

Assessing **Subnational** Enabling Framework Conditions for Urban Climate Finance

A Tool and Guide by CCFLA and Urban-Act

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ABOUT THE CITIES CLIMATE FINANCE LEADERSHIP ALLIANCE (CCFLA)

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. Trillions of dollars will be required to help cities build the low-emissions, resilient infrastructure necessary to combat and react to climate change. The CCFLA is the only multi-level and multi-stakeholder coalition aimed at closing the investment gap for urban subnational climate projects and infrastructure worldwide.

ABOUT UNITED NATIONS ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC (ESCAP)

The Economic and Social Commission for Asia and the Pacific (ESCAP) is the most inclusive intergovernmental platform in the Asia-Pacific region. The Commission promotes cooperation among its 53 member States and 9 associate members in pursuit of solutions to sustainable development challenges. ESCAP is one of the five regional commissions of the United Nations. The ESCAP secretariat supports inclusive, resilient and sustainable development in the region by generating action-oriented knowledge, and by providing technical assistance and capacity-building services in support of national development objectives, regional agreements and the implementation of the 2030 Agenda for Sustainable Development.

ABOUT URBAN-ACT

The Integrated Urban Climate Action for Low-Carbon and Resilient Cities (Urban-Act) is a regional project funded by the International Climate Initiative (IKI) of the German Federal Ministry for Economic Affairs and Climate Action (BMWK) over the period April 2022 to December 2027. This regional project aims to support the transformation towards low-carbon and resilient urban development in Asia-Pacific while also contributing to countries' Nationally Determined Contributions (NDCs) and the advancement of the Sustainable Development Goals (SDGs). Urban-Act is implemented in China, India, Indonesia, the Philippines, and Thailand. Regional project partners include the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the United Cities and Local Governments Asia-Pacific (UCLG ASPAC), the TU Dortmund and the University of Stuttgart, as well as national consortium partners in each of the 5 partner countries.

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GLOSSARY OF TERMS

Term	Explanation
Climate finance	CCFLA's definitions used are based on the definitions of climate finance developed by Climate Policy Initiative (CPI) for mitigation and adaptation projects in the Global Landscape of Climate Finance. The CPI working definition of climate finance is aligned with the recommended operational definition of the UNFCCC Standing Committee on Finance (see UNFCCC SCF, 2014, 2016, 2018, 2020), which states: "Climate finance aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts."
Enabling framework conditions (EFCs)	An EFC is a component of a broader enabling environment, in this case for urban climate finance. EFCs together constitute an enabling environment for achieving minimized and well-managed risks and where the rights, roles and assets of all stakeholders are established. Previous CCFLA work has focused on EFCs for climatesmart cities, which together facilitate low-carbon, climate-resilient urban development. EFCs can be, but are not limited to, policies, legal frameworks, governance structures, implementation capacity, and financing and investment structures. ²
Subnational government	The terms 'subnational' and 'subnational government' refer to the multiple levels of government that operate below the national level. Common terms for subnational governments include states, provinces, territories, regions, counties, municipalities, cities or similar. ³ See Box A for advice on interpreting subnational when applying this tool.
Systems of intergovernmental transfers	Systems of intergovernmental transfers are defined here as the structure, type, and frequency of fiscal transfers between national and subnational governments.
Urban areas	The term 'urban' refers to Functional Urban Areas (FUAs), which consist of a densely inhabited city and a less densely populated commuting zone whose labor market is highly integrated with the city. ⁴ The term 'urban' also includes cities with physical boundaries that are officially locally defined by the city government in question, which, depending on the context, may include less urbanized areas such as periurban commuting zones. ⁵
Urban climate finance	Urban climate finance refers to resources directed to activities limiting city-induced GHG emissions or aiming to address climate-related risks faced by cities, contributing to resilience and low carbon development. ⁶

¹ Climate Policy Initiative (CPI). 2023. The Global Landscape of Climate Finance 2023. Available at: https://www.climatepolicyinitiative.org/publication/global-landscape-of-climate-finance-2023/

² CCFLA/World Bank (2021). 2021 State of Cities Climate Finance. Available at: climate-finance.org/publications/2021-state-of-cities-climate-finance.org/publications/2021-state-of-cities-climate-finance/

³ Gutierrez, Arturo Herrera (2015). What are we talking about when we talk about "subnational governments"? Available at: https://blogs.worldbank.org/governance/what-are-we-talking-about-when-we-talk-about-subnational-governments

⁴ European Commission/OECD (2019). The EU-OECD definition of a functional urban area. Available at: https://www.oecd-ilibrary.org/urban-rural-and-regional-development/the-eu-oecd-definition-of-a-functional-urban-area_d58cb34d-en

⁵ CCFLA/World Bank (2021). 2021 State of Cities Climate Finance. Available at: https://citiesclimatefinance.org/publications/2021-state-of-cities-climate-finance/

⁶ Ibid.

1. INTRODUCTION

Enabling framework conditions (EFCs) are essential for scaling urban climate finance because they provide regulatory clarity, strengthen institutional capacity, mitigate investment risks, promote stakeholder engagement, and improve access to finance to support long-term sustainability. By creating a conducive environment for climate finance, EFCs help unlock the potential of national and subnational entities to drive climate action and achieve global climate goals.

The CCFLA/Urban-Act Subnational Assessment Tool aims to enhance urban governments' access to climate finance by assessing subnational EFCs. Its primary target user group is subnational government officials, but it may also be useful to other stakeholders, including local implementers (e.g., project preparation facilities), city networks, NGOs, and national officials.

Despite often facing budgetary and legal limitations, subnational governments play an essential role in urban climate action as providers of infrastructure and services, consumers of goods and services, facilitators, conveners, and climate advocates. An assessment of subnational EFCs can help improve their ability to mobilize climate finance.

The Subnational Assessment Tool should be used in combination with the CCFLA/Urban-Act National Assessment Tool,⁷ which provides an assessment of national EFCs in the given country. Together, these tools help to comprehensively assess EFCs and identify areas for improvement.

The Subnational Assessment Tool aims to:

- Assess the EFCs for urban climate finance in a specific subnational area.
- Identify strengths and opportunities for improvement in subnational EFCs.
- Facilitate recommendations for subnational governments based on the analysis of dimension responses and considering disparate subnational contexts.
- Provide case studies and additional resources on best practices to help subnational governments improve their EFCs.

1.1 APPLYING THE TOOL

This Tool aims to assess subnational EFCs for urban climate finance, and may be implemented in conjunction with the National EFC Assessment Tool. While its application may vary depending on context, the suggested steps are as follows:⁸

1. **Institutional Set-up and Mapping:** Identify key government partners and stakeholders who will support the assessment and provide information for dimension analysis. Define

⁷ The CCFLA/Urban-Act National Assessment Tool performs the same function as the subnational tool described in this report, but at the national level. See <u>full report</u> for more details.

⁸ As of May 2024, this tool had not yet been piloted, so the steps presented are tentative.

the scope of the assessment including what areas or administrative bodies are covered under the study scope, relevant methods of urban climate action, and sources of data/information for the subnational assessment.

- 2. **Preliminary Data Collection:** Evaluate the subnational government against the dimensions using policy and document review, interviews, focus group discussions, and data inventory. Data collection methods will vary depending on context.
- Multistakeholder Inception Workshop: A suggested step to assist in reviewing the initial
 assessment findings and gathering any missing information from government and civil
 society stakeholders. Workshops can provide feedback on the dimensions as a whole
 and help understand the EFCs in context.
- 4. **Prepare Assessment Results:** Summarize the findings for each category and highlight strengths and gaps in the EFCs. Collect additional data to fill gaps.
- 5. **Final Multistakeholder Workshop:** Present and validate the findings to government partners.

Box A. Level of application of the subnational assessment tool

Users of this tool have discretion over the level of government at which to apply the assessment. Disparate country contexts, decentralization structures, and governance regimes mean that cities and urban areas have varying levels of autonomy over climate policy, budgeting, and planning. It may be best to apply the tool to the city or metropolitan level that most closely works on urban climate finance. In some cases, the state or regional levels may be more appropriate for some dimensions. We use the term "subnational" in this document to allow flexibility and indicate where the dimensions apply to urban climate goals.

Follow-up Actions: Use the assessment results to strengthen subnational EFCs. At this stage, roadmaps and/or blueprints can be developed to fill gaps in EFCs raised by the assessment.

1.2 ASSESSMENT STRUCTURE

The Subnational Assessment Tool has 49 dimensions, divided into four categories and 13 sub-categories:9

- Climate Policy: Assesses the subnational government's climate policy and planning. Identify if the subnational government has sufficient institutional capacity to achieve climate action goals and meet national standards. Sub-categories:
 - 1.1 Subnational climate change policies
 - 1.2 Subnational climate action implementation
- 2. **Budget and Finance:** Assess the subnational government's financial architecture and resource mobilization to achieve climate action goals. Sub-categories:

⁹ Dimensions are designed to highlight key areas for action on EFCs, rather than produce a quantitative assessment score.

- 2.1 Subnational funding sources for urban climate action
- 2.2 Subnational green budgeting
- 2.3 Subnational revenue mobilization
- 2.4 Subnational private finance mobilization
- 2.5 Subnational creditworthiness, borrowing, and access to capital markets
- 2.6 Subnational engagement of co-financing and/or innovative financing
- 3. Climate Data: Assess the data available for mitigation and adaptation planning for the subnational government and how well data and analysis are incorporated into planning and strategy. Sub-categories:
 - 3.1 Subnational-level climate data reporting
 - 3.2 Subnational-level climate data availability and analysis partnerships
- 4. **Vertical and Horizontal Coordination:** Assess how well the subnational government cooperates horizontally (across, with other jurisdictions) and vertically (with other levels of government, ranging from local to national) to conduct climate policy and planning and achieve climate action goals. Sub-categories:
 - 4.1 Subnational government coordination
 - 4.2 Public involvement and stakeholder engagement
 - 4.3 Subnational cooperation and peer learning

2. SUBNATIONAL ASSESSMENT TOOL: DIMENSIONS

The "Dimension" column below refers to subnational EFC components being assessed to improve urban access to climate finance. "Dimension Detail" provides a more nuanced understanding of good practice examples for each dimension.

CATEGORY 1: CLIMATE POLICY (CP)

Dimension	Dimension Detail	
CP Sub-Category 1.1: Subnational climate change policies		
Subnational mitigation strategy with clear mitigation targets	1.1 The subnational government has mitigation targets that have clearly identified short-, mid-, and long-term components with a sectoral focus. Mitigation target cover urban areas.	
Subnational mitigation ambition is aligned with NDCs	1.2 The subnational government's mitigation targets are aligned with or exceed the level of ambition in the country's Nationally Determined Contributions (NDCs).	
Subnational mitigation ambition includes effective MRV	1.3 The subnational government's mitigation planning includes measurement, reporting, and verification (MRV) requirements. The MRV program is clearly specified and allocated to agencies or a coordination committee who have sufficient capacity to undertake the actions. The MRV is integrated within regular MRV and monitoring and evaluation systems.	
Subnational adaptation strategy with clear targets	1.4 The subnational government has adaptation targets that have clearly identifies short-, mid-, and long-term components with a sectoral focus. Adaptation targets cover urban areas and include disaster management provisions. The adaptation strategy addresses identified vulnerabilities.	∍d
Subnational government conducts urban climate change risk assessments	1.5 The subnational government regularly conducts urban climate risk assessments, which include various climate change factors such as temperature change, extreme weather events, biodiversity loss, sea-level rise infrastructure vulnerability, and socio-economic vulnerability, among others. Socio-economic vulnerability assessments include Gender Equality, Disability and Social Inclusion (GEDSI).	
Subnational adaptation ambition is aligned with NDCs	1.6 The subnational government's adaptation targets are aligned with or exceed the level of ambition in the country's Nationally Determined Contributions (NDCs).	
Subnational adaptation ambition includes effective M&E	1.7 The subnational government's adaptation planning includes M&E requirements. The M&E program is clearly specified and allocated to agencie or a coordination committee who have sufficient capacity to undertake the actions. The M&E is integrated within regular M&E systems.)S

Dimension	Dimension Detail
Subnational government regularly updates urban climate policy (mitigation and adaptation)	1.1.8 The subnational government updates urban climate policies/commitments for both mitigation and adaptation regularly according to the NDC cycle or voluntarily depending on their specific situation, developmental trajectory, climate-related incidents, or similar. For example, the adaptation plans are updated after a climate-related disaster incident such as urban floods.
CP Sub-Category 1.2: Subnational climate action implementation	
Clear allocation of roles and responsibilities	1.2.1 Subnational climate policies specifically elaborate subnational governments' roles and/or dedicated local agencies/bodies for urban planning and implementation of climate actions. There are clear roles and responsibilities allocated to different agencies, bodies, and departments for climate action implementation. Subnational governments can plan for long-term urban climate actions.
Climate planning is guarded from political pressure	1.2.2 Urban climate action goals are part of a subnational legal framework and regulation. Urban climate action goals receive broad political support. For example, urban climate action goals are part of policy at the city/state/regional or other level and cannot be easily overturned by new mayoral administrations.

CATEGORY 2: BUDGET AND FINANCE (BF)

Dimension	Dimension Detail
BF Sub-Category 2.1:	Subnational funding sources for urban climate action
Mitigation financing plan	2.1.1 There is a clear plan for financing urban mitigation action, whether as part of a climate investment plan or as part of the subnational government's budget.
Adaptation financing plan	2.1.2 There is a clear plan for financing urban adaptation actions, whether as part of a climate investment plan or as part of the subnational government's budget.
Domestic public finance for urban climate action	 2.1.3 The subnational government has financed urban climate action using its budget within the last two years. For example, urban climate action is a budget priority that has been funded through municipal or local budgets from sources such as taxes, subsidies, and/or national transfers.
International public finance for urban climate action	2.1.4 The subnational government has used international public finance sources (e.g., grants, bilateral/donor funding, MDB, global funds) to finance urban climate action within the last two years.
Domestic private finance for urban climate action	2.1.5 The subnational government has used domestic private finance sources (incl. private finance generated by NDBs, non-bank financial institutions (NBFIs), financial markets, capital markets) to finance urban climate action within the last two years.

Dimension	Dimension Detail
International private finance for urban climate action	2.1.6 The subnational government has used international private finance sources to finance urban climate action within the last two years.
Subnational disaster-risk management funds	Disaster-risk management or reduction emergency funds, or similar for urban areas, are in place on the subnational level. There is a clear mechanism to access these funds.
BF Sub-Category 2.2	: Subnational green budgeting
Subnational government	The subnational government implements green budget and financing practices for urban areas.
implements green budget/ financing practices	For example, yearly climate and environmental budget tagging; yearly carbon budgeting; regular reviews of environmentally harmful taxes/subsidies; green, transition, or brown taxonomies; green subnational procurement and/or initiatives; taxonomies, bonds, certification, etc.
BF Sub-Category 2.3	: Subnational revenue mobilization
Subnational revenue mobilization for climate action	2.3.1 The subnational government has sufficient sources of revenue mobilization for urban climate action, including a balanced and sustainable basket of resources based on grants/transfers (international, national, and regional, taxes and fees, tariffs, and property income).
Subnational revenue planning for climate action	2.3.2 The subnational government is able to adjust and manage its own revenue to respond to urban climate needs. The subnational government has the capacity to maintain and manage a proper level of operating surplus to be able to undertake required or additional investments, such as urban climate investments.
Subnational revenue diversification allowed & encouraged	2.3.3 Subnational governments are allowed and encouraged to diversify their revenue sources to address urban climate action through a basket of resources such as taxes including carbon tax, fees, and charges.
Adequate subnational revenue generation	Subnational governments have adequate revenue generation for urban climate action and do not rely only on emergency funds or other special funds to cover regular expenses for climate planning.
BF Sub-Category 2.4: Subnational private finance mobilization	
Private finance into municipal infrastructure	Private investment in municipal infrastructure sectors is allowed, with no procurement laws or policies that prevent or discourage this type of investment.
	For example, there are tax benefits and/or subsidies in place for the private sector; there are regulatory incentives (e.g., feed-in tariffs, risk mitigating insurance, or others) in place.

Dimension	Dimension Detail
Subnational PPP development	2.4.2 The subnational government has developed a public-private partnership (PPP) for urban climate action within the last two years.
BF Sub-Category 2.5	: Subnational creditworthiness, borrowing, and access to capital
Subnational government is able to borrow	2.5.1 The subnational government is able to borrow for urban climate investments. For example, the subnational government can access debt instruments such as bonds and commercial loans. There may be borrowing rules in place, and borrowing may be subject to approval from the national government.
Subnational government has borrowed for climate investments	 2.5.2 The subnational government has successfully borrowed for urban climate investments. For example, if a sovereign guarantee/approval from the national government is required for borrowing, this has been done successfully.
Subnational government has a credit rating	2.5.3 The subnational government has applied for and been granted a credit rating, either domestic or international.Note if the subnational government has started the assessment process, even if it is in progress.
Municipal bond issuance	2.5.4 The subnational government has issued a municipal bond that includes funding urban climate investments.
Green bond issuance	2.5.5 The subnational government has issued a green bond that includes funding urban climate investments.
BF Sub-Category 2.6	: Subnational engagement of co-financing and/or innovative financing
Co-financing received	The subnational government has received finance or co-financing from a national development bank or similar for urban climate action.
Blended finance	2.6.2 The subnational government has employed innovative financing mechanisms for urban climate action, such as blended finance.
Carbon markets	2.6.3 The subnational government has a framework in place to engage with carbon credits and carbon markets to fund urban climate investments.
Special purpose vehicle	2.6.4 The subnational government has employed a special purpose vehicle or special purpose entity to limit liability to provide innovative project funding for urban climate action.

CATEGORY 3: CLIMATE DATA (CD)

Dimension	Dimension Detail	
CD Sub-Category 3.1	: Subnational-level climate data reporting	
Local climate databases provide quality climate data	3.1.1 The subnational government has access to locally centralized & digitalized database services that provide quality climate data. For mitigation, this is defined as following the principles of TACCC (transparency, accuracy, consistency, comparability, and completeness). The data is timely and covers mitigation and adaptation (including identifying emissions sources, designing GHG inventories, disaster and climate risk assessments, and long-term climate change scenarios). Age- and sex-disaggregated data is used in socioeconomic vulnerability assessments.	
Subnational government uploads climate data to national database	3.1.2 The subnational government uploads self-reported urban climate data into a national database.	
Subnational government conducts urban GHG inventory/ mitigation data	3.1.3 The subnational government conducts a regular urban GHG inventory. The GHG inventory has a clearly defined scope of emissions. The results are reported to the national government.	
CD Sub-Category 3.2: Subnational-level climate data availability and analysis partnerships		
Subnational partnership with research centers	3.2.1 The subnational government partners with regional and/or local-level research centers to assist with urban climate data collection and analysis.	
for climate data	Research centers could include university research bodies, civil society, and/or the private sector.	
Subnational government ensures good quality and availability of urban climate data	3.2.2 The subnational government ensures that there is good quality urban climate data available. For mitigation, this is defined as following the principles of TACCC (transparency, accuracy, consistency, comparability, and completeness). The data is also timely and covers mitigation and adaptation (including identifying emissions sources, designing GHG inventories, and disaster and climate risk assessments and long-term climate change scenarios). The data includes age- and sex-disaggregated data in socioeconomic vulnerability assessments.	

CATEGORY 4: VERTICAL AND HORIZONTAL COORDINATION (VHC)

Dimension	Dimension Detail
VHC Sub-Category 4.1: Su	ubnational government coordination
Vertical coordination on climate action and	4.1.1 The subnational government coordinates vertically (across levels of government) on urban climate action.
planning	For example, the city engages in city deals or works with regional, state, or national government to receive support for climate strategies.
Horizontal coordination on climate action and	4.1.2 The subnational government coordinates horizontally (between/across jurisdictions) on urban climate action.
planning	For example, the state or city has agreements with neighboring jurisdictions, or develops regional development strategies.
Horizontal coordination for climate risk assessment	4.1.3 The subnational government coordinates horizontally (between/across neighboring jurisdictions at the same level of government) to assess and address transboundary urban climate risks.
	For example, cities engaging in a transboundary or regional climate risk assessment, which can include transboundary socio-economic climate-related vulnerabilities.
Horizontal/ vertical coordination for shared climate investment	4.1.4 The subnational government coordinates and identifies opportunities for shared urban climate investments (either across levels of government or between jurisdictions).
opportunities	For example, cities work with other cities to identify opportunities for shared climate investments to increase project size.
VHC Sub-Category 4.2: P	ublic involvement and stakeholder engagement
Public participation in subnational climate planning	4.2.1 The subnational government uses forums and/or partnerships to integrate civil society, the public, and the private sector into their urban climate actions and planning.
VHC Sub-Category 4.3: S	ubnational cooperation and peer learning
Subnational government engages in peer learning	4.3.1 The subnational government engages in peer learning (with other subnational governments, networks, or technical advisers) on urban climate finance.
Subnational cooperation with PPFs for subnational climate infrastructure projects	4.3.2 The subnational government cooperates with Project Preparation Facilities (PPFs) for climate infrastructure projects.
Subnational cooperation with city	4.3.3 The subnational government cooperates with city networks for climate focused infrastructure projects.
networks	If the subnational government being assessed is a city, then this evaluates whether the city is a member of city networks.

3. RESOURCES AND TOOLKITS

The resources in this section are intended to guide subnational governments in improving EFCs based on the assessment results above. Resources include toolkits and guidance offering practical, step-by-step roadmaps, as well as reports, which provide broader context on best practices relating to EFC sub-categories.

3.1 CLIMATE POLICY RESOURCES

Sub-category	Resources
1.1 Subnational climate change policies	Toolkit: World Bank. APEX Green Cities: An investment planning app providing practices for environmental excellence and harnessing insights from green practices around the world for cities. Can be used to develop green city action plans.
	Guidance: C40. Cities Climate Transition Framework: Focuses on climate adaptation, resilience, and equity, as well as governance and decision-making, implementation planning, monitoring, evaluation, and reporting with the aim of supporting cities to mainstream climate action.
	Toolkit: <u>City WORKS:</u> Assists cities in localizing global agendas and identifying specific needs for action at the city level.
	Report: ESCAP. The Future of Asian and Pacific Cities 2023: Crisis Resilient Urban Futures: Provides insights on the spatial, economic, social, environmental, and governance aspects of cities in the Asia-Pacific, offering holistic policy recommendations toward a sustainable urban recovery from related crises (see especially Chapter 2).
1.2 Subnational climate action implementation	Guidance: C40. Climate Action Planning Guide: Explains how cities can establish a foundation for planning effective climate action, build an evidence base, identify potential mitigation and adaptation strategies, decide what to include in their Climate Action Plans, as well as monitor and evaluate progress.
	Toolkit: Net Zero Cities online portal: Tools, resources and expertise are aggregated into an online portal to support cities in achieving climate neutrality by 2030.

3.2 BUDGET AND FINANCE RESOURCES

Sub-category	Resources
2.1 Public financing and national budget	Guidance: IMF. How to Make the Management of Public Finances Climate Sensitive – "Green PFM": Introduces the concept of green public financial management (PFM) with an overview of related practices and case studies.

Sub-category	Resources
	Guidance: UNDP. Budgeting for Climate Change: A Guidance Note for Governments to Integrate Climate Change into Budgeting: Provides a step-by-step approach to integrating climate change into the budget preparation and approval stage, in line with PFM principles, as well as information on relevant tools and case studies in various countries.
2.2 National funding sources for subnational climate action	Report: OECD. Subnational Government Climate Expenditure and Revenue Tracking in OECD and EU countries: Measures climate expenditure and revenue tracking of subnational governments in OECD and EU countries, and, in turn, assesses the fiscal capacity of subnational governments to develop and implement their climate action policies to drive subnational climate action.
2.3 National support for subnational green budgeting	Report: OECD. Aligning Regional and Local Budgets with Green Objectives – particularly Chapter 4: Subnational green budgeting guidelines: Provides six key guidelines to start or develop a green budgeting exercise at the regional and local levels.
2.4 Systems of intergovernmental transfers	 Policy paper: IMF. Strengthening Infrastructure Governance for Climate-Responsive Public Investment: Designed around key pillars of public investment management that are key for climate-smart infrastructure and also provides prioritized recommendations to strengthen climate-responsive aspects of infrastructure governance. OECD. Resources for Effective multi-level public investment: Toolkit: OECD. Effective public investment across levels of government toolkit: Introduces the 12 OECD principles on effective public investment across levels of government including comparing indicators and good practices in multiple countries, regions, and municipalities. Report: OECD. Effective multi-level public investment: Illustrates the overall progress and key challenges in implementing public investment across levels of government.
2.5 Fiscal decentralization and subnational revenue generation	 Report: Smoke, P., and Mitchell Cook. Adapting Fiscal Decentralization Design to Combat Climate Change: Attempts to integrate the need for climate policy action in the existing best practice framework of intergovernmental fiscal design. Expores how federations and other fiscally decentralized states have implemented effective climate policies, along with recommendations and guidance. Working paper: Martinez-Vazques, J. Adapting Fiscal Decentralization Design to Combat Climate Change: Examines how the principles of fiscal decentralization design (in expenditure, and revenue assignments, transfers, and borrowing) can be adapted to engage subnational governments fighting climate change and critically reviews international practices.
2.6 Private finance mobilization at the subnational level	 Report: OECD. Policy Framework for Investment: Offers guidance on policy areas critical to a country's enabling environment for private investment. Report: OECD. Financing Cities of Tomorrow: Outlines how new forms of urban planning can help mobilize private finance to strengthen cities' capacity in a tight fiscal environment, and considers opportunities and challenges for mobilizing sustainable finance.

Sub-category	Resources
	 Report: World Bank. Climate Toolkits for Infrastructure PPPs: Aims to address the challenge of uncertain moving pieces within the framework of PPFs, by embedding a climate lens within a structured approach to upstream PPPs. Report: ESCAP. Empowering cities to implement the 2030 Agenda for Sustainable Development and the New Urban Agenda: mobilizing municipal finance for sustainable infrastructure in the Asia-Pacific region: Presents an analytical basis for city and national governments to improve institutional enabling environments for local governments to leverage their resources through longer tenor debt, equity and land-based financing of urban infrastructure.
2.7 Creditworthiness and access to capital	 Toolkit: World Bank. City Creditworthiness Initiative – Self Assessment & Planning Toolkit: Includes 6 steps to enable municipalities and states to self-assess core challenges to creditworthy financial management and provides recommendations to form an action plan. Toolkit: UN-Habitat. Rapid Own Source Revenue Analysis: Rapid Own Source Revenue Analysis assists local governments to determine their need for their own-source revenue (taxes, fees, licenses, etc.) reform and identify their key shortcomings. Report: OECD. Effective multi-level public investment: Illustrates the overall progress and key challenges in implementing public investment across levels of government.
2.8 Potential for co- financing and/or innovative financing	 Report: CCFLA. Leveraging National Development Banks to Enhance Financing for Climate-Smart Urban Infrastructure: Identifies the barriers and enablers cities and national development banks (NDBs) face at the policy, legal, financial, and institutional levels, based on a global consultation with these actors. Report: CCFLA. Enhancing the Role of National Development Banks in Supporting Climate-Smart Urban Infrastructure: Focuses on enhancing the role that NDBs play in accelerating climate-smart urban infrastructure investment.

3.3 CLIMATE DATA RESOURCES

Sub-category	Resources
3.1 Subnational-level climate data reporting	Guidance: GCoM. Common Reporting Framework: Provides a new set of global recommendations on GHG emissions inventory, climate risk and vulnerability assessment.
	Guidance: GHG Protocol Standards for cities.
	• Questionnaire: CDP. 2023 CDP-ICLEI Cities Questionnaire: The world's leading climate progress accountability mechanism for cities supported by global organizations including C40, the Global Covenant of Mayors, and WWF. CDP and ICLEI track cities' progress on UN-backed climate campaigns the Race to Zero and Race to Resilience, which bring cities, businesses, and investors together to create a zero-carbon future.

Sub-category	Resources
3.2 Subnational- level climate data availability and analysis	 Questionnaire: CDP. 2023 CDP-ICLEI Cities Questionnaire: See resource description in 3.1 above. Guidance: WRI/C40 Cities/ ICLEI. Global Protocol for Community-Scale Greenhouse Gas Inventories: Offers cities and local governments a robust, transparent, and globally accepted framework to consistently identify, calculate, and report on city GHG emissions. This version has been revised to align with the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

3.4 VERTICAL AND HORIZONTAL COORDINATION RESOURCES

Sub-category	Resources
4.1 Subnational government coordination	Guidance: GCoM. Common Reporting Framework: Provides global recommendations on GHG emissions inventory, climate risk and vulnerability assessment.
	 Report: ESCAP. Vertical integration of climate change policies and actions in Asia-Pacific cities: 2020 discussion paper exploring the linkages between climate change ambitions, policies, multilevel governance frameworks, and vertical integration in Asia-Pacific cities. Report: ESCAP. Enabling cities to take climate action and advance the
	Sustainable Development Goals: 2023 report exploring the linkages between climate change ambition and policies, multilevel governance frameworks and the vertical integration of climate action in Asia-Pacific citie.
4.2 Public involvement and stakeholder engagement	Toolkit. C40 Climate Action Planning Steps and Processes: Specifically see Equity and Inclusivity in Climate Action Planning steps and knowledge hub resources.
4.3 Subnational cooperation and peer learning	Directory: CCFLA. Project Preparation Resource Directory: Helps subnational governments and stakeholders identify project preparation facilities that can support them in developing green and resilient infrastructure.

4. EXAMPLES

The below examples aim to illustrate how subnational governments have strengthened their EFCs across the categories laid out in the assessment tool.

4.1 CLIMATE POLICY EXAMPLES

4.1.1 DURBAN: CAPS BASED ON EMISSIONS, VULNERABILITY ASSESSMENT

Context: eThekwini Municipality (Durban), the third-largest city in South Africa, is located in the province of KwaZulu-Natal and has a population of around 3.7 million in an area of 2,297 km². Durban will face several key climate change risks in the future including increased temperatures, periods of drought, intense storms and flooding, and sea level rise.

Description: In 2019, Durban laid out a comprehensive Climate Action Plan (CAP) including climate targets covering mitigation and adaptation, which are updated regularly based on a rolling vulnerability assessment. The city government incorporates climate data into planning and has a clear monitoring and evaluation process for climate targets.

Durban was the first African city to complete a Paris-aligned 1.5°C CAP, with support from C40. The city-wide CAP, informed by a 2015 emissions inventory baseline and vulnerability assessments, provides a pathway for climate resilience and carbon neutrality by 2050. eThekwini Municipality relies on the national and provincial governments, private sector, civil society, and citizens to support the plan.

Durban's CAP targets 40% emissions reductions by 2030 and 80% by 2050. It includes 33 mitigation and adaptation actions and 149 sub-actions across key sectors: energy, water and flooding, transport, health, and waste. The ambitious and measurable targets include reaching 100% net-zero-carbon municipal infrastructure by 2030. The CAP is supported by clear implementation plans, such as solar energy and efficiency programs, and by-laws, such as one requiring buildings to be retrofitted with energy-efficient technologies and all new builds to be net zero carbon by 2030.

Sources and further reading:

- Administrative Decentralization and Climate Change (World Bank 2022)
- Case Studies eThekwini (CDP 2019)
- <u>Durban Climate Action Plan 2019</u> (eThekwini Municipality 2019)

4.1.2 DALLAS: TRANSPARENT DATA, INTERIM GOALS, AND CLEAR TARGETS

Context: Dallas, Texas, is the ninth-largest city in the US and one of two core cities in the Dallas-Fort Worth metroplex. Dallas faces extreme heat, air quality problems, and other adverse impacts of heavy industry. Extreme heat days are increasing; temperatures rise above 101.6 °F (38.7 °C) for more than seven days a year, and by 2050, this is projected to reach 38 days per year.

Description: The Dallas Comprehensive Environmental & Climate Action Plan (CECAP), launched in 2020, was built on data from GHG inventories and public outreach, and has a clear implementation roadmap. It includes specific standards for action, sufficient human resources allocation for implementation, and a clear delineation of roles and responsibilities between dedicated local agencies.

CECAP sets a strategy to reduce GHG emissions by 43% by 2030 and specifies objectives for air quality, energy efficiency, renewable energy, water conservation, green space, sustainable transportation, and climate-resilient buildings. It also includes specific interim GHG emissions reduction targets and a pledge to reach net zero by 2050 or earlier. This aligns with other Texas plans and the Paris Agreement.

CECAP is regularly updated and includes monitoring and evaluation procedures using data from the 2015 City of Dallas GHG inventory. Progress is reported on the CECAP website quarterly, including on measurable targets for each sector.

CECAP development involved 180 meetings with community groups, reviewing over 9,000 comments from surveys and public responses, and a stakeholder group made up of 35 organizations, including universities and government representatives.

Sources and further reading:

- <u>Dallas City Profile</u> (SmartCities World 2023)
- Not According to Plan: Exploring Gaps in City Climate Planning and the Need for Regional Action (Brookings Institute 2022)
- <u>Dallas Climate Action</u> (City of Dallas no date)

4.2 BUDGET AND FINANCE EXAMPLES

4.2.1 MEXICO CITY: FIRST MUNICIPAL GREEN BOND IN LATIN AMERICA

Context: Mexico City is one of the world's largest megacities, with its population set to exceed 23 million by 2030. The city faces extensive challenges related to urban sprawl, including traffic congestion, limited access to public transportation, air pollution, water stress, and inadequate housing. Mexico City's Climate Action Plan (MCCAP) for 2014–2020 outlined strategies and actions to improve citizens' quality of life, reduce carbon emissions and promote sustainable development. These include delivering an energy transition,

containing urban sprawl, providing clean urban mobility, modernizing the water distribution system, and reducing disaster risk. Mexico City needed to raise funds to finance its plan.

Description: As part of its MCCAP financing strategy, Mexico City became the first Latin American city to issue a green bond in 2016, with a value of MXN 1 billion (USD 50 million). The bond aimed to finance infrastructure for three strategic priorities: sustainable transport, water and wastewater management, and energy efficiency.

For transport, investments included substituting high-emission microbuses with low-emission buses, light rail, and improvements to the city metro. Investment in the water sector focused on modernizing the city's aging water distribution network, which was made up of 12,000 km of pipes plagued by leakages, which led to 41% water loss. Investment in energy efficiency focused on installing and maintaining LED streetlights and lights in municipal buildings.

The green bond issuance established Mexico City as a leader in green financing. Based on the success of the first green bond issuance, Mexico City launched a joint green and sustainability bond for MXN 2.1 billion (USD 100 million) in 2017.

Sources and further reading:

- <u>Financial Aggregation Blueprints for Urban Climate Infrastructure</u> (CCFLA 2023)
- Sustainalytics (2016). Ciudad de México Green Bond Framework: Second Opinion.
 Available at https://mstar-sustops-cdn-mainwebsite-s3.s3.amazonaws.com/docs/default-source/spos/green_bond_opinion_cdmx_11112016_final.pdf?sfvrsn=b157bf20_3

4.2.2 BEIJING: A CITY-LEVEL EMISSIONS TRADING SYSTEM

Context: Beijing is China's capital city, located in northern China. The metropolis has over 21 million residents in 2024 and is central to the Chinese economy. Beijing faces climate hazards such as heat, drought, and inland flooding. As a result, Beijing has set ambitious targets to reduce GHG emissions by 10% by 2025 and achieve peak emissions in 2030.

Description: Beijing launched an emissions trading system (ETS) in 2013. ETS, also known as 'cap and trade,' allow the city to set allowances and caps for emissions according to carbon targets. The price of emissions fluctuates within the market, and the city can reduce emissions in a predictable way over time. Bejing, Shanghai, and four other city regions in China have run successful ETS pilots, which then triggered national action to put in place China's national carbon market.

Beijing's ETS covers 50% of the city's total emissions and includes the following sectors: heat, cement, industry, manufacturers, the service sector, and public transport. The ETS uses the general budget as a source of revenue. Allowances were allocated based on historical emissions and sector-level benchmarking and used a price floor and a price ceiling to keep the carbon price relatively stable. The system set up heavy fines and penalties to act as enforcement mechanisms.

Implementing the carbon trading scheme involved several institutions with clearly delineated roles and responsibilities. The Beijing Municipal Commission of Development and Reform was responsible for establishing the Beijing ETS before 2019. The Beijing

Ecology and Environment Bureau then is responsible for the ETS after 2019. The Beijing Green Exchange is responsible for the trading platform, and the Beijing Management Center for Climate Change is responsible for the registry.

Sources and Further Reading:

- China Beijing Pilot ETS, International Carbon Action Partnership (ICAP 2016)
- How Cities Can Put a Price on Carbon (C40 2022)
- <u>Unpacking China's Climate Priorities</u> (Brookings Institute 2023)

4.3 CLIMATE DATA EXAMPLES

4.3.1 BELO HORIZONTE: REGULAR CLIMATE DATA REPORTING

Context: Belo Horizonte is a city in Brazil with a population of 2.5 million and an area of 331,401 km². The city joined the Global Covenant of Mayors for Climate and Energy (GCoM) in 2015 to strengthen its low-carbon transition. Challenges in achieving its climate goals include a lack of financial and human resources.

Description: Belo Horizonte collects, analyzes, and monitors climate data to monitor its climate action, demonstrating the benefits of collecting and reporting such data at the subnational level. The city's Municipal Secretariat for the Environment has published GHG emissions inventories four times since 2000. These have enabled self-assessment of emissions, impacts, and trends. The latest inventory uses local emission factors and has made improvements to increase data accuracy.

Belo Horizonte's Municipal Committee on Climate Change and Eco-efficiency is made up of multiple sectoral and organizational representatives and handles validating and analyzing the collected data. In 2013, the city developed its first GHG emissions reduction plan based on the GHG emissions inventories. This data allowed the local government to define specific mitigation actions and focus on high-emitting sectors (energy, transport and waste).

In terms of climate adaptation, Belo Horizonte developed a Climate Vulnerability Study in 2016, using a Model Vulnerability Evaluation platform. Many sources of data were used to identify and evaluate climate risks and hazards, including meteorological data and scenarios from the National Institute for Space Research.

Belo Horizonte also uses data to make financial decisions. Most of the local government's investments from public funds, related to rain drainage infrastructure, were implemented based on monitoring of rainfall and runoff analysis. The city also used climate vulnerability and GHG emission data to access international funding, such as a World Bank loan to improve urban mobility.

Sources and further reading:

- Key Data-Driven Tools for Integrated Climate Action in the City of Belo Horizonte, Brazil (ICLEI 2021)
- Brazil Climate Change (GCoM 2022)

4.3.2 BIRMINGHAM: SUPPORTED CLIMATE DATA WEB PLATFORM

Context: Birmingham is the second-largest city in the UK with a population of 1.1 million and an area of 598.9 km². The Birmingham Development Plan 2031 is the statutory planning framework that defines the city's climate action strategy until 2031. The city declared a climate emergency in 2019 and strengthened carbon emissions reduction targets, committing to achieve carbon neutrality by 2030.

Description: Birmingham demonstrated how stong subnational data partnerships can improve the use of data in climate decision-making. The city developed "Project 3D" from 2021-2023, a data-driven environmental project, with the Centre of Sustainable Energy (CSE), a national charity working to tackle climate change across the UK, supported by the Action Fund. Project 3D helped catalyze the use of energy and climate-related data for a strategic project to accelerate citywide carbon reduction policies and programs and boosted community-driven sustainable energy projects. The data was used to deliver community-scale carbon reduction initiatives algiend with Birmingham's existing decarbonization policies, and led to 100,000 EUR (108,400 USD) awarded to seven local community-driven projects.

CSE worked with the Birmingham City Council, the Route to Zero Taskforce (R20 Taskforce), West Midlands Combined Authority, and local community partners to establish an energy data hub. The data hub consolidated data from a range of datasets and sectors, including city housing, non-domestic buildings, and existing and planned energy infrastructure. The data was publicly accessible to help inform local climate action. The project covered an initial data analysis and modelling of decarbonization options for buildings in the city, integrating public datasets, aggregating the data, and mapping some results. Project 3D aimed to use data to strengthen future policies towards a net zero carbon development in buildings, where solar potential data can help the city council, community groups, and businesses decide how to prioritize investments. Publicly available web-based platforms, in accordance with data protection policies, can effectively engage stakeholders and enhance data accessibility. And finally, setting up stakeholder surveys at an early stage of project development results in a more accessible and user-friendly platform.

Sources and further reading:

- Birmingham Case Study (ICLEI 2021)
- 3D: Data to Decarbonise in a Decade Birmingham, UK (ICLEI 2023)

4.4 VERTICAL AND HORIZONTAL COORDINATION EXAMPLES

4.4.1 ARGENTINA: RAMCC TRUST FUND

Context: The Argentinian Network of Municipalities Facing Climate Change (Red Argentina de Municipios Frente al Cambio Climatico, or RAMCC) is a coalition of 270 Argentine municipalities working under an executive secretariat to coordinate and promote strategic

plans to address climate change. It supports climate change planning, policymaking, implementation, and financing investments of member municipalities. It is committed to reducing GHG emissions in member municipalities by 45% by 2030, becoming carbon neutral by 2050, and increasing cities' resilience to extreme weather events.

Description: In 2018, RAMCC established the RAMCC Trust Fund to help cities finance, manage, and deliver projects under their climate action plans (CAPs). The Trust comprises thirty municipalities, and all RAMCC municipalities are eligible to join as long as they develop CAPs, including a climate risk assessment, a GHG emissions inventory, and priority sectors (e.g., energy, transport, waste) for climate action.

Each municipality participating in the RAMCC Trust Fund is a Trustee, represented by its mayor in the Trust's annual assembly. At this assembly, municipalities set out climate projects they want to implement in the coming year and are updated on the progress of those from the previous year. This assembly elects the executive committee, comprising 5 mayors, which provides strategic oversight for the Trust's financing activities each year. A third body, the Executive Secretariat, provides Trustees with technical support to develop their climate plans, undertake technical studies, and develop financing proposals.

The RAMCC Trust Fund uses pooled procurement for climate-smart technologies and services, enabling its members to achieve economies of scale while promoting collective action and allowing cities to scale up climate investments. To date, the Fund has launched four pooled procurement tenders for LED lighting. Future tenders are expected for solar heaters, PV panels, and electric vehicles.

Sources and further reading:

Financial Aggregation Blueprints for Urban Climate Infrastructure (CCFLA 2023)

4.4.2 MUNICIPAL RISK POOL IN SOUTH AFRICA'S WESTERN CAPE

Context: South Africa's Western Cape Province is vulnerable to various climate hazards, particularly flooding. The expected urban damage from flooding in the Western Cape is estimated to be USD 66 million annually, with 19,000 people affected annually. Municipalities rely on emergency transfers from the central and provincial governments to fund emergency management. These payments often take too long to be sanctioned and released, hindering the ability of local governments to provide emergency support to citizens.

Description: The Municipal Risk Pool in South Africa's Western Cape (MRPWC) pooled insurance facility aims to provide five or six municipalities with parametric coverage against flooding. The Western Cape Provincial Government implements the MRPWC in partnership with the University of KwaZulu-Natal, the International Development Research Centre, the Munich Climate Insurance Initiative, and Germanwatch. MRPWC is still at the design stage and is expected to be operational by 2025 opon final approval from participating municipalities.

As the world's first sub-sovereign pooled insurance facility, the MRPWC will be a specialpurpose company owned and managed by municipalities to share a pool of financial resources to provide funding for emergency management when a flooding disaster occurs. The MRPWC will essentially operate as a co-owned insurance company providing policies to co-owning municipalities. By spreading the financial risk across the group of municipalities, the facility will be able to offer premiums lower than those negotiated individually by private companies.

Sources and further reading:

• Financial Aggregation Blueprints for Urban Climate Infrastructure (CCFLA 2023)

citiesclimatefinance.org
unescap.org