local intermediaries to employ their own resources to greater effect, or improving the capacities of institutions at different levels to create policy, regulatory and technical environments that steer wider investment towards sustainable urban development. While the enabling role is often a central narrative of climate funds, this ambition is not consistently realised in practice. There are opportunities for some climate funds to take on more risk and employ a wider range of financial instruments, such as guarantees, to catalyse action by others. They should carefully consider the nature of their

support before directly financing large urban infrastructure projects, and only proceed when these are clearly dependent on their assistance.

Climate funds need to develop appropriate access arrangements for reaching the most vulnerable urban residents.

The trend towards expanding the range of institutions that can channel finance from climate funds creates opportunities to engage sub-national institutions and other entities that can target local groups, and meet the needs of the most vulnerable urban residents. Some intermediation will be required to bridge the gap between the international level and the large number of small transactions and activities required. The debate is open on which model is the most effective. The answer will vary according to context, such as the extent to which a local government has autonomy over spending decisions. How funds navigate the political and practical difficulties of channelling money to those who need it on the ground will determine whether their resources can add value to the many existing development and urban resilience efforts already underway.

Mainstreaming climate risks and mitigation into local governance must remain a priority, but is not a solution by itself.

Coherent policy, regulatory and planning frameworks are a prerequisite for steering investment towards low-carbon and climate resilient urban development. It is encouraging therefore that most urban-focused climate fund interventions include varying degrees of support to improving enabling environments at different scales in addition to finance for investments in hard capital. Continued support for long-lasting capacity building to strengthen these factors will be essential in maximising the impact of climate funds. But such frameworks are only effective to the extent in which they actually influence urban development in practice. Investment strategies must

1 While some climate funds, the GEF in particular, were operational earlier, this is the period in which most multilateral climate funds have developed their project portfolios and we deem it to be a fair reflection of their current activities and priorities.

2 See Section 2 for methodological note on project selection criteria.

consider political and economic factors at play in any given context and seek to support those actors that can best deliver results on the ground.

Climate funds can expand their impact by supporting urban project preparation

It is a shortage of 'bankable' projects that is holding back investment in urban infrastructure in middle income countries, rather than a lack of liquid capital. Climate funds can help to overcome this barrier by assisting municipal

governments in developing business cases for climate-relevant investment projects and matchmaking them with private and public financiers. In most cases, this would represent a more impactful use of funds than directly contributing to the costs of defined infrastructure investments.

These messages are relevant for all funds, and particularly represent opportunities for the nascent Green Climate Fund as it seeks to support mitigation and adaptation by investing in more sustainable cities.

1. Why focus on cities?

1.1 The urban climate challenge

Cities have gained increasing recognition as critical battlegrounds in the fight against climate change. The heightened efficiency that cities afford through densification is a major reason for their formation, and means that on the whole urban areas have lower greenhouse gas (GHG) emissions per capita than the countries of which they are part (Dodman 2009). But this concentration of economic activity means that cities are major sources of greenhouse gases (GHGs) in absolute terms: Floater, Rode et al. (2014a) predict that the three major classes of city they identify ('Emerging Cities', 'Global Megacities' and 'Mature Cities') will contribute 50% of energy-related global emissions growth between 2012 and 2030. Cities are also zones of increasing vulnerability, with climate adaptation and resilience-building measures required to limit growing risks to key infrastructure and systems, including for water and sanitation, energy, transport and food (Revi et al. 2014). The 2015 Global Assessment Report on Disaster Risk Reduction finds that 'disaster risk is increasingly concentrated in hazard-exposed cities' (UNISDR 2015, p. xv), while urban populations (and especially *large* urban populations) are disproportionately likely to reside in the low elevation coastal zones most at risk from sea level rise (McGranahan, Balk and Anderson 2007). A focus on cities therefore entails a consideration of both mitigation and adaptation to climate change.

The next half-century will witness a continuation of the recent trend of rapid urbanisation, with 66% of the planet's population projected to live in cities by 2050, up from 54% per cent today (UN-DESA 2014). The most dramatic rates of urbanisation will occur in Asia and Africa, where 2.1 billion more people are expected to live in urban areas by mid-century (*ibid.*).

It is therefore inevitable that cities across the developing world will experience considerable growth and change in the coming decades; indeed much of this growth is expected in what are now smaller cities and towns rather than large metropolises. It is the planning and investment decisions made today that will determine the extent to which they evolve in a manner that is coherent with the connected, compact and resilient models of urban development required. New roads, buildings and water systems built today are likely to influence living and consumption patterns for at least the next 50 to 100 years. The need for brand new infrastructure in cities across the developing

world provides an opportunity to make investments that take climate change into account, in contrast to the more complicated challenge of retrofitting and adapting existing infrastructure in the more mature cities of the developed world (Dodman and Satterthwaite 2009). Decentralisation means that municipal governments across the developing world increasingly hold the levers to delivering the key services, such as transport, waste, water and energy that are centrally implicated in the challenge of achieving low-carbon and climate resilient urban development, although they frequently lack the institutional and financial capacities to deliver these effectively (UN-HABITAT 2009). The fact that the actions required to combat climate change are generally good for urban residents regardless of their climate mitigation/resilience benefits is further justification for a focus on cities.

The scale of required investment is huge: the McKinsey Global Institute (2013) projects that US\$ 57 trillion in infrastructure investment will be required in the 18 years from 2013 to 2030 just to keep up with expected global GDP growth; 60% more than was invested in the preceding 18 years, and a large proportion of this will be needed to support the growth of cities. An estimated additional investment of US\$ 1 – 1.5 trillion will be required annually to 2020 in low and middle income economies to meet the demand from households and industries for core services such as transport, water and energy (Bhattacharya, Romani and Stern 2012). Local and municipal governments around the world are therefore under severe pressure to plan and source funds for a wide range of urgent investments. The financial and institutional constraints experienced most keenly by municipal governments in developing countries has led international donors to become involved in a range of efforts to assist them in meeting the infrastructure challenge. International climate funds represent a funding avenue that specifically seeks to integrate the challenges posed by climate change into this equation.

1.2 How are international climate funds relevant at the city level?

There is a wide variety of sources from which urban climate mitigation and adaptation actions may be financed, including city revenues, donor funds through bilateral and multilateral channels or foundations, household expenditure, and private investment, but here we focus

specifically on the particular role and added value that might be contributed by dedicated multilateral climate funds. The international community has established a number of multilateral funds over the last two decades with the specific objective of assisting developing countries to meet the costs of pursuing low-carbon and climate resilient development pathways. These funds have approved over US\$ 9 billion since 1994 for projects specifically targeting climate mitigation and adaptation in developing countries (Nakhooda, Norman et al. 2014). While this represents a small amount of money in relation to wider public, let alone private finance flows, the rationale is that if deployed in a targeted way such finance can catalyse impact at much larger scales by directly leveraging larger sums of public or private finance, or by helping to overcome the market or policy barriers preventing other actors from implementing mitigation or adaptation solutions.

Climate funds have provided some support to urban projects for over 15 years, but an increasingly explicit focus of some funds on urban outcomes in the last year indicates that cities are rising on their agenda (see Box 1). Climate funds can variously provide both grants for technical assistance, to help build local capacities or improve enabling environments to facilitate the wider implementation of a particular solution, and/or loans to support investments on cheaper terms than those available commercially or from development banks. Yet although city mitigation and adaptation efforts must largely be planned, implemented, and managed locally, the climate finance system has primarily channelled money for urban projects to (or through) national governments.

This paper seeks to take stock of how multilateral climate funds have engaged with cities to date by studying the approaches taken in relevant projects and considering

Box 1: Climate funds are increasingly targeting cities

The **Global Environment Facility (GEF)** is the longest running dedicated climate fund. It is only able to provide grant finance and, as the official financial mechanism of the UNFCCC, must spread its funding across all non-Annex I members of the Convention, typically providing grants of US\$ 10 million or less. While the GEF has been implementing urban transport projects since 1999, it has recently introduced a more holistic, higher-level urban focus for the first time with a new focal area promoting ‘integrated low-emission urban systems’ receiving a programming target of US\$ 210 million for the period 2014-2018 (GEF 2014). Similarly, the **Green Climate Fund (GCF)** under the UNFCCC has explicitly recognised the multiple benefits it can support by financing low emission and resilient cities. The GCF is a major new institution, with US\$ 10 billion of initial pledges from donor countries, and faces the challenging task this year of developing a portfolio of impactful projects from scratch.

the merits of these with regard to the rationale of the funds and wider efforts to help developing country cities adopt climate-compatible growth pathways. Our analysis is based on data collected through the Climate Funds Update initiative³ as well as desk-based research and selected interviews with municipal finance experts. It is an initial exploratory investigation into the role that climate funds have played and can play at the urban level, intended to elicit comment and feedback from practitioners and researchers in the field.

3 www.climatefundsupdate.org. Climate Funds Update is a joint ODI and Heinrich Böll Foundation North America initiative tracking the money flowing into and out of the major multilateral climate funds.

2. Multilateral climate fund activity at the urban level

2.1 Urban climate fund spending, 2010-2014

This paper considers climate fund activity at the urban scale in the five years since 2010, which is the period in which most climate fund portfolios have been developed. While bilateral climate funds and MDBs are also supporting climate-relevant urban activities, time constraints mean we restrict ourselves here to the dedicated multilateral climate funds.⁴ A review of projects⁵ approved by these funds between 2010 to 2014 reveals 47 of over 700 projects with explicit urban mitigation or adaptation objectives (see Annex I) with a combined value of US\$ 842 million, or US\$ 168 million on average per year. 91% of this funding has been approved for mitigation-focused projects (some of which may have resilience co-benefits). The total is just over 11% of the US\$ 7.28 billion approved by multilateral climate funds for all projects in the same period. The Clean Technology Fund (CTF) has been by far the biggest player in terms of scale of financing for urban projects, accounting for 76% of approved finance (Figure 1). This is in part a reflection of the CTF's considerable financial resources relative to other funds and its model of using loans to co-finance large low carbon infrastructure and energy efficiency investments in partnership with the multilateral development banks (MDBs), which is somewhat at odds to the smaller grant-based approach of most other funds.

89% of urban-focused climate finance was approved for projects in middle income countries (MICs), particularly in Mexico, Vietnam and Ukraine (see Figure 2). Less than 10% of funding was approved for projects in low-income country (LIC) cities, and this amount was dominated by one US\$ 40 million infrastructure project for coastal towns in Bangladesh funded by the Pilot Program for Climate Resilience (PPCR). There were only two urban mitigation projects approved for LICs. Conversely, there was extremely restricted funding for urban adaptation

projects outside of the low-income grouping, although the very small number of urban adaptation projects approved in total means that we cannot not attach this pattern with too much significance. Nevertheless, it contrasts strongly with the pattern for adaptation funding as a whole, for which 50% was approved for non-LICs in the same period (Climate Funds Update 2015). The bias towards providing finance to projects in MICs is partly a reflection of the CTF's explicit focus on these countries, the rationale being that they are where emissions are growing fastest and where markets for private sector involvement may be more developed. However, with cities in sub-Saharan Africa and Asian LICs predicted to grow massively in the coming decades it is imperative that they are not overlooked by those international actors seeking to facilitate low-carbon urban development.

2.2 What have urban climate fund projects targeted?

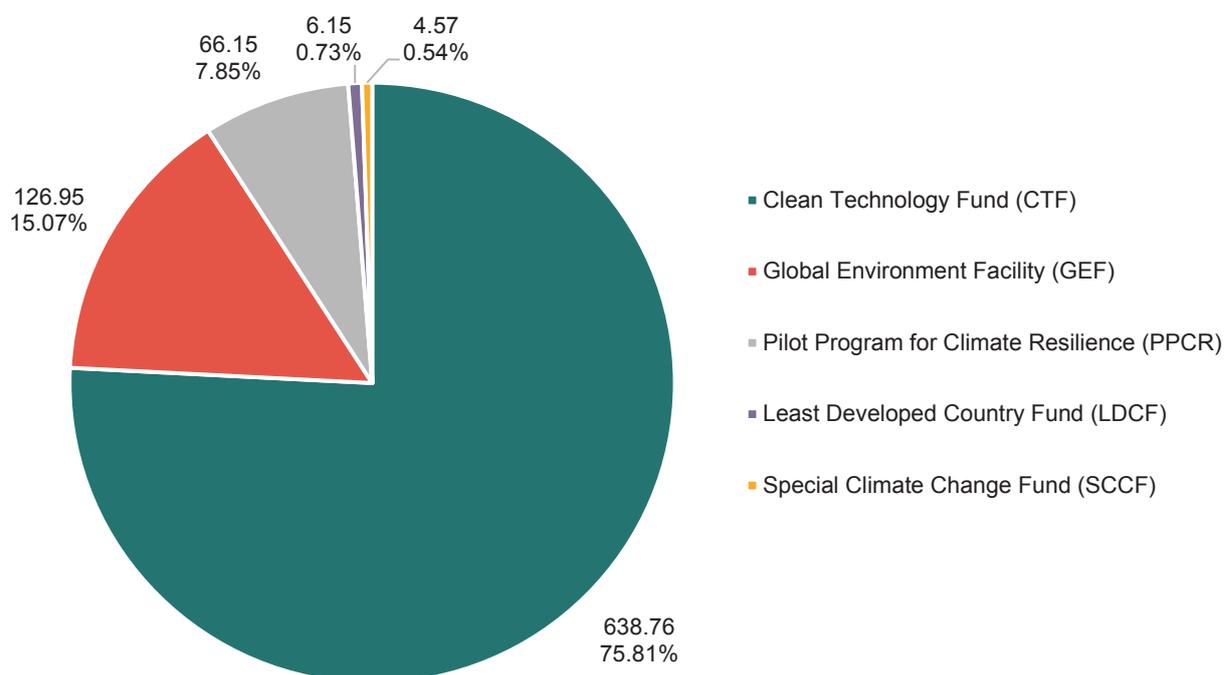
Between 2010 and 2014, 60% (US\$ 503 million) of finance approved by dedicated climate funds for urban projects was to support urban transport projects in 14 countries (see Figure 3). 87% of this finance has been approved by the CTF. Smaller amounts of funding were approved for projects focusing on other infrastructure (including flood protection, water treatment and efficient street lighting), district heating systems in Eastern Europe, building energy demand and support to build capacities for integrated urban planning and land use processes. The pattern of funding illustrated in Figure 3 is partly a reflection of the types of investments employed to achieve impacts in these different sectors, as discussed in the next section, but it may also demonstrate some relatively under-funded areas worthy of greater attention by fund programmers in the future. For instance, the pattern only partially reflects the focus

4 Adaptation Fund; Clean Technology Fund; Forest Carbon Partnership Facility; Forest Investment Program; Global Environment Facility; Least Developed Countries Fund; Pilot Program for Climate Resilience; Scaling-up Renewable Energy Program; Special Climate Change Fund.

5 Projects were included that specifically cite 'urban' or 'city' level objectives, or that clearly target specifically urban technologies such as BRT, building energy efficiency or district heating. We omitted generic energy efficiency projects not focused on specifically urban sectors. It is likely therefore that this review does not include all projects with urban outcomes, but we believe that it allows for a representative picture of climate funds engagement at the urban level.

of self-reported or planned mitigation-relevant policies by developing country cities around the world, as collated by Seto et al. (2014) for the IPCC 5th Assessment Report. They find that cities are giving relatively equal priority to policies on transport, building energy demand, waste and education, at least in terms of the proportion of cities reporting relevant policies if not necessarily in levels of funding.⁶

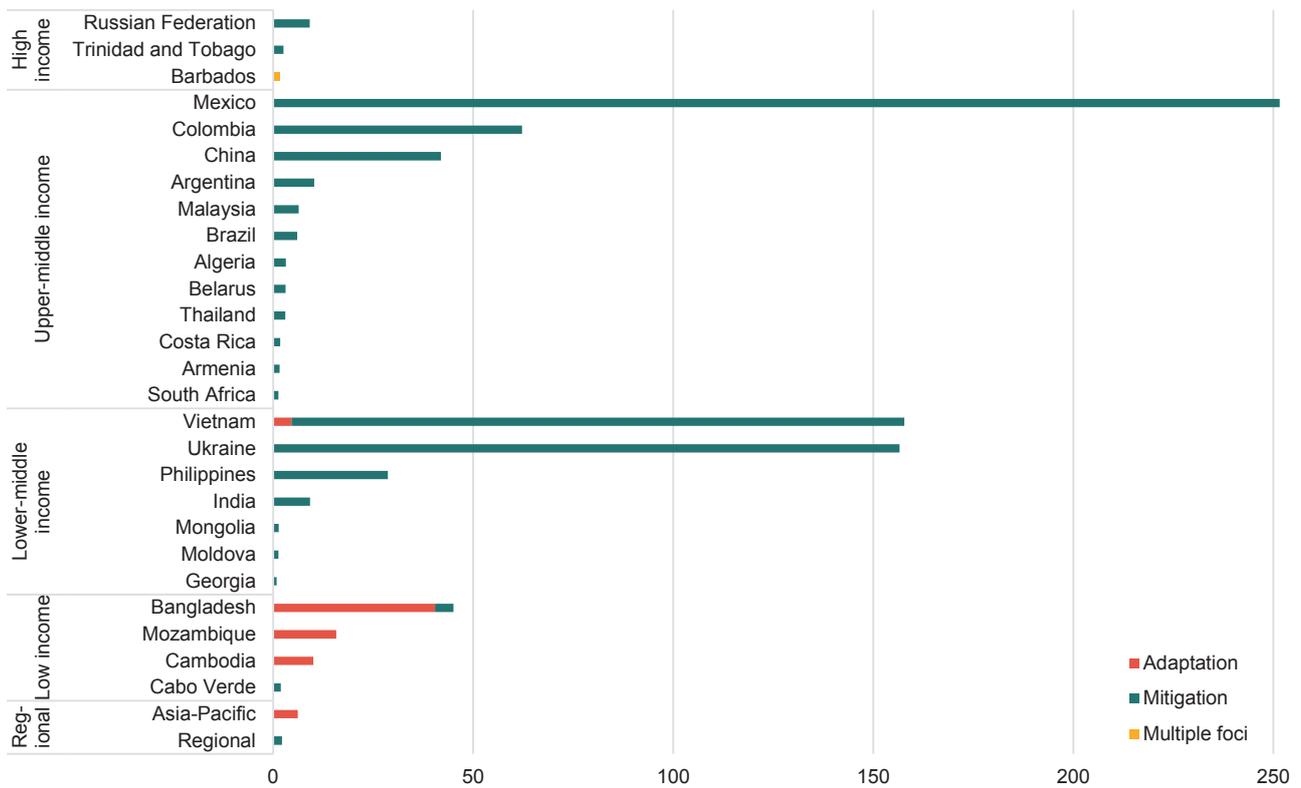
Figure 1: Finance approved by dedicated climate funds for explicitly urban projects, 2010-14 (US\$ millions)



Source: *Climate Funds Update (2015)*

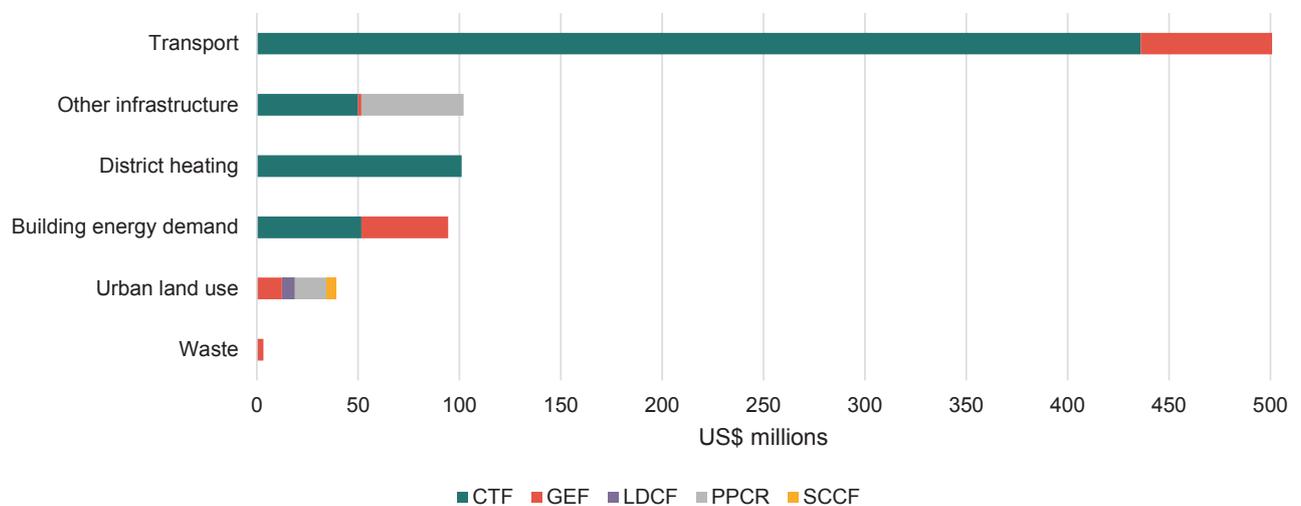
⁶ See Seto et al. (2014), Chapter 12, Figure 12.22.

Figure 2: Finance approved for explicitly urban projects 2010-14, by country and income level (US\$ millions)



Source: Climate Funds Update (2015)

Figure 3: Approved finance by focus and fund, 2010-14



Source: Climate Funds Update (2015) and fund websites

3. How have climate funds sought to achieve impact?

The strategies adopted for achieving impact and the means available for implementing them differ by fund. It is these varying approaches to spending the relatively limited pools of money available that are crucial to understand in considering the experiences of climate funds at the urban level to date.

3.1 Promoting low-carbon urban development

The CTF and GEF are the two mitigation-focused climate funds that have invested in urban projects, approving a combined total of US\$ 766 million for 42 explicitly urban projects between 2010 and 2014.⁷ Based on a review of project documentation we identify three loose approaches employed by the two funds in this period for enhancing GHG mitigation at the urban level. On a somewhat simplistic level these approaches seek to intervene at different moments in a target sector's development, ranging from establishing a high level enabling environment to providing finance for specific investment projects. Projects may and often do combine aspects of more than one approach.

Enhancing large infrastructure investments

The model for both GEF and CTF investments in urban projects has often been to seek to increase the climate-relevant benefits of much larger projects under development by MDBs and/or the recipient government of the country in question, or to contribute towards paying the 'additional' costs of making a business-as-usual investment climate-compatible. For instance, the Asian Sustainable Transport and Urban Development (ASTUD) programme of the GEF seeks to add value to large Asian Development Bank (ADB) investments in bus rapid transit (BRT)⁸ systems in Asian cities. Sub-projects under the programme generally consist of technical assistance to municipal governments to build capacity and support the development of policies to increase integration of planned

BRT infrastructure with the surrounding urban fabric and to allow for improved access and interchange with non-motorised forms of transit (NMT), and thus improve the contributions that these systems make to lowering GHG emissions. There are currently five ASTUD projects approved in Dhaka, Bangladesh; Ulaanbataar, Mongolia; and Fuzhou and Ji'an, China, ranging in size from US\$ 1.4 - 4.6 million, as well as a global learning and knowledge management component to promote synergies across the program. Each of these apart from the Mongolian project complements an ADB investment in BRT infrastructure in excess of US\$ 200 million.

The CTF has also sought to complement investments in specific large urban infrastructure projects. With more money at its disposal than the GEF and the ability to issue concessional loan finance its primary focus has been on providing co-financing to the investments themselves rather than supplementary technical assistance. One example is the recently approved US\$ 100 million concessional loan through the ADB to finance improvements to a new metro line in the Vietnamese capital of Ha Noi, including station and depot facilities, infrastructure to ensure integration with NMT and the existing public transport system, as well as policy development to improve station access management and ticket pricing (ADB 2014). This CTF funding sits alongside US\$ 1.43 billion in financing for the metro line itself from the Vietnamese Government, ADB, the French Government, French development bank Agence Française de Développement (AFD), and the European Investment Bank (EIB).⁹ The expectation is that successful demonstration of the CTF-financed improvements will lead to their uptake in four more Ha Noi transit lines currently at early stages of implementation.

7 The overall GEF urban portfolio since it approved its first urban projects in 1999 totals US\$ 722 million for 102 projects in 120 cities across 66 countries (GEF, private correspondence).

8 BRT is an innovative bus-based transit solution generally involving dedicated lanes, station-level access and off-board fare collection. As of April 2015, BRT networks have been implemented in 102 cities across Latin America (61), Asia (38) and Africa (3) as lower cost alternatives to full metro systems (www.brtdata.org).

9 This co-finance figure reported by the CTF is US\$ 363 million because its loan is contributing to meeting the increased costs of the metro line project, which were revised upwards from initial estimates by US\$ 403 million following the global financial slowdown (ADB 2014). The total project cost is US\$ 1.54 billion.

Strengthening enabling environments and funding associated pilots

An alternative model employed by the GEF has been to work to strengthen enabling environments at the national level for investments in a particular sector or technology, complemented by funding for small-scale demonstration investments in partnership with the municipal governments of selected cities. This kind of intervention focuses further up the ‘implementation ladder’, with the goal of improving national and local capacities for integrated policy development and planning, essential for facilitating investment in urban infrastructure and technology (Floater, Rode et al. 2014b). The *Urban-Scale Building Energy Efficiency and Renewable Energy* project is one example. Approved in 2012, it seeks to establish a national enabling environment for building energy efficiency and rooftop renewable energy in China. A US\$ 12 million GEF grant is financing technical assistance through the World Bank to support a range of measures including the formulation of national guidelines on building efficiency standards, studies to establish benchmarks for building efficiency, guidelines on the creation of solar resource maps to enable markets for roof-top solar PV, and pilot demonstrations of such systems on schools and other public buildings. These are some of the key actions identified by the Chinese State Council as necessary for redirecting investment in the building sector towards low-carbon alternatives in the 12th Five Year Plan period. The project includes a national level component, led by the Ministry of Housing, Urban and Rural Development (MoHURD), as well as pilot demonstrations in the cities of Beijing and Ningbo led by their respective municipal governments; these cities are situated in radically different climate zones and so require quite different approaches to increasing building efficiency. Co-financing is provided by a US\$ 120 million World Bank loan along with in-kind contributions from MoHURD and the two municipal governments.

Incentivising markets through financial intermediaries

A third approach we identify is for climate funds to channel concessional finance directly to financial institutions within a recipient country, to allow them to provide cheaper-than-market finance to local governments, firms or individuals seeking to invest in a particular low-carbon urban technology. The CTF *Ecocasa* project is providing US\$ 52 million in concessional finance to the Federal Mortgage Society of Mexico (Sociedad Hipotecaria Federal – SHF) in order for it to provide incentives for private developers to invest in highly efficient and low-cost housing construction. US\$ 50 million in IADB co-financing will increase the supply of mortgage loans for such housing through local financial institutions (LFIs). The theory of change with this approach is to kick-start a market in a

targeted sector by building the capacity of intermediaries to lend money for investments in low-carbon technologies that may be perceived as more risky than conventional alternatives and for which there is little local lending experience, as well as demonstrating to investors the viability of these alternative approaches. It would be impractical for international funds working through MDBs to efficiently finance the large number of individual, small-scale investments required to scale-up this kind of technology; the use of a local financial intermediary is designed to overcome this barrier by handing responsibility for individual transactions to institutions set up specifically for that purpose.

3.2 A dearth of climate finance for urban resilience

While a number of other international donor initiatives such as the Rockefeller Foundation¹⁰ are heavily engaged in building urban resilience, multilateral climate funds have had very little experience in this area to date. Since 2010, only 5 projects appear to have been approved by dedicated climate funds that clearly target urban resilience, for a total amount of US\$ 77 million. This equates to less than 5% of the US\$ 1.83 billion approved for adaptation projects by climate funds during the same period (Climate Funds Update 2015). Three projects in Bangladesh, Cambodia and Mozambique funded by the PPCR account for 86% of this urban adaptation finance. These projects fund investments in infrastructure, primarily to improve protection to flooding, with varying combinations of concessional loans and grants. Two smaller grant-based projects (average size US\$ 5.4 million) under the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF) seek, respectively, to improve institutional capacities and policy frameworks for climate resilient urban planning in Vietnam, and to pilot ecosystem-based adaptation as an urban resilience strategy across the Asia-Pacific region. It should be noted that there are likely to have been more adaptation projects approved in this period that are expected to have indirect urban outcomes but we focus here on those that we were able to identify as being explicitly targeted at urban areas. This approach is somewhat of a limitation because the geographic scope of urban resilience varies by the specific climate stressors under consideration and cannot in all cases be restricted to the territorial boundaries of urban areas themselves. For less geographically focused stressors such as climate impacts on food production, a substantial part of an urban area’s vulnerability will be determined by the resilience of the wider geographical area on which it relies for resources.

10 Through its 100 Resilient Cities and Asian Cities Climate Change Resilience Networks.

It is difficult to draw conclusions from such a small sample, but equally the small number of projects may be indicative of climate fund and recipient country priorities to date. Very few urban projects were submitted to the UNFCCC under Least Developed Country (LDC) National Adaptation Plans of Action (NAPAs) for instance, and these were not listed with high priority.¹¹ Given that it is the LDCF's mandate to finance activities identified under NAPAs it is not surprising that it has not built an urban adaptation portfolio, while the lack of urban NAPAs also reflects a low government prioritisation for the theme in the past with implications for programming priorities for the other adaptation funds. It is possible that priorities are different today, however, as sustainable urbanisation has risen on LDC agendas since NAPAs began in 2001.

The five identified urban adaptation projects all have national governments as their primary focal points, and comprise of varying combinations of technical assistance and capacity building components, along with hard investments. For instance, the PPCR is providing a US\$ 5 million grant and US\$ 5 million concessional loan to finance climate-resilience enhancing additions to a US\$ 38.5 million ADB investment in wastewater treatment and flood protection infrastructure in four Cambodian

towns, along with activities to increase the capacities of the provincial and local authorities to manage and maintain such infrastructure in the long-term. The objective is to strengthen these towns' resilience to future climate variations and to increase their economic productivity through flood protection and more reliable wastewater treatment (ADB/GoC 2012). The SCCF is providing a US\$ 4.6 million grant to the Government of Viet Nam to assist in developing a framework to empower municipal planners to assess and incorporate climate risks into their decision-making as well as supporting pilot adaptation investments identified through this process, which will be primarily financed through a US\$ 120 million ADB loan.

It is more of a challenge to identify opportunities for transformative impacts from climate fund urban adaptation interventions than is the case for mitigation projects, where the opportunities for private sector involvement and market creation are far more obvious. NGO observers criticised the Cambodian PPCR project above for representing a 'top-up' to the ADB's existing portfolio in the region rather than a new activity driven by the government's strategic priorities for adaptation as outlined in its NAPA (Nexus, 2012).

11 See submitted NAPA projects by sector at http://unfccc.int/adaptation/workstreams/national_adaptation_programmes_of_action/items/4583.php

4. Do these approaches make sense?

As outlined above, international climate funds have taken a variety of approaches to achieving urban mitigation and adaptation benefits. Climate finance is not a solution in itself, but rather a lever to help shift all resource flows towards low-carbon, climate resilient options, making it essential to consider the extent to which these approaches represent an effective use of this limited pool of finance. In this section we consider the rationale of the approaches taken and highlight areas in which the funds involved might seek to concentrate their efforts in the future in order to increase the contributions they can make towards step changes in carbon intensity and climate resilience at the city level.

4.1 Support to enabling factors alongside hard investments

The urban-focused climate fund projects listed in Annex I generally include varying proportions of both “hard” and “soft” components, with support to help create the appropriate policy, regulatory and technical frameworks and institutional capacities (soft investments) at local/regional/national scales necessary for the successful implementation of a particular urban technology or system in addition to investments in physical assets (hard investments). Building the capacities of city leaders to plan and connect infrastructure is as important, if not more so, than the question of financing if cities are to grow in a planned, low-carbon fashion (World Bank 2013). It is therefore encouraging that GEF projects have primarily focused on building these capacities and demonstrating their benefits as complements to large infrastructure projects or pilot demonstration initiatives funded by others. For its 2014-18 programming period the GEF plans to implement a cross-focal point ‘Sustainable Cities Integrated Approach’ that seeks to develop ‘conceptual models of sustainable cities with harmonized performance indicators, including global environmental benefits’, and to test such frameworks in twenty-two pilot city initiatives¹², with US\$ 140 million in GEF grants to accompany nearly US\$ 1.4 billion in anticipated co-finance (GEF 2014, p.171; STAP 2014). This is in addition to the GEF’s climate

change-specific objective of promoting integrated low-carbon urban systems, which reflects the Fund’s plan to focus increasingly at a more holistic urban planning level rather than promoting specific sectors and investments (GEF 2013).

Likewise, while the CTF and PPCR provide a majority of their finance for hard infrastructure investments this is usually coupled with some form of technical assistance or capacity building to improve the chances that these are implemented sustainably, although for the CTF in particular these aspects constitute a very small part of total project costs. Support to the development of an appropriate ticket pricing policy for the new Ha Noi metro line alongside finance for station infrastructure is one example.

The scale of climate finance available for adaptation pales in comparison to the needs for urban infrastructure resilience building over the coming decades; Bruggmann (2012) for instance roughly estimates that annual investment in urban fixed assets to 2025 will be 300 times larger than available adaptation funds. The implication of this mismatch, he suggests, is that adaptation funds should focus their efforts on improving the extent to which urban resilience upgrading is mainstreamed into local and national policy, planning and regulatory frameworks, and on building related institutional and technical capacities, rather than simply funding defined infrastructure improvement projects that will only ever benefit a tiny proportion of the total number of urban residents likely to be impacted. The approaches taken in the two urban SCCF and LDCF projects identified in this review align well with this perspective.

At the same time, it is tempting to overplay the effectiveness and influence of such development plans and standards in developing city contexts. Mainstreaming resilience and mitigation considerations into local plans and decision-making provides important top-down guidance and, hopefully, buy-in at the level they are established. But these plans often hold little sway in actually influencing urban development owing to, for instance, a lack of tailoring to local context, unclear responsibilities over their enforcement or the exclusion

12 Brasilia and Recife (Brazil); Beijing, Tianjin, Shijiazhuang, Nanchang, Ningbo, Shenzhen and Guiyang (China); Abidjan (Cote d’Ivoire); Mysore, Jaipur, Bhopal, and Vijayawada-Guntur (India); Malacca (Malaysia); La Paz, Campeche and Xalapa (Mexico); Gran Asuncion (Paraguay); Lima (Peru); Dakar (Senegal); Johannesburg (South Africa); and Hue (Vietnam).

of key stakeholders such as civil society organisations or the private sector from planning processes (Bahadur 2015, forthcoming). While efforts by climate funds to improve the effectiveness of these plans may be valuable, a worthwhile parallel or prerequisite exercise may be to invest in mapping the coalitions of actors that control the levers of urban development in practice in a given context and to use this as a basis to engage systematically with the groups identified. For instance, working with unions/federations of local builders is likely to have a larger impact on improving the provision of resilient housing in many cities than simply strengthening building codes. The implications for funds in seeking to engage with more diverse groups of recipients at the local level than has been typical is discussed in section 4.4 below.

4.2 Risk-taking and innovation

The almost trivial scale of public climate finance flows compared, for example, to the US\$ 1.2 – 2.4 trillion of global annual investment in transport infrastructure (Lefevre, Leipziger and Raifman 2014) underlines the necessity of using this money in a different way to traditional donor flows. Multilateral climate funds must balance the inherent tension between taking the risks necessary to deliver potentially transformative results on the ground and ensuring they have a positive story of results to deliver to the donors they are accountable to. A primary conclusion from ODI's recent flagship report on the effectiveness of climate finance was that climate funds must become more flexible and less risk averse (Norman, Nakhoda et al., 2014) and this message holds when considering climate fund interventions with an urban lens. There is scope for funds to be more innovative in the financial mechanisms they employ to leverage private investment in urban infrastructure. Partial credit or risk guarantees and other innovative risk mitigation instruments for instance are a relatively unused form of finance that may be effective in some contexts to facilitate the participation of new investors and develop local capital markets (Schwartz, Ruiz-Núñez & Chelsky, 2014). These instruments insure commercial debt lenders or investors in infrastructure projects against losses due to borrower credit defaults or against pre-specified political risks, respectively, and so help to overcome the risk barriers preventing investment in particular projects or technologies. The CTF and GCF are both well placed to provide such finance for climate mitigation-relevant urban infrastructure investments through their MDB partners, who already have experience of arranging guarantee instruments for private infrastructure projects. MDBs have traditionally lent to municipal governments via their respective sovereign governments, but the EBRD and IFC for instance have provided partial credit guarantees directly to a limited number of municipal governments based on their own credit (Matsukawa & Habeck 2007).

The overall urban climate finance picture illustrated in section 2 is dominated by seven large CTF projects supporting urban transport investments. Their relative size is demonstrated by the fact that these projects account for 6% of the total climate finance approved for over 700 projects between 2010 and 2014. While some of these projects diverge from what might be considered the traditional model for a donor-supported infrastructure investment (e.g. the Fund's US\$ 200 million support to the Mexican *Urban Transport Transformation Program* will be channelled through a new national infrastructure fund to incentivise municipalities and local transport companies to invest in low-emission buses and has directly leveraged considerable domestic resources for complementary capacity building, project development and investment activities), it is not always convincing that the supported investments have been dependent on the climate finance components of their financing structures and would not have gone ahead without them; the CTF has contributed 12% of total investment costs for these projects on average. It certainly seems contentious to claim in some cases that the large amounts of donor and national government co-financing involved have been leveraged by the climate fund contribution, especially where that contribution is financing what might be considered climate change-relevant enhancements to the core infrastructure investment funded by others. Innovative project ideas are by their nature less numerous and straightforward to implement, especially at scale, and climate funds are under pressure to spend the money entrusted to them. One might argue that these large investment projects have been seen as a pragmatic way to get money out the door, confident in the knowledge that they adhere to the standards of the MDBs implementing them.

4.3 Helping municipal governments to help themselves.

The ultimate goal for the governments of developing country cities is to be able to plan and finance necessary investments through combinations of their own resources, national government funding and finance raised on the market, without the assistance of development partners. The long term challenge of improving the state of city finances extends far beyond the remit of climate funds, but there are opportunities for these funds to engage in a way that is more in line with that objective, as opposed to the more project-based approach that has often been the modus operandi to date. A number of international initiatives are underway to improve the picture of municipal finances. The City Creditworthiness Academy for instance is a joint World Bank/C40 Cities Climate Leadership Group/Private Public Investment Advisory Facility (PPIAF) initiative that aims to improve the capacity of city authorities to work towards achieving the investment-grade credit ratings that would allow them to borrow on domestic financial markets

or potentially issue municipal bonds. The Cities Climate Finance Leadership Alliance meanwhile was established in 2014 to facilitate knowledge sharing among city leaders, finance and climate experts on ways to stimulate investment in key low-carbon and climate resilient infrastructure. Climate funds should seek to involve themselves in such efforts where possible to seek out instances where they may be able to provide timely financial support to complement these capacity building efforts and facilitate implementation of ensuing programs.

Building capacities for project preparation is one area of untapped potential. Private investors will only consider investing in “bankable” municipal infrastructure projects that allow them to properly assess the risks and returns involved, and municipal governments in developing countries frequently lack the capacity to develop potential infrastructure projects to the requisite standards (Alam 2010). It is arguably a lack of bankable projects that is preventing infrastructure investment at scale rather than a lack of finance (Z/Yen Group 2015). The Cities Development Initiative for Asia (CDIA), implemented by GIZ with support from the ADB and other international donors, is one existing initiative that has shown great potential in helping the governments of medium-sized Asian cities to bridge the gap between the planning and implementation of low-carbon and climate resilient infrastructure by building their capacities to shortlist and prioritise project ideas and develop them into well-structured, bankable business cases, thereby reducing the screening and transaction costs to potential investors (WEF 2014). While being able to prioritise and structure projects does not improve the state of a city governments finances per se, it is a necessity for them to attract private finance from domestic or international markets. It is also a prerequisite if international partners such as climate funds are to help city governments draw in private finance through guarantees, as these are predicated on a thorough understanding of the risks involved in the investment in question. The use of GCF money to fund a facility similar to the CDIA for Africa or Latin America might represent an intelligent use of the fund’s limited resources; the Fund can have a far bigger impact by investing in a city or national government’s ability to develop a pipeline of bankable urban projects and acting as matchmaker with the wider market than by simply contributing to the costs of a few kilometres of new metro line, for instance.

4.4 Access and supporting smaller scale urban responses

Access is an issue of both ownership and bureaucracy. Interviews suggested that the bureaucracy and time lags involved in developing, submitting, and receiving approval for climate fund projects can reduce the attractiveness and practicality of this funding source for municipal governments seeking to finance priority projects,

particularly if they are looking to raise private co-finance. The GCF has been established with the potential to accredit a very wide range of institutions to directly access funding, provided they are able to demonstrate the required fiduciary standards and ability to enforce safeguards. Given their institutional arrangements and mandates it is understandable that the GEF, and CIFs in particular, would work closely to implement projects with and through the MDBs. There is arguably an opportunity for the GCF to take a different approach to work more directly with cities and other subnational actors looking to implement low-carbon and resilience-building activities on the ground.

Particularly in the case of supporting urban resilience-building measures, climate funds need to target and be accountable to the poorest and most vulnerable urban inhabitants. Some commentators have advocated for increased action on the ground, and maligned the current climate finance architecture for its bias towards interfacing at the national level and apparent inability to channel finance directly to the local governments and community federations that may be most able to respond to the actual needs of these groups (Smith, Brown and Dodman 2013; Satterthwaite 2013). For practical and political reasons national governments have been the primary interfaces for climate funds to date and direct engagement with sub-national institutions such as city governments has been extremely limited (Nakhoda, Norman et al. 2014). It is unrealistic to expect large international funds to engage directly with local groups and institutions on the ground because they are not designed to handle the large numbers of small transactions required; a US\$ 5 thousand grant incurs a similar management burden on a fund as does a US\$ 5 million grant.

With the growing number of sub-national and regional accredited implementing entities under the Adaptation Fund and the opportunities for wider access under the GCF, the key issue is therefore what level of intermediation between the international and local level would best allow resources to efficiently reach stakeholders on the ground while also providing the necessary levels of absorptive and fiduciary capacity to accept and manage these donor funds. This may involve funding municipal agencies involved in delivering social protection programmes (provided that these are substantially designed to further adaptation/mitigation goals); regional, national or local foundations focused on financing local responses; or even local NGOs if they are able to demonstrate the required capacity to manage climate funds resources. Locally managed funds have been proposed as a potentially effective model to efficiently and accountably fund pro-poor urban development (Mitlin 2013), but it is an open question whether adaptation funds should seek to engage with such institutions and what models of intermediation would best allow them to do so. There is much debate over where the right balance of devolution lies (e.g. Both ENDS 2013), but the approaches taken will be critical in determining the

level of impact that the GCF and other funds are able to achieve on the ground.

Issues of sovereignty may come into play if a fund is seen to be overriding perceived national mandates for allocating international funding. City leaders are often well-known individuals with influence and potential aspirations at the national level of politics so efforts by them to finance high profile projects from international sources may exacerbate tensions with central government. It is common for instance for urban areas in African electoral democracies to be controlled by parties in opposition to those in power at the national level (Resnick 2010); political tensions may well be a factor in curtailing subnational efforts to raise international or domestic finance for climate-relevant urban development projects. A recent example: the city of Dakar was ready in February 2015 to issue the first municipal bond in West Africa, after years of preparation, only for it to be blocked at the last minute by the Senegalese national government.

It is also important to note in this context that the process of decentralisation has not played out homogeneously across the developing world. The extent to which political/administrative devolution is accompanied by decentralisation of fiscal autonomy varies considerably (Rockefeller Foundation 2015; Bahadur 2015, forthcoming), and has implications for the ways in which climate funds would need to engage in order to support local actions. Funds would struggle to engage directly with municipalities in contexts where local governments do not hold power over budgetary decisions and may instead need to focus their efforts on ensuring buy-in at the higher levels of provincial or national governance where such decision-making authority lies, while working to build absorptive and technical capacities at the local level. Indeed, national governments will continue to play a major role in urban development regardless of the ability of given cities to implement projects themselves, and so encouraging a healthy dialogue between local and national levels will be critical.

5. Maximising climate fund contributions to urban outcomes

The review of urban interventions undertaken for this paper highlights that climate funds should seek to focus on *enabling* to the extent possible in each case. That is, climate finance should be used in a way that enhances the ability of recipients to plan, finance and implement urban solutions themselves rather than relying on a more traditional model of ‘donor provision’. What this means in practice will vary on a city-by-city and country-by-country basis, and funds need to be realistic in the outcomes they seek to achieve given the state of urban finances and governance in each context; high mitigation potential does not necessarily equate to high investment potential. While efforts are underway to improve municipal finance

scenarios in many cities across the developing world, these processes are by their nature laborious and will not lead to overnight improvements. Climate funds need to carefully consider in what way they can add the most value in each case. In Table 1 we offer a rough typology of cities by their municipal finance and governance contexts and the types of climate fund interventions that may hold particularly promising potential in each scenario. This typology essentially separates cities according to the ability of their governments to plan and finance sustainable infrastructure investments themselves as opposed to relying on donors. The hope is that this can be useful to climate fund programmers seeking to develop impactful urban

Table 1: Typology of climate fund potential according to the institutional and financial capacities of recipient cities

Capacity of city to plan and finance investments	Characteristics	Suggested climate fund focus	Example
Strong	Relatively strong revenue base; more developed local financial markets; possible municipal credit rating; considerable autonomy; adequate institutional capacities for urban planning and project preparation.	Concessional finance or guarantees to municipalities/LFIs/national infrastructure funds to enable scaled-up on-lending/investment in targeted sectors. Grants where necessary to target specific capacity-related or technical deficiencies.	CTF support to Mexican infrastructure fund to incentivise public and private investments in low-carbon bus technologies in city-level sub-projects.
Developing	Developing revenue base; nascent local financial markets; limited ability to borrow; moderate autonomy and institutional capacities.	Concessional finance to enable implementation of marginal demonstration investments. Grants for capacity building and technical assistance, including to support municipal governments in developing bankable projects to attract wider finance.	CDIA support to help secondary and tertiary Asian cities prioritise and prepare bankable projects for private and public investors.
Struggling	Weak revenue base; strong reliance on inter-governmental transfers; undeveloped local financial markets; inability to borrow; low autonomy; weak institutional capacities.	Grants for technical assistance and capacity building, support to traditional donor investments where necessary to enhance resilience and mitigation benefits of essential infrastructure.	PPCR support to finance incremental costs of climate resilient wastewater and flood protection infrastructure in three Cambodian towns, along with capacity building for local governments.

projects and programmes, as well as to potential recipients (whether at the government, city or other level) considering the types of climate finance that may be available to them. This typology is by no means definitive and we would welcome comments from practitioners involved in the field. It is also important to note that most funds have a restricted ‘toolbox’ of financial instruments and so only a subset of these potential activities will be options for them.

This typology describes a spectrum of municipal finance scenarios and the intention is not to neatly categorise individual cities into the categories identified above. Rather, it is to more clearly highlight the ways in which climate funds can focus on maximising the enabling potential of their resources in a given urban context. In cities where municipal finances and governance are particularly

challenged, climate funds may struggle to add value with more than grants or technical assistance and greater burden for financing investments and programmes should fall on traditional donors and national governments. The role that climate funds can and should play in helping municipalities to finance investments themselves grows as one considers cities with increasingly strong pictures of municipal finance and governance. Similarly, the ability of funds to provide finance to incentivise wider investment in urban-related sectors, such as in building energy efficiency for example, increases as local financial markets and capacities are more developed. Where these are lacking, funds may need to focus on technical assistance and capacity building for policy-makers, regulators and potential investors in the first instance.

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Annex I: Identified city-focused climate fund projects (approved 2010-2014)

Project name	Primary focus*	Theme	Country	Region**	Funder	Year approved	Approved grant (US\$ millions)	Approved loan (US\$ millions)	Reported co-finance (US\$ millions)
Integrated Municipal Management Model of Household and Similar Waste with Low Greenhouse Gas Emissions	Waste	Mitigation	Algeria	MENA	GEF	2014	3.19		14.20
Energy Efficiency and Renewable Energy in Social Housing	Building energy demand	Mitigation	Argentina	LAC	GEF	2012	10.28		44.54
Green Urban Lighting	Other infrastructure	Mitigation	Armenia	ECA	GEF	2012	1.60		8.60
Building Climate Resilience of Urban Systems through Ecosystem-based Adaptation (EbA) in the Asia-Pacific Region	Urban land use	Adaptation	Asia-Pacific	AP	LDCF	2014	6.15		8.70
ASTUD: Greater Dhaka Sustainable Urban Transport Corridor Project	Transport	Mitigation	Bangladesh	AP	GEF	2012	4.63		250.40
Coastal Towns Infrastructure Improvement Project	Other infrastructure	Adaptation	Bangladesh	AP	PPCR	2013	10.40	30.00	24.70
Promoting Solar Photovoltaic Systems in Public Buildings for Clean Energy Access, Increased Climate Resilience and Disaster Risk Management	Building energy demand	Multiple foci	Barbados	LAC	GEF	2013	1.73		16.45
Belarus Green Cities: Supporting Green Urban Development in Small and Medium Sized Cities in Belarus	Urban land use	Mitigation	Belarus	ECA	GEF	2013	3.09		10.15
Low-Carbon Urban Mobility for Large Cities	Transport	Mitigation	Brazil	LAC	GEF	2012	6.00		77.17
Climate Proofing Infrastructure in the Southern Economic Corridor (SEC) Towns	Other infrastructure	Adaptation	Cambodia	AP	PPCR	2012	5.00	5.00	28.59
Cape Verde Appliances & Building Energy-Efficiency Project (CABEEP)	Building energy demand	Mitigation	Cabo Verde	SSA	GEF	2013	1.92		6.7
ASTUD: Jiangxi Fuzhou Urban Integrated Infrastructure Improvement Project	Transport	Mitigation	China	AP	GEF	2013	2.55		226.46
ASTUD: Jiangxi Ji'an Sustainable Urban Transport Project	Transport	Mitigation	China	AP	GEF	2014	2.55		288.70
ASTUD: PRC Clean Bus Leasing	Transport	Mitigation	China	AP	GEF	2014	2.32		275.70
GEF Large-City Congestion and Carbon Reduction Project	Transport	Mitigation	China	AP	GEF	2011	18.18		88.33
Green Energy Schemes for Low-Carbon City in Shanghai, China	Building energy demand	Mitigation	China	AP	GEF	2011	4.35		247.23

Annex 1: continued

Project name	Primary focus*	Theme	Country	Region**	Funder	Year approved	Approved grant (US\$ millions)	Approved loan (US\$ millions)	Reported co-finance (US\$ millions)
Urban-Scale Building Energy Efficiency and Renewable Energy	Building energy demand	Mitigation	China	AP	GEF	2012	12.00		152.10
Strategic Public Transportation Systems (SETP) Program	Transport	Mitigation	Colombia	LAC	CTF	2011		20.00	300.00
Technological Transformation Program for Bogota's Integrated Public Transport System	Transport	Mitigation	Colombia	LAC	CTF	2013		40.00	
Demonstration and Assessment of Battery-electric Vehicles for Mass Transit in Colombia	Transport	Mitigation	Colombia	LAC	GEF	2013	2.20		29.90
Sustainable Urban Mobility Program for San Jose	Transport	Mitigation	Costa Rica	LAC	GEF	2014	1.78		8.22
Green Cities : Integrated Sustainable Transport in the City of Batumi and the Adjara Region	Transport	Mitigation	Georgia	ECA	GEF	2013	0.85		5.38
Efficient and Sustainable City Bus Services	Transport	Mitigation	India	AP	GEF	2012	9.20		113.64
Green Technology Application for the Development of Low Carbon Cities (GTALCC)	Urban land use	Mitigation	Malaysia	AP	GEF	2013	4.35		34.39
Energy Efficient Low-carbon Transport	Transport	Mitigation	Malaysia	AP	GEF	2014	2.00		12.85
Mexico's Urban Transport Transformation Program	Transport	Mitigation	Mexico	LAC	CTF	2010		200.00	2494.00
Ecocasa (Energy Efficiency Program Part II)	Building energy demand	Mitigation	Mexico	LAC	CTF	2012	2.10	49.51	50.00
ESCO Moldova – Transforming the market for Urban Energy Efficiency in Moldova by Introducing Energy Service Companies	Building energy demand	Mitigation	Moldova	ECA	GEF	2013	1.30		7.30
ASTUD: Mongolia Urban Transport Development Investment Program	Transport	Mitigation	Mongolia	AP	CTF	2012	1.39		76.90
Cities and Climate Change	Urban land use	Adaptation	Mozambique	SSA	PPCR	2013	9.25	6.50	
Promotion of Low Carbon Urban Transport Systems in the Philippines	Transport	Mitigation	Philippines	AP	GEF	2014	2.64		15.84
Cebu Bus Rapid Transit project	Transport	Mitigation	Philippines	AP	CTF	2012	1.05	25.00	187.00
ASTUD: Regional Knowledge Sharing	Transport	Mitigation	Regional	N/A	GEF	2013	0.19		4.70
Promotion of Clean and Green Cities in China Through International Cooperation	Urban land use	Mitigation	Regional	AP	GEF	2014	2.00		7.00

Annex 1: continued

Project name	Primary focus*	Theme	Country	Region**	Funder	Year approved	Approved grant (US\$ millions)	Approved loan (US\$ millions)	Reported co-finance (US\$ millions)
National Urban Transport Improvement Project	Transport	Mitigation	Russian Federation	ECA	GEF	2013	9.13		270.00
Energy Efficient Low-carbon Transport	Transport	Mitigation	South Africa	SSA	GEF	2014	1.30		6.05
Achieving Low Carbon Growth in Cities through Sustainable Urban Systems Management in Thailand	Urban land use	Mitigation	Thailand	SSA	GEF	2013	3.00		90.95
Improving Energy Efficiency in the Social Housing Sector	Building energy demand	Mitigation	Trinidad and Tobago	LAC	GEF	2014	2.55		11.70
Removing Barriers to Increase Investment in Energy-Efficiency in Public Buildings	Building energy demand	Mitigation	Ukraine	ECA	GEF	2013	5.48		22.00
Second Urban Infrastructure Project (UIP2)	Other infrastructure	Mitigation	Ukraine	ECA	CTF	2014		50.00	300.00
District Heating Modernization	District Heating	Mitigation	Ukraine	ECA	CTF	2014	0.75	49.25	277.78
District Heating Energy Efficiency	District Heating	Mitigation	Ukraine	ECA	CTF	2014	1.1	50.00	332.00
Promoting Climate Resilience in Viet Nam Cities	Urban land use	Adaptation	Vietnam	AP	SCCF	2014	4.57		124.00
Energy Efficiency Improvement in Commercial and High-Rise Residential Buildings	Building energy demand	Mitigation	Vietnam	AP	GEF	2013	3.20		16.18
Sustainable Urban Transport for Ho Chi Minh City Mass Rapid Transit Line 2 Project	Transport	Mitigation	Vietnam	AP	CTF	2013	1.05	48.95	16.00
Ha Noi Metro System Line 3	Transport	Mitigation	Vietnam	AP	CTF	2014		50.00	352.60
Strengthening Sustainable Urban Transport for Ha Noi Metro Line 3 Project	Transport	Mitigation	Vietnam	AP	CTF	2014	1.05	48.95	10.00
Totals							169.42	673.16	6,945.10

*Based on Seto et al. (2014), Chapter 12, Figure 12.22.

**World Bank regional classifications: AP = Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SSA = Sub-Saharan Africa



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Overseas Development Institute
203 Blackfriars Road
London SE1 8NJ
Tel +44 (0)20 7922 0300
Fax +44 (0)20 7922 0399

www.odi.org



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