CITIES CLIMATE FINANCE LEADERSHIP ALLIANCE

POLICY BRIEF

How to Increase Financing for Urban Climate Adaptation and Resilience

7 key actions for national governments to take

November 2022

This policy brief is directed at national policymakers and lays out how they can work with other key stakeholders (subnational governments, local leaders, public financial institutions) to scale finance for climate adaptation and resilience.

FINANCING URBAN CLIMATE ADAPTATION AND RESILIENCE

Cities are at the forefront of the climate crisis. Climate risks are escalating, and climate hazards are becoming more frequent and costly. Cities account for more than 80% of the global GDP and more than half of the world's population. The impacts of climate change are often felt disproportionally in urban communities due to high population density, a concentration of key infrastructure in cities, and their role as economic hubs among other factors. Yet, investment in urban climate finance adaptation is far from what is needed.

Figure 1: 7 key actions national policymakers can take to increase urban climate adaptation finance

1. **1. Urgency**

   Declare a national climate state of emergency to prioritize financing for urban climate adaptation and resilience.

1. **2. Vertical Integration**

   Actively engage with local governments and stakeholders to identify the most pressing adaptation challenges, impacts and risks, and promote solutions targeted to local needs, making sure to include local governments and cities of all sizes when developing or updating National Adaptation Plans (NAPs), Nationally Determined Contributions (NDCs), and other national planning efforts to incorporate and incentivize cities' needs and efforts.

1. **3. Preparation**

   Boost technical assistance and project preparation support and funding for cities to adapt to climate risks.

1. **4. Collaboration**

   Engage with critical stakeholders from public financial institutions across the entire ecosystem (including MDBs and NDBs) to mobilize financing instruments for urban adaptation projects that overcome barriers like high transaction costs and lack of clear funding mandates.

5. Mobilization

Engage the private sector in investments to allocate risk across multiple actors e.g., by using public-private partnerships (PPPs) or insurance. Define clear mandates for public financial institutions, including to mobilize public and private capital for climate and adaptation projects.

6. Measurement

Support and engage with initiatives working to measure and assess climate risk. Support subnational governments as they integrate climate risk assessments and disclosure.

7. Invest to avoid

Invest in national preventive measures, such as strong national early warning systems and emergency response plans for extreme climate events, to support cities in avoiding immediate budget losses.

National governments can play a key role in enabling and scaling financing for urban adaptation. **This document presents key actions for national policymakers around the world to increase the amount of available finance for cities to respond to climate risks.**

Along with these actions, we invite national policymakers to join the Cities Climate Finance Leadership Alliance as members to understand cities' financing needs and commit to scaling financing for urban climate adaptation and resilience. Please reach out to alliancesecretariat@cpiglobal.org to get involved. **Please see Section 3 for more details on the recommended actions.**

SECTION 1: WHAT IS URBAN CLIMATE ADAPTATION FINANCE?

Adaptation finance describes the resources directed to activities aimed at reducing the vulnerability of human and natural systems to the impacts of climate change and climate-related risks, by maintaining or increasing adaptive capacity and resilience.[1] Urban climate adaptation finance captures finance for activities that aim to maintain or increase the resilience of cities and urban communities, in response to climate-related risks affecting the city directly.[2] This includes building new infrastructure to face climate risks but also upgrading existing infrastructure that is vulnerable to climate risks, most of which are concentrated in cities.[3]

Table 1 captures examples of investment in urban climate adaptation solutions and the climate risks they address.

Table 1: Examples of climate risk and investment solutions

Climate risk addressed	Financed solution
Extreme heat, flooding	The establishment or improvement of advanced warning and evacuation systems.
Flooding	Flood mapping and urban infrastructure flood defenses.
Flooding, drought	Improved water supply, including improvements to existing water and wastewater treatment plants.
Extreme heat	Heat data collection, improvement of cooling programs and interventions (such as increased blue and green infrastructure) to reduce urban heat and increase thermal comfort.

SECTION 2: WHY SCALING URBAN CLIMATE ADAPTATION FINANCE IS URGENTLY NEEDED

The effects of climate change on cities are already prevalent and will only continue to worsen in strength and frequency. 98% of C40 cities[4] have already faced severe climate threats. The most vulnerable populations are most at risk of severe climate impacts, particularly in informal settlements in low- and middle-income nations and in smaller and medium-sized urban centers.

Cities and their inhabitants face grave risks including flooding, heat and water stress, degradation of urban ecosystems, and loss of biodiversity.[5] Many of the world's cities are exposed to flooding and

1 Buchner, B et al. 2021
2 Richmond, M; Upadhyaya, N; Ortega Pastor, A. 2021
3 World Resources Institute. 2020. Approximately 530 billion worth global urban infrastructure is predicted to be impacted annually due to riverine flooding alone by 2030.
4 C40 is a network of mayors of nearly 100 world-leading cities, for a complete list: Our Cities - C40 Cities
5 Global Commission on Adaptation. 2019

21 of the world's 33 megacities are in low-lying coastal areas.[6] It is estimated that almost 700 million people live in urban or peri-urban areas that are less than 10 meters above sea level.[7] The world's cities are heating up at twice the global average rate. By the end of this century, cities worldwide could warm as much as 4°C.[8]

Table 2 offers additional detail on the ranging severity of climate impacts on urban areas and the projected damage and economic toll.

Table 2: Examples of recent climate risk events and projected economic consequence

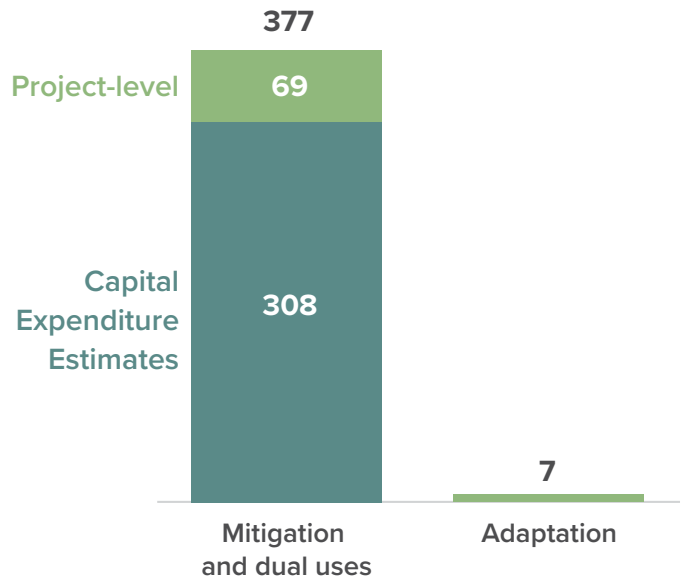
Climate risk	Recent events	Projected damage and economic toll
Flooding and landslides	In April 2022, extreme floods in South Africa[9] left victims missing, caused extreme damage around the eastern coastal city of Durban, and resulted in tens of thousands of people without water. In August 2022, flooding in Pakistan[10] killed more than 1,000 people, washing away villages and crops, and resulting in 180,000 and 150,000 people being evacuated from Charsadda and Nowshehra district villages respectively.	The IPCC reports that urban areas exposed to flood hazards will increase 2.7 times between 2000 and 2030. For drought it will double.[11] City populations risk facing rising sea levels and storm surges which could cost coastal cities USD 1 trillion annually by 2050 and affect more than 800 million people.
Extreme heat and drought	In May 2022, central and northwest India faced the hottest temperatures in more than 120 years (temperatures from 43-46 °C, with heatwaves disrupting daily activities).[12] The 15 most impacted Indian states included New Delhi, Rajasthan, and Gujarat. The extreme heat in India and Pakistan in March and April 2022 were the most intense, widespread, and persistent in the region's history, with studies estimating climate change made the heat event 30 times as likely to occur.	By 2050, if adaptive and resilient solutions are not drastically scaled, 650 million residents will face water scarcity, and 1.6 billion city residents will face extreme heat.[13] Between half to three-quarters of the human population could be exposed to periods of life-threatening climatic conditions arising from coupled impacts of heat and humidity by 2100.[14] The IPCC reports that urban areas exposed to drought hazards will double between 2000 and 2030.[15]

According to the Cities Climate Finance Leadership Alliance's 2021 State of Cities Climate Finance (SCCF) report,[16] **only 9% of global urban climate investments flow to climate change adaptation projects**. Rapidly scaling urban climate adaptation financing is urgently needed.[17] The report found

6 United Nations Environment Programme and UN Habitat. 2021
7 United Nations Environment Programme and UN Habitat. 2021
8 Cool Coalition et al. 2021
9 Burke, Jason. 2022
10 The Associated Press. 2022
11 Dodman et al. 2022
12 Kapil Kajal. 2022
13 C40. 2018
14 Dodman et al. 2022
15 Dodman et al. 2022
16 There is a general lack of adaptation finance data for certain sectors which makes it challenging to track finance from the private sector writ large, which is further exacerbated at the urban level.
17 Negreiros et al. 2021

that annual investment in urban adaptation and resilience was approximately USD 7 billion on average for 2017-2018. This was overshadowed by investment in urban mitigation projects which was approximately USD 69 billion as shown in Figure 2. The USD 62 billion difference between mitigation and adaptation commitments tracked results from several factors including the lack of quantifiable financial return on investments, and the perceived level of risk of adaptation project.

Figure 2: Urban climate finance by use 2017/18 (USD billion)

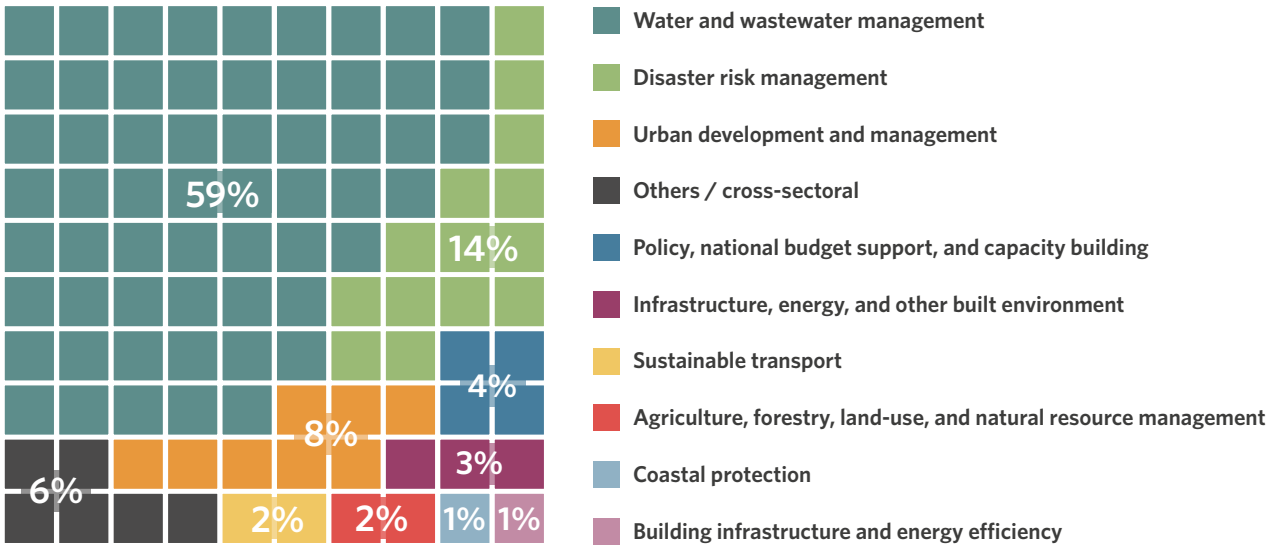


On average for 2017-2018, the **public sector provided 77% of the annual urban adaptation finance**, the private sector 22%, and the remaining 1% was from unspecified sources.[18] Most funding for urban climate adaptation was channeled from multilateral DFIs (USD 4.1 billion annually in 2017-2018), then government budgets and agencies (USD 640 million), and bilateral DFIs (USD 340 million). **National transfers, whether earmarked or not, are particularly important sources of adaptation project funding** to cities and the efficacy of funding transfers is often dependent on the relationship between national and subnational governments. Improved communication and coordination between national and subnational actors can help ensure the funds already allocated are fully utilized.

The SCCF report found that of the USD 7 billion flowing to adaptation projects in 2017-2018, the financing flowed primarily to water and wastewater projects (59% or USD 4 billion annually) and to disaster risk management (14%) as shown in Figure 3.[19] This aligns with what the CDP-ICLEI Unified Reporting System[20] data found that (1) cities across regions on aggregate report extreme heat, flooding and sea level rise as the most common climate hazards, and (2) the cost value of projects addressing climate hazards was highest for storm and wind hazards (USD 21 billion) and extreme precipitation (USD 13 billion).

18 Negreiros et al. 2021
19 "Water and wastewater management projects of the kind frequently tracked in CPI's Global Landscape of Climate Finance are often large infrastructure projects so they may be especially likely to be tracked in the data because the capital that flows to those projects is relatively straightforward to identify and measure." Negreiros et al. 2021
20 CDP and ICLEI. 2022

Figure 3: Urban adaptation finance, 2017/18 (USD billion)



Adaptation funding presents an opportunity for investors. The Global Commission on Adaptation reports that investing USD 1.8 trillion globally in five areas from 2020 to 2030 — including strengthening early warning systems, making new infrastructure resilient, and making water resources management more resilient — could generate USD 7.1 trillion in total net benefits.[21] A World Bank study estimates that USD 4.2 trillion can be saved over the lifetime of new infrastructure development in low and middle income countries if they are climate resilient from the start while the cost of one decade of inaction would cost USD 1 trillion.[22] **Waiting to fund recovery retroactively, after severe climate events take place, will be costly**. It has been estimated that dealing with the impacts of climate change alone will require USD 200 billion annually by 2040.[23]

Market actors, and in particular investors, shy away from investments with intangible or immeasurable outcomes. Adaptation doesn't currently have a common metric such as CO2 emissions reduction for mitigation projects. The creation and adoption of adaptation metrics could be one potential solution to quantify financial returns of and strengthen the economic case for adaptation investments. Allocating the risk between investors (e.g., public and private sector funders, pooled funding structures) could also make adaptation projects more attractive to investors. In addition to constraints on the amount of risk a city can take on, cities often face budget constraints. Their funds alone can be insufficient to fund adaptation, especially for large-scale infrastructure projects. Combined funding from the city and national government, along with the private sector, can ensure large urban projects are feasible.

21 The net benefits illustrate the approximate global net benefits to be gained by 2030 from an illustrative investment of USD 1.8 trillion in five areas. Global Commission on Adaptation. 2019
22 Hallegatte, Stephane; Rentschler, Jun; Rozenberg, Julie. 2019
23 Viner, D; Rawlins, M; and Allison, I.

SECTION 3: 7 KEY ACTIONS NATIONAL POLICYMAKERS CAN TAKE TO INCREASE URBAN CLIMATE ADAPTATION FINANCE

National governments can scale finance and work with subnational actors to help them overcome challenges they face in accessing and utilizing financing as outlined in Sections 1 and 2. The following recommendations are tangible steps national governments can take to improve the state of finance for urban climate adaptation efforts.

1. URGENCY: Declare a national climate state of emergency to prioritize financing for urban climate adaptation and resilience.

- Declaring a climate state of emergency not only conveys the urgency and legitimacy of needing to adapt to already severe climate impacts but also (1) demonstrates commitment as policymakers to respond quickly and effectively, and (2) potentially deploys emergency funding sources that could be used for adaptation and climate-resilient urban infrastructure projects. Declarations would spur awareness, resources, and funding before further disastrous climate events strike, moving away from a business-as-usual scenario.
- While 2,273 jurisdictions in 39 countries, accounting for over 1 billion global citizens, have declared a climate emergency,[24] this includes only 18 national governments and the European Union (EU). Declarations are concentrated at the subnational level and in developed nations.[25] While cities are ambitious in reducing CO2 emissions (mitigation), what can be missing from their efforts is a focus on urban adaptation projects, which could be remedied by increased funding from national governments for urban adaptation projects and initiatives.

2. VERTICAL INTEGRATION: Actively engage with local governments and stakeholders to identify the most pressing adaptation challenges, impacts and risks, and promote solutions targeted to local needs, making sure to include local governments and cities of all sizes when developing or updating National Adaptation Plans (NAPs), Nationally Determined Contributions (NDCs), and other national planning efforts to incorporate and incentivize cities' needs and efforts.

- Utilize the convening power of grassroots organizations, city networks, and city leaders (mayors) to foster national consensus on impact and risks. This engagement can inform national policymakers of: (1) current challenges to accessing funding; (2) what is the best use of public funding for urban climate adaptation projects and initiatives; and 3) how to build on existing successful initiatives and replicate them in other geographies and at scale efficiently. Support for cities in preparing medium and long-term climate action plans that specify the role and

24 The Climate Emergency Declaration and Mobilisation. 2022

25 Of note in developing and emergencies economies, for subnational and local climate emergency declarations, Brazil (Recife Municipal Council, São Sepé Municipality) and Columbia (Antioquia Department, Bogota Capital Department) have 2, Chile has 3 (ex. Hualpén City Council and Magallanes and Chilean Antarctica region), Hungary has 6 (including 4 Budapest districts), and Mexico has 1 (Monterrey Municipal Council) compared to Canada (649), the UK (570), South Korea (228), and the US (187).

scope of urban adaptation projects and guaranteeing continuity can also be an effective way of increasing local funds while actively engaging local stakeholders.

- Include specific mentions and defined roles for subnational actors in national planning efforts like in NDCs. Cities play a key role in implementing action on adaptation, but are often left out of countries' NDCs. A report that analyzed a subset of countries' NDCs (60 total) and whether they mention or identify a clear role for subnational governments (SNGs) found that, for adaptation, only nine mention SNGs, and seven identify a role for SNGs.[26]

3. PREPARATION: Boost technical assistance and project preparation support and funding for cities to adapt to climate risks.

- National governments via their leadership in DFIs, multilateral development banks, and national development banks should expand project preparation[27] support to cities to help them develop concrete pipelines of bankable urban climate adaptation projects. This can help reduce risks and vulnerabilities across sectors and for local infrastructure.
  - » One resource can be the CCFLA's Project Preparation Action Group (PPAG) which is a forum supporting CCFLA members in identifying, coordinating, and accelerating existing PPFs for low-carbon and climate-resilient urban infrastructure projects. The PPAG developed solutions including a glossary of project preparation work, a Project Preparation Resource Directory, and a harmonized application form for project identification to support cities' PPFs.
- National governments should work in close collaboration with city networks and project preparation facilities (PPFs).
  - » An example of direct government support is the South African National Treasury's Cities Support Programme (CSP). CSP aims to improve the capacity of cities and create an enabling intergovernmental fiscal system and policy environment to support city-led transformation across several policy areas, including climate responsiveness.[28] They work directly with cities to help integrate climate resilience into capital project planning and project preparation and financing processes and have established the Cities Project Preparation Facility, to support municipalities with project preparation for infrastructure projects.[29]

4. COLLABORATION: Engage with critical stakeholders from public financial institutions across the entire ecosystem (including MDBs or NDBs) to mobilize financing instruments for urban adaptation projects that overcome barriers like high transaction costs and lack of clear funding mandates.

- For financing instruments to be effective at the city level, national governments, and public financial institutions (including MDBs and NDBs) need to work in close collaboration. As previously noted, multilateral DFIs (USD 4.1 billion) and bilateral DFIs (USD 340 million) were major funding contributors for urban climate adaptation in 2017-2018, along with government budgets and agencies (USD 640 million). Constant and open communication channels are key.

26 Barletti, Juan Pablo Sarmiento, et al, 2018
27 The CCFLA defines Project Preparation as the process of defining, studying, refining, and developing an infrastructure project concept to the point that it can raise implementation financing from public or private sources
28 Cities Support Programme website homepage
29 Development Bank of South Africa and National Treasury Republic of South Africa, 2015

  - » To demonstrate the capability of NDBs: In Tamil Nadu, the Asian Development Bank approved a USD 500 million multi-tranche financing facility for the Government of India to fund the Tamil Nadu Urban Flagship Investment Program. The facility will address acute infrastructure deficits and water scarcity from recurring droughts linked to climate change by developing priority water supply, sewerage, and drainage infrastructure in at least 10 cities in strategic industrial corridors of the state of Tamil Nadu.[30]
  - » Another example from Indonesia: Indonesia's PT SMI and Indonesian Ministry of Finance created SDG Indonesia One as an integrated project funding platform, which "reduces transactional costs between DFIs, commercial entities, monocolpates and higher levels of government by merging stakeholder interests into a singular forum, enabling a multitude of project and financing opportunities for stakeholders."[31]

- Considering financing urban green infrastructure as an example of scaling urban adaption funding, CCFLA notes in a previous policy brief: "NDBs are well positioned to scale financing for green urban infrastructure," and they can act as "ideal intermediaries to channel funds for climate-smart urban infrastructure."[32] Despite their ability, "only 4% of Public Development Banks are specifically mandated to finance local governments, and even fewer NDBs have a green infrastructure-focused mandate."[33]
- With clear direction and engagement between national governments and NDBs, NDBs can overcome barriers to financing, including an unspecific or broad mandate which can hinder the NDB's focus and prioritization and result in fragmented policies and lack of coordination at the national and subnational levels, interrupting project design and implementation. One potential solution could be earmarking dedicated funds for projects addressing adaptation and resilience, which helps them prioritize resources. National policymakers could help them set funding priorities.
  - » One example is from the North American Development Bank (NADB) which mandates green infrastructure projects as its primary focus, and supports projects aligned with climate-oriented development goals of the US-Mexico border regions through financing and technical assistance. With the clear mandate, NDDB resources can be efficiently allocated.[34]

5. MOBILIZATION: Engage the private sector in investments to allocate risk across multiple actors e.g., by using public-private partnerships (PPPs) or insurance. Define clear mandates for public financial institutions, including to mobilize public and private capital for climate and adaptation projects.

- National governments can support cities' efforts to pool risk. Often, cities have limits on the amount of risk they can take on.
  - » One example of implementation is using an insurance model to construct disaster insurance pooling. The Philippines Department of Finance, with technical assistance provided by the Asian Development Bank, designed the Philippines disaster insurance pool to provide post-disaster financing based on an insurance model and featured payouts determined by the

30 Asian Development Bank. 2021
31 Yang, K et al. 2021
32 Harb, S. et al. 2021
33 Harb, S. et al. 2021
34 Yang, K et al. 2021

physical features of the natural hazard.[35] 10 cities participated in the design process, who were selected based on factors such as disaster risk and risk management governance, geographic location, and data availability. Risk pooling helps combat the Philippines location in one of the most disaster risk prone areas.

- While national governments may be budget constrained, they can still advance local adaptation projects – where cities cannot act alone – by bearing some of the risk and funding in partnership with the private sector in PPPs.
  - » In Amman and Zarqa Jordan[36] through a build, operate, transfer (BOT) model using blended financing sources, the Am-Samra Wastewater Treatment plant was restored. Phase 1 of the project included 54% public (USAID and Government of Jordan) and 46% private entity funding. Phase 2 was 51% public (Millennium Challenge Corporation and Government of Jordan) and 49% private (group of banks led by the Arab Bank and Samra Plant company). The phase 2 expansion freed up additional freshwater for over 2 million people's domestic use, and now provides the lowest cost of water treatment per cubic meter in Jordan and mitigates drought risk in the Jordan River Valley.[37]

6. INVEST TO AVOID: Invest in national preventive measures, such as strong national early warning systems and emergency response plans for extreme climate events, to support cities in avoiding immediate budget losses.

- The estimated benefit of strengthening early warning systems is USD 100 billion[38] in addition to significantly reducing loss of life and property. As the Global Commission on Adaptation (GCA) reports, "Spending USD 800 million on early warning systems in developing countries could reduce climate-related disaster losses by USD 3-16 billion per year." Avoiding monetary losses caused by climate events means saving money in the short term and can help cities avoid budget constraints and increase their creditworthiness.
- Taking investment a step further: Systems are grounded in weather and climate observations, of which improved data would generate approx. USD 160 billion annually in socioeconomic benefits in particular for highly weather sensitive sectors like agriculture, energy, transport, and disaster risk management.[39] With heatwaves anticipated sometimes days or weeks in advance, with proper planning, deaths from extreme heat conditions can be avoided with early warning systems.[40]
- The C40 emphasizes the importance and efficacy of early warning systems in cities for extreme heat with the C40 Cool Cities Network which supports cities to embed heat risk and management in their climate action plans and offers an Urban Cooling Toolbox which recommends tools based on six categories. These include green (e.g. green roofs), grey (e.g. cool roofs), and blue (rain barrels) infrastructure, communication and outreach (cooling centers—public or private urban spaces to temporary protect urban dwellers from extreme heat), policy (e.g. heat emergency response plans), and urban development.

35 Richmond, M; Upadhyaya, N; Ortega Pastor, A. 2021
36 Included in forthcoming CCFLA knowledge product; Global Center on Adaptation, 2021
37 For additional PPP examples: Leveraging PPPs for Climate Resilient Infrastructure - Annotated Outline (gca.org)
38 The net benefits illustrate the approximate global net benefits to be gained by 2030 from an illustrative investment of USD 1.8 trillion in five areas. Global Commission on Adaptation. 2019
39 United Nations Environment Programme and Systematic Operations Financing Facility, 2022
40 C40. 2022

- The Adrienne Arsht-Rockefeller Foundation Resilience Center provides the Heat Action Platform as an online resource with information on how to reduce heat impacts and risks, protect people in periods of extreme heat, and implement and monitor heat-related plans and projects. It includes a Heat Policy Tool with a database of heat resilience solutions.

7. MEASUREMENT: Support and engage with initiatives working to measure and assess climate risk. Support subnational governments as they integrate climate risk assessments and disclosure.

- While mitigation efforts and project achievements can be measured against CO2 emissions reduction targets, adaptation currently lacks universal metric(s) to track progress and set risk reduction goals. Ultimately, the creation, adoption, and implementation into governance and policy language of widely accepted and adopted adaptation metrics could help back urban climate adaptation investments which can be viewed as too risky (due in part to yields on long time horizons and challenges in quantifying economic benefits).
- A first step in developing adaptation metrics is determining how to measure and assess climate risk. To help cities integrate climate risk assessment into their budgeting and project preparation, national governments should consider adopting or endorsing relevant frameworks at the national level and disclose national data and risk assessments with sub-national counterparts to help them develop subnational climate risk assessments.
    - Consider adapting the TCFD framework, which is aimed at the private sector, and the TNFD beta framework for national governments' climate disclosure.
        - » The Task Force on Climate-related Financial Disclosures (TCFD) released a voluntary framework in 2017 (revised in 2021), developed at the request of the G20 Finance Ministers and Central Bank Governors, to provide guidance for companies on how to disclose climate-related financial risks, and help stakeholders understand their exposure of assets to climate-related risks. One recommendation is to disclose metrics on targets used to assess and manage relevant climate-related risks and opportunities.
        - » National governments can also encourage and endorse sub national efforts to disclose climate-related risks. For example, CDP released guidance for city, state, and regional governments on the TCFD recommendations in 2022, and noted that they can now disclose in alignment with TCFD through the CDP-ICLEI Track Questionnaire for cities and States and Regions Questionnaire and in North America through the Public Authorities pilot questionnaire. The guidance notes how the questionnaire compares to the TCFD framework, including four questions related to adaptation.
        - » The Task Force for Nature-related Financial Disclosures (TNFD) released a risk management and disclosure framework for organizations to report on nature-related risks which is open for feedback. The TNFD beta Framework[41] proposes identifying factors that drive impacts on nature based on four realms of impact (freshwater, ocean, land, and atmosphere) and then selecting priority impact drivers based on frequency, timescale, extent and severity of impact, and legal requirements in relevant jurisdictions.

41 Taskforce on Nature-related Financial Disclosures. 2022

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AUTHORS

Lauren Knight, Priscilla Negreiros

ABOUT THE CITIES CLIMATE FINANCE LEADERSHIP ALLIANCE

The Cities Climate Finance Leadership Alliance (CCFLA) is a coalition of leaders committed to deploying finance for city level climate action at scale by 2030. It is the multi-level and multi-stakeholder coalition aimed at closing the investment gap for urban subnational climate projects and infrastructure worldwide. Climate Policy Initiative (CPI) serves as Secretariat for CCFLA. Funding for CCFLA's activities is jointly made available through two German government ministries: The Federal Ministry for Economic Cooperation and Development (BMZ) and the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU).

CONTACT

AllianceSecretariat@cpiglobal.org

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