



# Leveraging National Development Banks to Enhance Financing for Climate-Smart Urban Infrastructure

Knowledge Product

March 2021

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# Acknowledgments



**Authors** – This knowledge product was developed by Diana Smallridge, Sara Harb, Glen Hodgson, and Jonathan Gough (International Financial Consulting Ltd.), in collaboration with Kristiina Yang and Priscilla Negreiros (Climate Policy Initiative/Alliance Secretariat).

**Acknowledgments** – The Cities Climate Finance Leadership Alliance is grateful to the interviewees from National Development Banks, cities, and partner institutions for their time and participation in the development of this knowledge product and policy briefs. Significant contributions were made by the Enabling Frameworks Action Group co-chairs – Andy Deacon (GCoM) and Lori Kerr (Global Infrastructure Facility), and the members of the Action Group, with special thanks to Carolin Koenig, Inga Beie, Mike Lindfield (FELICITY); Justine Audrain, Emilie Maehara (FMDV); Serge Allou and Mathilde Penard (UCLG). The authors would like to thank and acknowledge Barbara Buchner, Bella Tonkonogy, Idan Sasson, Federico Mazza, June Choi, Elysha Davila and Caroline Dreyer for review and editing, and Angela Woodall for design and layout.

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**About the Cities Climate Finance Leadership Alliance** – The Cities Climate Finance Leadership Alliance (the Alliance) 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 the Alliance. Funding for the Alliance'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).

**Keywords** – Cities, National Development Banks, Urban climate finance, Climate infrastructure

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# 01 Introduction

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# Context and Objectives

## Context:

- This knowledge product builds on the main conclusions from the Cities Climate Finance Leadership Alliance (the Alliance) policy brief on **Enhancing the Role of National Development Banks in Supporting Climate-Smart Urban Infrastructure**, commissioned by FELICITY and developed in partnership with the Alliance.
- The policy brief sets the context to explore how National Development Banks (NDBs) can be leveraged to finance climate-smart urban infrastructure. It identifies the general barriers to financing climate-smart urban infrastructure such as weak incentives, high perceived risks, lack of bankable projects pipeline, timing mismatch and lack of suitable investment instruments. It also specifies barriers for NDBs at the institutional and financial levels and presents some actionable opportunities for NDBs. The summary of barriers and opportunities for NDBs is included in Annex B.

## Objectives:

- Analyze the key barriers and opportunities for cities and NDBs to identify the gap in scaling up financing for climate-smart urban infrastructure through NDBs.
- Develop and present maturity models for Cities and NDBs, which reflect the key parameters required to overcome the identified challenges at the policy, regulatory and legal levels, as well as institutional, financial and operational levels.
- As part of the methodology, case studies were developed to showcase examples of institutions that illustrate different dimensions of the City and NDB maturity models.
- The conclusions and recommendations present actionable opportunities for each of the stakeholders to play a key role in enhancing support and financing for climate-smart urban infrastructure.

## Methodology for Developing Maturity Models



Interviews, Survey,  
and Annual Reports

Common themes were formulated based on the challenges and opportunities NDBs face in financing green urban infrastructure projects.



Research and  
Analysis

12 dimensions have been identified that determine the maturity of both Cities and NDBs to finance climate-smart urban infrastructure.



NDBs' and Cities  
Maturity Models

The dimensions are categorized into parameters including:

- Legal, policy and regulatory
- Strategic
- Financial
- Business
- Operational

## Interviews Conducted

The selection of NDBs and cities is intended to bring diverse global perspectives based on the different size, needs and capacities. Although the focus is on NDBs and cities from developing countries, some NDBs and cities represented are more advanced in their capacity to finance climate-smart urban infrastructure.

### National/Regional/Subnational Development Banks

- The Infrastructure Bank Plc (TIB), Nigeria
- India Infrastructure Finance Company Limited (IIFCL), India
- PT Sarana Multi Infrastruktur (Persero), Indonesia
- Banobras, Mexico
- Malaysia Development Bank (BPMB), Malaysia
- Croatian Bank for Reconstruction and Development (HBOR), Croatia
- Financiera de Desarrollo Territorial S.A. (Findeter), Colombia
- Development Bank of Southern Africa (DBSA), Southern Africa
- North American Development Bank (NADB), US and Mexico
- Banco de Desenvolvimento de Minas Gerais S.A. (BDMG), Brazil

### Cities

- Cape Town, South Africa
- Chefchaouen, Morocco
- Jakarta, Indonesia
- Curitiba, Brazil
- Naucalpan, Mexico
- Belo Horizonte, Brazil

### Other Relevant Institutions

- Global Fund for Urban Development (FMDV)
- World Resource Institute (WRI) – Brazil
- C40 Cities Finance Facility – Curitiba
- Infracredit – Nigeria

# 02 Background


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## Cities significantly contribute to climate change and are the most at risk from its impacts...



- Cities occupy only **2% of land mass** on earth but are responsible for approximately **75% of global CO2 emissions**. (UNEP)
- Cities are the primary hub for economic activity and make up **80% of global GDP**. (World Bank)
- **2.5 billion people** are expected to migrate from rural to urban areas by 2050. (UN DESA)
- **90%** of the world's urban areas are situated on coastlines, putting them at high risk of strong storms, floods and rising sea levels. (C40 Cities)
- Up to **US \$4 trillion worth of assets** are at risk from climate change in cities worldwide. (CDP)
- The impact of climate change varies based on differences in exposure, susceptibility and coping capacities and exacerbates inequalities.
- Inaction on climate change will lead to **increased inequality** both within and among countries. Developing countries, particularly small island developing States, face **disproportionate risks** from an altered climate. (UN)



But cities also present an opportunity for a green transformation.

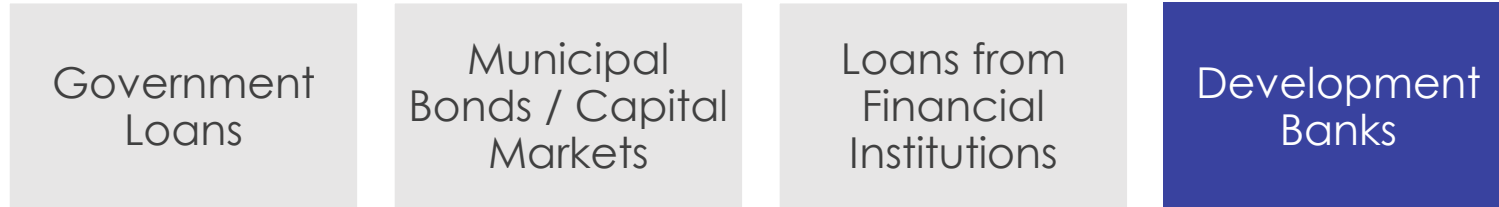
There is no widely accepted definition of “green infrastructure”, but for the purpose of this knowledge product, we refer to all low-carbon, climate-resilient infrastructure.

- Due to their size, density, and economic power, cities can pivot the trajectory of carbon emissions and lead the fight against climate change through **planning and efficient infrastructure**.
- A Global Commission on Adaptation report highlighted that climate-resilient infrastructure systems are **one of the top six areas of investment required** to adapt to a climate-uncertain future. (The Rockefeller Foundation)
- Infrastructure financing needs **USD \$4.1-4.3 trillion per year** from 2015 to 2030. (The Alliance)
- Making infrastructure **low-emissions and climate-resilient** (i.e. climate-smart) will require additional costs of **US\$ 0.4-1.1 trillion per year**. (The Alliance)
- The **benefit-cost ratio is about 4:1** for climate-resilient infrastructure. The World Bank estimates that investing US\$ 1 trillion in the incremental cost of making infrastructure more resilient in developing countries would generate US\$ 4.2 trillion in benefits. (Global Commission of Adaptation)
- There is a **critical shortage in investment-ready green infrastructure projects** and therefore an urgent need to invest more resources, particularly from NDBs, into project preparation and feasibility.

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## Cities are heterogeneous in their financial capacity.

- Access to finance for infrastructure projects can vary based on legal, regulatory or fiscal capacity of the municipality.



- **The focus of this knowledge product is on enhancing the role of National Development Banks in financing climate-smart urban infrastructure.**

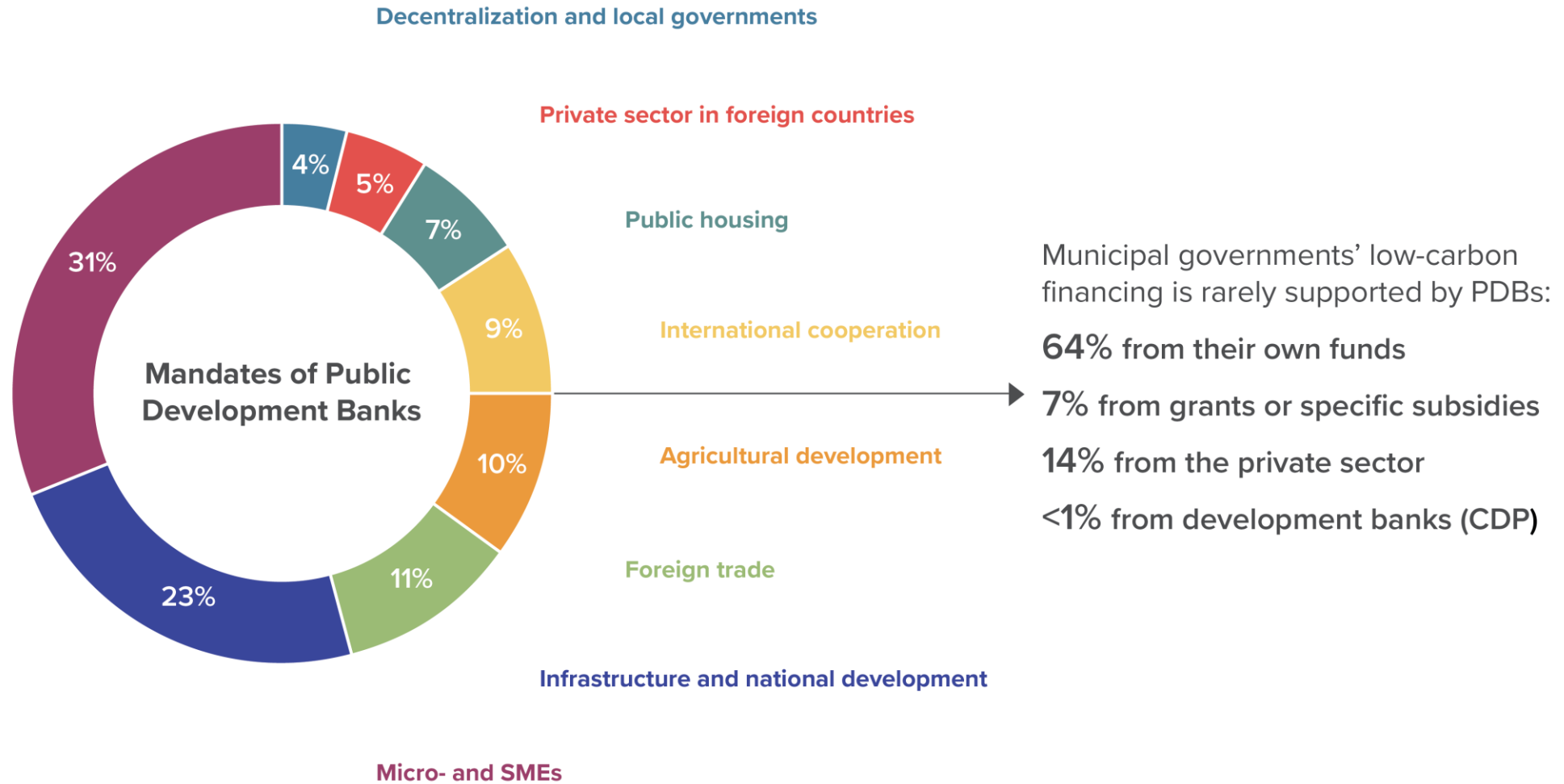
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## Public Development Banks are state-owned institutions with a public policy mandate to support economic development.

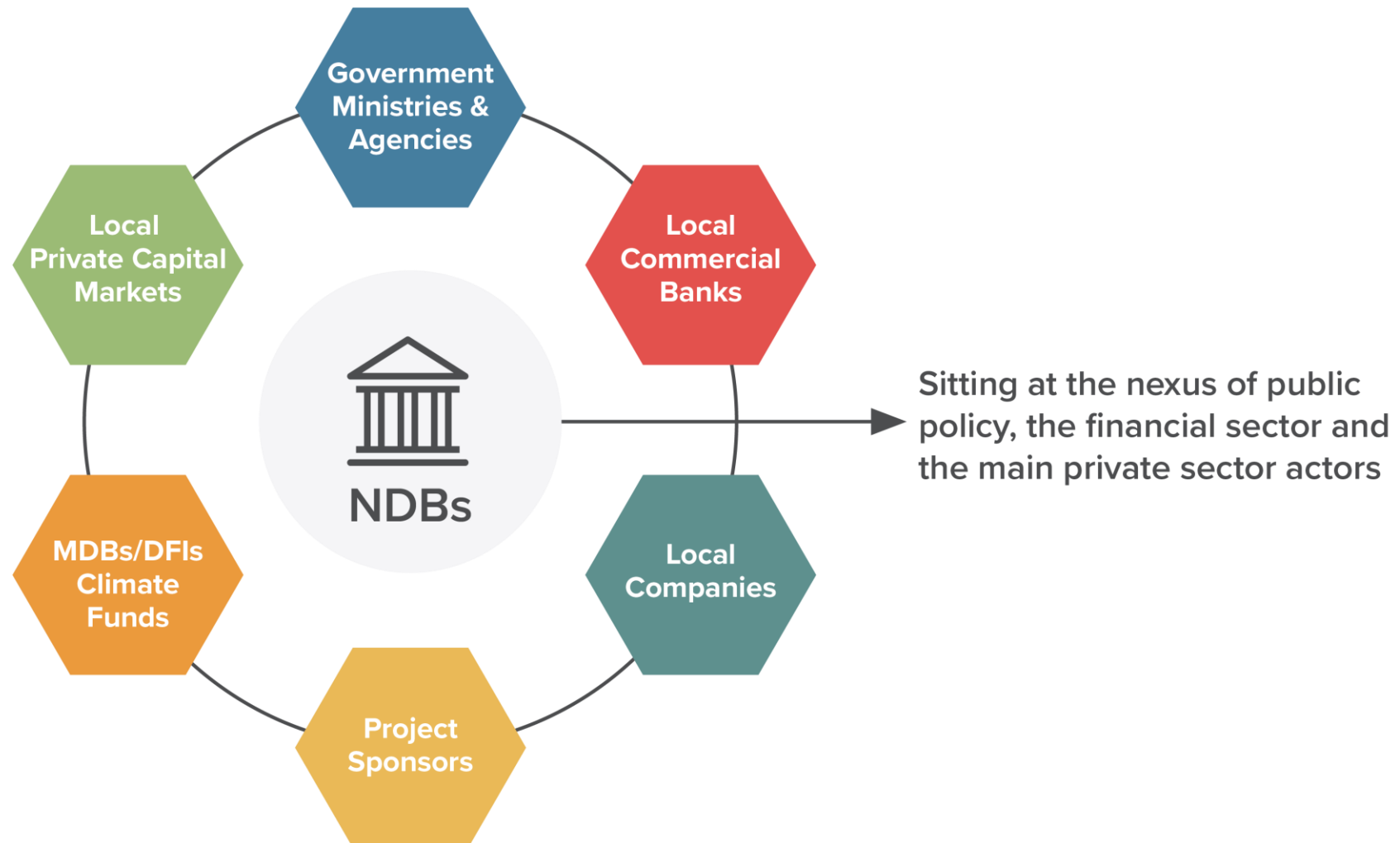
- **Public Development Banks (PDBs)** vary in size, geography, and themes of intervention, but have common attributes, such as:
  - Independent legal status & financial autonomy
  - Execute a public mandate and address market inconsistencies
- PDBs are in a unique and powerful position to play a decisive role in the transition to a low-carbon, climate-resilient economy. It is imperative that the 'right' type of finance is channeled through the 'right' type of institution.
- The universe of PDBs includes multilateral, regional, national and subnational development banks.
  - **Multilateral Development Banks (MDBs)** and **Regional Development Banks** are owned by multiple Member Countries and are focused on development in borrowing member countries.
  - **National Development Banks (NDBs)** are owned by an individual national government (and sometimes with shareholding from other entities such as MDBs or commercial financial institutions) and are focused on economic development in their own countries.
    - **Subnational Development Banks (SDBs)** are a subset of NDBs, with a specific mandate to provide funding and financing to local and regional governments for public services provision and investments in infrastructure projects.

See Annex A for further information on Subnational Development Banks.

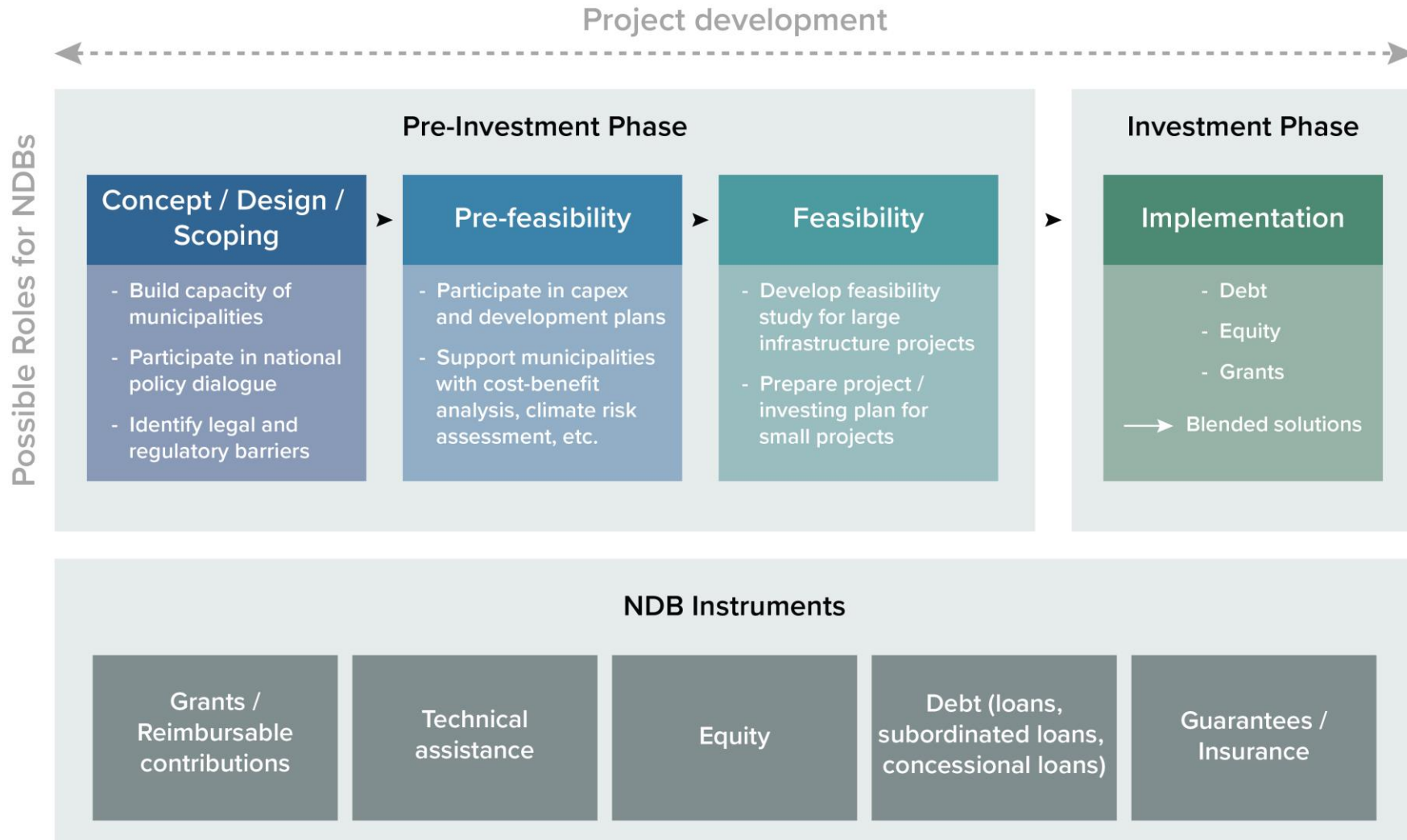
# Only 4% of Public Development Banks are specifically mandated to finance local governments.



# NDBs can be specifically mandated to support the financing of green urban infrastructure, given their position in the eco-system.



# NDBs can play a role in enhancing the support for municipalities to develop and finance the climate-smart infrastructure.



# 03 Key Findings: Cities

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From the demand side of green urban infrastructure financing



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## Common themes from **Cities on the key barriers to accessing financing for climate-smart urban infrastructure from NDBs**

The key barriers, enablers and levers to accessing financing for climate-smart urban infrastructure from NDBs provide the basis for the **City Maturity Model** on page 21.

### Policy, Legal and Regulatory Barriers

- “Short-termism”: The election cycle every ~4 years inhibits Mayors from pursuing long-term infrastructure projects with climate resilient features and benefits that are not visible within their administration.
- Debt limit on city budget (e.g. Fiscal Responsibility Law in Brazil).
- Coordination among ministries as signatories and approval from stakeholders is complex.
- Urban infrastructure projects may receive financing but getting permits/approval to implement the work may take time or get rejected at a later stage.
- Compliance requirements can cause (unwarranted) delays.
- Limited access to eligible financial sources, e.g. cannot borrow from NDBs, only from dedicated SDB.
- City size / sophistication limits financing options and access to PPP solutions.
- Limited authority to collect taxes and fees which implies weak revenue base.
- Limited decision-making power on priority sectors including large urban infrastructure projects.
- Changing national priorities due to Covid-19 pandemic and changes in administration.
- Regulatory constraints restrict a city from issuing green bonds, which limits its access to diverse sources of finance.

## Common themes from **Cities on the key barriers to accessing financing for climate-smart urban infrastructure from NDBs (2)**

The key barriers, enablers and levers to accessing financing for climate-smart urban infrastructure from NDBs provide the basis for the **City Maturity Model** on page 21.

### Institutional barriers

- Lack of understanding of MDBs/NDBs criteria/principles of assessment for projects
- Lack knowledge of climate finance players and objectives of funds that can be channeled through NDBs
- Lack of awareness, communication or relationship with NDBs
- Lack of technical capacity / financial expertise to understand the requirements of NDBs for green infrastructure projects
- Lack of human resources and technical capacity to clearly define project objectives, prioritize projects based on cost benefit analysis, social and environmental impact, climate risk assessments, etc.
- Lack of data collection capabilities
- Competing priorities with basic public services especially in developing countries

### Financial barriers

- Lack of understanding in the financial structuring of infrastructure projects
- Limited financial resources leading to weak creditworthiness
- Cities that are regarded as creditworthy and have greater fiscal capacity can receive better financial terms, interest rates and tenors from MDBs than NDBs. The cost of capital is lower from MDBs and therefore more attractive to the city.

# Common themes from **Cities on the key enablers** for accessing financing of climate-smart urban infrastructure from NDBs

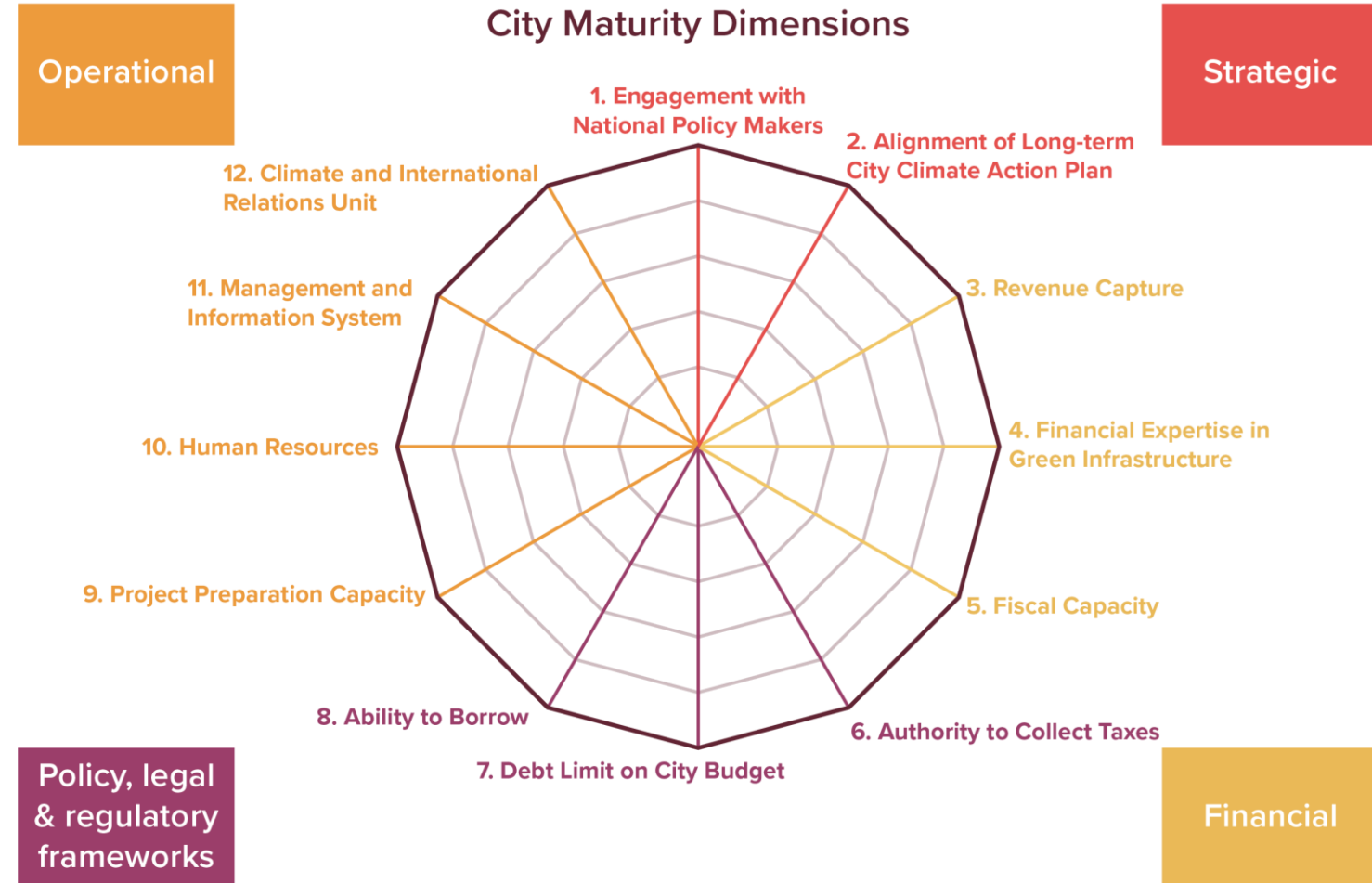
External Enabling Conditions	Policy, Legal and Regulatory	Advocacy with national government	Advocacy and relationship with national policy makers ensures political commitment and support for green urban infrastructure projects
		SDBs & NDBs	As public policy tools specifically mandated to support local governments and are transformative tools to enhance municipal capacity through fiscal decentralization and financial intermediation.
		Government transfer	The national government's transfers to the local government can support the financing of infrastructure projects, particularly those with a limited revenue base.
	Financial and Non-Financial Support	Planning Tools and Resources	Acquiring planning tools and resources to improve capacity to develop projects from conception to financing to prove viability of projects with clear objectives.
		Linkages to financial intermediation	Intermediaries that support in connecting the capacity building and financing needs of municipalities in green infrastructure projects can help narrow the gap.
		De-risking tools	Guarantee programs, equity programs or credit support mechanisms offered by MDBs and NDBs can mobilize private sector investments.
		Technical Assistance for Capacity Building	TA is offered by MDBs/DFIs/NDBs to enhance the capacity of the municipality and strengthen them financially in order to increase their access to finance.
		Project Preparation Facilities	PPFs offered by MDBs/DFIs/NDBs would help municipalities build a pipeline of bankable green infrastructure projects that are ready for financing solutions.

# Key levers within a city's administrative toolkit that can enhance access to finance for climate-smart urban infrastructure from NDBs

Internal Enabling Conditions	Financial	Revenue Stream	Securing the municipality's <b>revenue stream and that of its utilities</b> are key requirements to become eligible for financing, as it will demonstrate the municipality's financial strength and capability.
	Institutional	Corporate Portfolio and Program Management	<ul style="list-style-type: none"> <li>The <b>portfolio and program management</b> ensures strong and complete projects pipeline that have fulfilled all the requirements for an administration to prioritize between eligible projects.</li> </ul>
		Contract, Supply Chain and Enterprise Management	<p><b>Contract management</b> ensures appropriate procurement processes and the highest standards of compliance, oversight, good governance, timely repayment of debt, etc. are adhered to.</p> <p><b>Supply chain management</b> ensures meeting functionality for costs, while complying with legislation and regulations.</p> <p>A robust <b>enterprise management system</b> is required for alignment across functions.</p>
		Partnerships	<ul style="list-style-type: none"> <li>Building fruitful <b>relationships</b> with national governments and Financial Institutions (FIs) is important for advocacy of financing projects.</li> <li>Participating in <b>cities initiatives</b> on climate action and being a member of city networks is crucial for peer-learning, knowledge-sharing and technical support.</li> </ul>

# Developing the **City Maturity Model** based on barriers and enablers identified in interviews and analysis

- In the research and review of the selected municipalities from different regions and of different capacities, common themes have emerged in defining the maturity scale of municipalities to be able to finance to climate-smart urban infrastructure.
- Common parameters and features were identified based on the challenges, enablers and key levers presented (in previous slides), as well as informed by best practices of municipalities financing climate-smart urban infrastructure.
- Based on interviews with five cities, **12 main dimensions** were developed to define - in normative terms - what constitutes a mature municipality's ability to finance climate-smart urban infrastructure.
- Each dimension is explored in detail in the following slides to consolidate the key findings from the interviews.



# City Maturity Model Dimensions Explained – Strategic, Financial

Strategic	1. Engagement with National Policy Makers	Good practice ensures that the city's infrastructure plans are designed through engagement with national policy makers. A top-down approach will garner political will and motivation to implement green urban infrastructure projects.
	2. Alignment of Long-Term City Climate Action Plan	Long-term City Climate Action Plans ensure alignment of projects with national climate goals (and nationally determined contributions). Climate Action Plan Projects would have clear goals, objectives and priorities as well as public support.
Financial	3. Revenue capture	A city's ability to optimize revenue capture from both tax collection and utility management signals financial strength, particularly to financiers and enhances its access to sources of finance.
	4. Financial Expertise in Green Infrastructure	A city's capacity to structure financing for climate-smart infrastructure projects is critical. A city's access to information and knowledge of climate finance players, regionally and internationally, and the objectives and criteria of concessional climate funds enhances their access to diversified sources.
	5. Fiscal Capacity	A city's fiscal capacity and independence determines its access to sources of finance. Cities that are creditworthy, manage finances well and use methodologies that emphasize sustainability and transparency have an enhanced capacity to finance investments in climate-smart infrastructure.



### Financial 3. Revenue Capture

A city's ability to optimize revenue capture from both tax collection and utility management signals financial strength, particularly to financiers and enhances its access to sources of finance.

## Case Study A

### Cape Town, South Africa

The City of Cape Town has optimized the **city's revenue capture system** by enforcing the collection of taxes, particularly through property taxes imposed on registered landowners. Further revenues are generated through utility tariffs, particularly on water which is bought from the federal government and then distributed to citizens. Cape Town ensures that water is metered and, as a result, has successfully captured continued streams of revenue allocated to both the upkeep of water systems and to provide additional forms of funding for the municipal government.

By building and securing these revenue streams while utilizing sophisticated financial and data management systems implemented by in-house teams of experts, Cape Town has demonstrated strong creditworthiness. Cape Town's climate-smart infrastructure projects are able access financing and have received low-cost credit from bilateral DFIs such as KfW and Agence française de développement.

# City Maturity Model Dimensions Explained – Policy, Legal, and Regulatory Frameworks

<b>Policy, Legal &amp; Regulatory Frameworks</b>	<b>6. Authority to Collect Taxes</b>	A city's legal authority over local taxes gives it power and responsibility to collect and follow up on payments to build strong revenue.
	<b>7. Debt Limit on City Budget</b>	The debt capacity within a city's balance sheet is large enough to accommodate the large cost of financing climate-smart urban infrastructure.
	<b>8. Ability to Borrow</b>	A city's ability to borrow from diverse sources of finance gives it access to climate funds, NDBs and others. A city's ability to borrow is also determined by its creditworthiness.





## Policy, legal and regulatory frameworks

### 8. Ability to Borrow

A city's ability to borrow from diverse sources of finance gives it access to climate funds, NDBs and others. A city's ability to borrow is also determined by its creditworthiness.

## Case Study B

### Chefchaouen, Morocco

The City of Chefchaouen funds most of its infrastructure projects through national government transfers and local contributions, as it is limited in its ability to borrow from other sources. The Subnational Development Bank in Morocco, Fonds d'Equipement Communal (FEC) or the Municipal Equipment Fund, is the only financial entity from which municipalities can borrow. Since FEC provides financial and non-financial support to all eligible municipalities in Morocco and acts as an intermediary to channel funds from the national government and international sources of finance, this places a strain on the capacity of FEC to cater to the needs of different municipalities.

Additionally, Chefchaouen does not have the legal authority to collect local taxes, which is the responsibility of the national government. With a limited city budget, municipalities become largely dependent on the national government for the financing climate-smart urban infrastructure. To build a stronger revenue stream, municipalities such as Chefchaouen can work on advocacy along with FEC, Subnational Development Bank associations and coalition of municipalities to encourage fiscal decentralization.

## City Maturity Model Dimensions Explained – Operational

Operational	<b>9. Project Preparation Capacity</b>	A city's project preparation capacity and access to tools and support for pre-feasibility studies, cost-benefit analysis, environmental, climate and social impact assessments strengthens their project pipeline, enables prioritization and access to finance.
	<b>10. Human Resources</b>	A city's current staff are adequately qualified in green urban infrastructure planning and financing. The city has the ability to hire qualified staff to ensure the long-term success of project implementation and maintenance.
	<b>11. Management Information System</b>	Long-term capital plans and tracking the development of projects builds an immunization against the changing priorities of different administrations.
	<b>12. Climate and International Relations Units</b>	A city with a climate unit and international relations personnel has the capacity to dedicate resources to research, peer knowledge exchange on cities climate networks and outreach for partnerships and relationship building with international climate finance players.



## Operational

### 12. Climate and International Relations Units

A city with a climate unit and international relations personnel has the capacity to dedicate resources to research, peer knowledge exchange on cities climate networks and outreach for partnerships and relationship building with international climate finance players.

## Case Study C

### Belo Horizonte, Brazil

The City of Belo Horizonte has an **International Relations (IR) division**, with strong leadership, which is aimed at implementing an important strategy that supports the city's outreach efforts.

The International Relations division maps out over 150 international institutions to monitor the resources available and matches them with the various city hall needs. The division's directors are responsible for dialogue and external communication to bridge the gaps.

Based on the research and findings on the available international community tools and resources, the team can then prioritize and adapt city infrastructure projects to meet the standards and requirements that will enable their access to financial and non-financial support. The IR team then submits the eligible projects to the different development finance institutions. Belo Horizonte was among the 6 finalists in the SmartCity Expo, an achievement they attributed to planning and utilizing tools and data to climate-smart urban infrastructure.

The IR team also underscores the importance of learning from best practices from cities around the world and encourages dialogue for innovative solutions among different stakeholders to overcome traditional barriers to city climate-smart infrastructure financing.

The IR division demonstrates the importance of having resources dedicated at the city level to engage in outreach with local, national, regional and international climate finance players and remain updated with the latest trends.

# 04 Key Findings: National Development Banks

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From the supply side of green urban infrastructure financing

# Common themes from NDBs on the key barriers to financing climate-smart urban infrastructure

The NDB maturity model expands on each of these barriers by transforming them into dimensions that the NDB can address on a strategic, financial, business or operational level.

## Policy, Legal and Regulatory Barriers

- Legal structure can limit the flexibility and ability of the NDB to take higher risks
- Unspecific / broad mandate can hinder the NDB's focus and prioritization of climate-smart infrastructure projects
- Fragmented policies and lack of coordination at the national and sub-national level can interrupt project design and implementation

## Institutional Barriers

- Lack of resources and sectoral expertise in climate infrastructure financing to identify and structure projects
- Lack of bankable projects pipeline or capacity to support municipalities with designing, developing and implementing climate-smart infrastructure projects
- Weak internal capacity to support municipalities through TA or PPF

## Financial Barriers

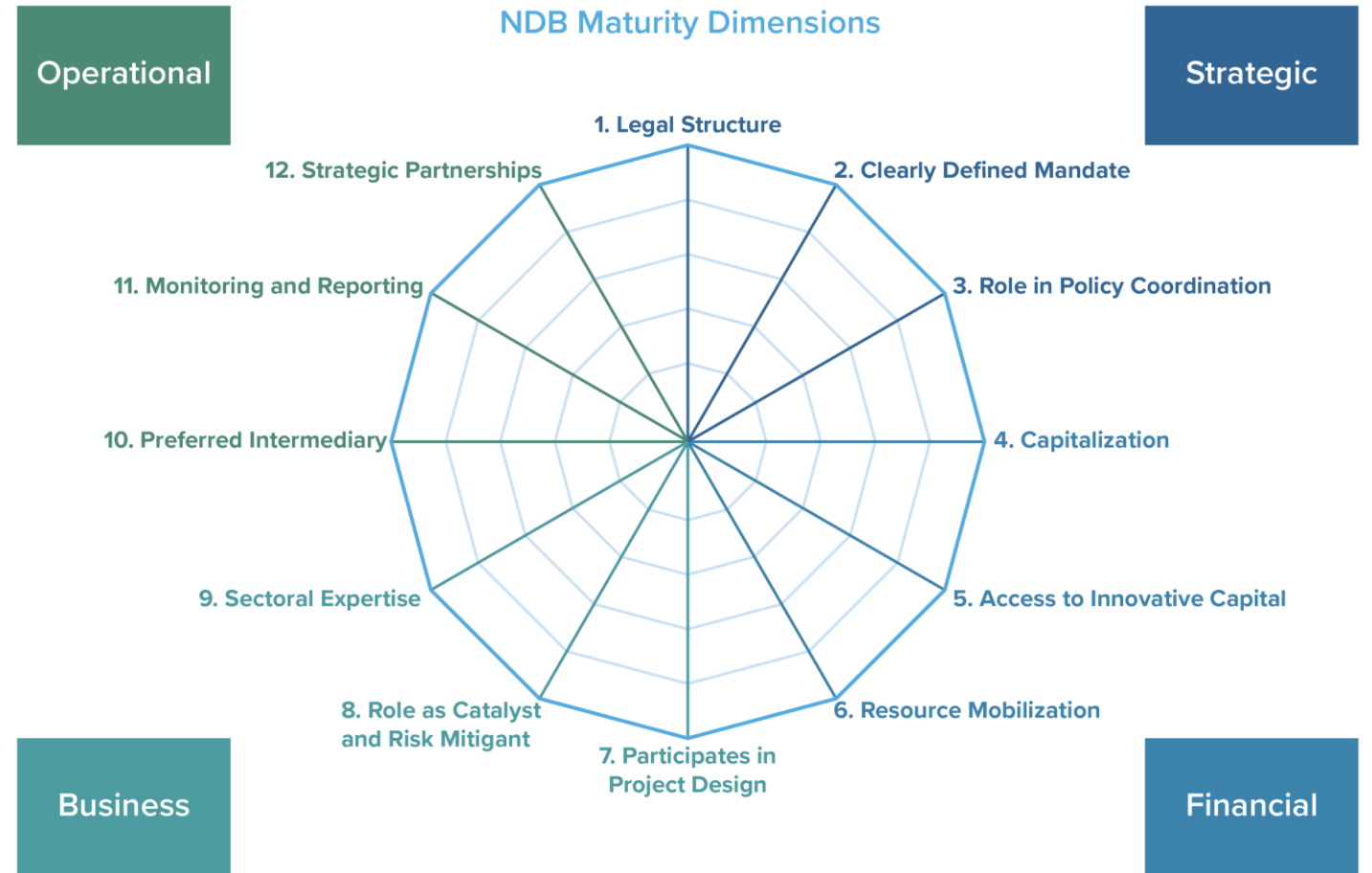
- Insufficient capitalization can impede on ability to finance green infrastructure projects with upfront capital requirements
- Lack of access to international funds and dedicated resource mobilization to match needs of green infrastructure projects with financing
- Weak fiscal capacity
- Limited access innovative capital or de-risk instruments to finance climate-smart urban infrastructure projects

## Common themes from NDBs on the key enablers to financing climate-smart urban infrastructure

Enablers	<b>Bankable Infrastructure Projects Pipeline Platforms</b>	NDBs are creating platforms to pool bankable infrastructure projects to attract private sector investments.
	<b>Capacity Building</b>	NDBs are helping local governments in capacity building to enhance their access to diverse sources of finance.
	<b>Dedicated Fund</b>	NDBs have funds dedicated to sustainable infrastructure projects which helps NDBs prioritize the resources for this sector.
	<b>Resource Mobilization</b>	NDBs have a dedicated unit or staff that mobilize resources from donors to the specific needs of local governments and infrastructure projects (PPF & TA).
	<b>International Climate Funds' Accreditation</b>	Climate fund accreditation enhances the capacity of NDBs to support green infrastructure projects.
	<b>Green / Sustainable Bonds</b>	NDBs that issue green bonds can support green urban infrastructure projects.

# Developing the **NDB Maturity Model** based on barriers and enablers identified in interviews and analysis

- In the research and review of the NDBs that finance infrastructure and/or municipalities from different regions and of different capacities, common themes have emerged in shaping the maturity scale of NDBs to be able to provide financing to climate-smart urban infrastructure.
- While it is recognized that no two NDBs are alike, there are common parameters and features of the overall system that can be compared.
- Based on interviews with 10 Development Banks, **12 main dimensions** were developed to define - in normative terms - what constitutes a mature NDB's ability to finance climate-smart urban infrastructure.
- Each dimension is explored in detail to consolidate the key findings from the interviews.



# The Maturity Dimensions for NDBs in Financing Climate-Smart Urban Infrastructure

Parameters	Dimensions
Strategic	<ol style="list-style-type: none"> <li>1. The Bank's <b>legal structure</b> is established in an Act or specific legislation</li> <li>2. The Bank has a <b>clearly defined mandate</b> to support green infrastructure as well as local governments.</li> <li>3. The Bank has a <b>strategic policy role</b> with a seat at the policy table, plays a convening role in developing a green urban infrastructure strategy, coordinates among ministries, provides policy recommendations and supports in the operationalization of the project.</li> </ol>
Financial	<ol style="list-style-type: none"> <li>4. The Bank's <b>size of equity</b> is sufficient to support climate smart urban infrastructure deals.</li> <li>5. The Bank has <b>access to innovative capital sources</b> to fund a range of green infrastructure projects.</li> <li>6. The Bank has a <b>devoted resource mobilization unit</b> to <b>access blended finance or grant funds</b> from international DFIs.</li> </ol>
Business	<ol style="list-style-type: none"> <li>7. The Bank <b>participates in project design</b> for green urban infrastructure at the national level or at the origination phase.</li> <li>8. The Bank acts as a <b>catalyst and de-risking instrument</b> to facilitate bankable infrastructure projects using various forms of guarantees, project preparation facilities and technical assistance to support municipalities.</li> <li>9. The Bank has the <b>sectoral expertise</b> of climate smart urban infrastructure financing.</li> </ol>
Operational	<ol style="list-style-type: none"> <li>10. The Bank is the <b>preferred intermediary</b> for international climate funds.</li> <li>11. The Bank <b>sets indicators to monitor and report</b> on green urban infrastructure transactions.</li> <li>12. The Bank has <b>strategic partnerships</b> with diverse sources of finance to channel funds to green infrastructure projects.</li> </ol>



# 1. The **legal structure** of an NDB can impede or strengthen its role in supporting high risk climate infrastructure projects.

- The legal structure of an NDB will determine whether:
  - the NDB faces **regulatory obligations** which limits its flexibility in operations.
  - the NDBs has **financial restrictions** which infringes its ability to take **higher risk**.
- An example is if an NDB is established as a **limited liability company**, rather than being established under a statutory act.
- Those NDBs, which must follow the same regulations as commercial banks and other FIs, face limitations to **their ability to deliver on their development mandate**.
- As a result, the NDB may not be able to **support certain high-risk sectors** in climate-smart technologies/infrastructure.

ABOUT PT SMI:		
<b>2009</b> Year founded	<b>\$5,134</b> mn USD of Assets	<b>\$2,496</b> mn USD equity

## Case Study 1 PT SMI (Indonesia)



PT Sarana Multi Infrastruktur (Persero) (PT SMI) was established as a limited liability company (LLC). It is bound by the same regulations as other financial institutions in Indonesia while also treated as a 100% state owned enterprise.

PT SMI follows the regulation of Financial Service Authority (FSA) as a infrastructure financing agency and is categorized as a non-bank financial institution (NBFI) and does not take third party deposit.

Having a statutory arrangement as an NBFI allows PT SMI flexibility to take risk and provide longer tenors, which are needed for transactions such as climate-smart infrastructure and technologies. This enhances the Bank's ability to deliver on their development mandate..

## 2. Few NDBs are **mandated** to finance green infrastructure; even fewer have a focus on municipalities.

- Some NDBs have a **broad mandate** to support infrastructure and may not focus on increasing their climate-smart infrastructure portfolio.
- Several national/federal governments have expanded the role of the NDB and the eligible sectors that they can finance. This causes **lack of focus and ambiguity** over which sectors are a priority for the Bank.
- NDBs with a **specific mandate** to finance sustainable infrastructure and work with local governments have a **strategic and well coordinated** approach that is aligned with the national plans.
- Large infrastructure projects often fall under federal jurisdiction and NDBs are asked only to support in **operationalizing or partially funding** the project / structuring the PPP.

### ABOUT NADB:

**1994**

Year founded

**\$1,959**

mn USD of Assets

**\$653**

mn USD equity



### Case Study 2

## NADB's Green Mandate (Mexico-USA)

The North American Development Bank's (NADB) mandate defines "green" infrastructure projects as its primary focus.

The mandate supports infrastructure projects that are aligned with the climate-oriented development goals of the US-Mexico border regions through financing and technical assistance. All projects require sign-off from the Chief Environmental Officer.

NADB's mandate is unique among the development banks researched in that it is the only NDB with a green mandate.

With a mandate that targets financial and non-financial support for climate-smart infrastructure, NADB's resources are efficiently allocated to develop self-sustaining green infrastructure projects with positive social, environmental and economic impacts.

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### 3. There is a **lack of coordination** among ministries and **national policies are fragmented** which NDBs can help address.

- National policy frameworks on green urban infrastructure is fragmented in some countries and policies on climate change, energy and public infrastructure are **inconsistent** and lack clarity for NDBs. There is **no clear direction or coordination among ministries** on climate-smart urban infrastructure projects which happen **transactionally on an ad hoc basis**. This results in a lack of strategic focus and inhibits the prioritization of such projects.
- Some NDBs play a leadership role in **delivering climate objectives** and can support in investment decisions that lead to the implementation of projects that help achieve the Nationally Determined Contributions.
- **Aligning with the SDGs** helps NDBs achieve climate-smart urban infrastructure goals.
- NDBs have the **capacity** to play a key role in **policy discussions**.
- NDBs that leverage their position sitting at the nexus of the financial sector and public policy can **add value to policy formulation**.

### 3. There is a **lack of coordination** among ministries and **national policies are fragmented** which NDBs can help address.

#### Case Study 3

#### HBOR (Croatia) – Policy Coordination



National level policy coordination is key to the Croatian Bank for Reconstruction and Development's (HBOR) strategic focus and the Bank fosters strong cooperation with relevant ministries and government bodies, as a key institution for the utilization of national funds for climate-smart initiatives.

HBOR's Supervisory Board consists of six ministers in the Government of Croatia, three members of Parliament, and the President of the Croatian Chamber of Commerce. The Board facilitates coordination and communication between HBOR and Croatian institutions regarding climate finance policy development. Meanwhile, HBOR informs policy decisions within the ministries regarding the management of financial instruments.

Through cooperation with relevant ministries, HBOR has developed financial support instruments for green projects and models of investment platforms. One such program is the ESIF Loans for Energy Efficiency in Public Sector Buildings, implemented thanks to participation between HBOR, the Ministry of Regional Development and EU Funds, and the Ministry of Construction and Physical Planning. This financial instrument facilitates investments in energy efficiency and encourages the use of renewable energy resources in public sector buildings.

#### ABOUT HBOR:

**1992**

Year founded

**\$4,231**

mn USD of Assets

**\$1,642**

mn USD equity

## 4. The size of NDB capitalization matters, as green infrastructure is capital intensive.

- Infrastructure projects are generally **capital intensive**.
- The NDB's **capitalization** and balance sheet size will need to be large enough to support large scale projects.
- Climate-smart infrastructure has **additional costs** associated with it due to new technologies in the market.
- NDBs may lack experience in assessing and investing in **new climate-smart technologies** on the market.
- NDBs need to have the capacity to **access large amounts of grants** and capital from international donor and climate funds through partnerships to leverage their own equity.

ABOUT BANOBRAS:		
<b>1933</b> Year founded	<b>\$44,533</b> mn USD of Assets	<b>\$3,122</b> mn USD equity

### Case Study 4

#### Banobras (Mexico)



As part of the risk management process, Banobras has a capital adequacy framework to promote the soundness and stability of the institution. The capital requirement is associated with credit, market, and operational risks and is determined monthly.

Banobras, like most Mexican NDBs, is well capitalized. While most NDBs are above 11% in the rate of capitalization index, Banobras is at 18%. Therefore, the size of capital is sufficient for large costs of planning, financing, and implementation of climate-smart urban infrastructure projects.

During 2018, there was an increase of 152 base points in ICAP from 16.99% at the end of December 2017 to 18.51% at the end of 2018, mainly due to the 13.3% increase in the bank's net capital, which went from 49,067.8 million pesos to 55,603.5 million pesos. The above is derived from the increase in net income of the period.

Banobras integrated an analysis of capital sufficiency, to guarantee that even under stress scenarios the Bank's capitalization index is above the minimum level indicated in the regulation.

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## 5. Some NDBs issue **green bonds** to finance climate infrastructure projects.

- NDBs can issue green bonds to finance green urban infrastructure projects.
- Green bonds are used to finance specific infrastructure projects that meet pre-defined standards that are “green”, notably urban infrastructure projects using technologies with low GHG emissions.
- Issuing green bonds can provide numerous benefits:
  - accessing dedicated pools of capital from institutional investors
  - access to funding in various currencies;
  - economies of scale / aggregate of multiple projects;
  - relatively low and fixed interest rates; and
  - longer repayment terms.
- Green bonds are thus an innovative form of finance for NDBs and their clients.
- Green bonds can be used to re-finance climate-smart urban infrastructure transactions already on the NDB's green portfolio, by providing additional financial capacity.

## 5. Some NDBs issue **green bonds** to finance climate infrastructure projects.

### Case Study 5

#### NADB's Green Bonds Issuance



The North American Development Bank (NADB) issued its first Green Bond in the amount of USD 126.4m in 2018. The Green Bond supports projects in the US-Mexico border region which contribute to climate change mitigation, climate change adaptation, natural resource conservation, biodiversity conservation, and pollution prevention and control.

The current Green Bond portfolio of renewable projects includes solar parks and wind farms, with total installed capacity of 1,118 MW, reducing some 1.5m tons of CO<sub>2</sub> per year, and providing clean energy for 1.6m people or 438,201 households.

An example of a project supported by the NADB Green Bond is the Puerto Libertad Solar Park, located in the town of Pitiquito in the Mexican state of Sonora. A town with a population of 9,236 and an economy consisting primarily of agriculture, livestock, and fishing, NADB's Green Bond has provided USD 32.99m to help design, build, and operate the Puerto Libertad Solar Park in Pitiquito.

In addition to NADB's Green Bond, the solar park was developed through partnerships and financing from public and private Mexican entities. The project has a total installed capacity of 317.5 MW and will promote the social and economic development of Pitiquito by generating approximately 500 temporary jobs and close to 50 permanent jobs during operation.

#### ABOUT NADB:

**1994**

Year founded

**\$1,959**

mn USD of Assets

**\$653**

mn USD equity

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## 6. NDBs play a key role in mobilizing resources for infrastructure projects

- Some NDBs have a **dedicated unit to mobilize external funding resources**.
- The unit is responsible for accessing **grants for TA or PPFs**.
- The funds raised can be specific to projects or creating a general pool of resources to deploy into projects. Funds can be used for loans to finance municipal projects based on **matching local government needs with donors' funds**.
- NDBs can have a **special pool of funds** for infrastructure projects.
- One approach is to directly intermediate donor's capital with the **NDB selecting the projects to finance** and reporting to the donor.



## 6. NDBs play a key role in mobilizing resources for infrastructure projects

### Case Study 6

#### PT SMI (Indonesia) – SDG One Indonesia



Municipal capacity limitations, low-risk appetite of investors, high transactional costs, and financing gaps for urban infrastructure projects act as major barriers to the implementation of climate-smart infrastructure projects. To address these barriers, Indonesia's PT Sarana Multi Infrastruktur (Persero) (PT SMI) and the Indonesian Ministry of Finance created SDG Indonesia One.

SDG Indonesia One is an integrated project funding platform which combines public and private funds through a blended financing scheme to develop, finance, and implement SDG oriented Indonesian infrastructure projects.

The platform promotes four primary services to attain these goals: Development Facilities, De-Risking Facilities, Financing Facilities, and an Equity Fund. These services consolidate and standardize technical assistance and risk mitigation, improves the consistency of Indonesia's climate-smart infrastructure project pipeline, ensures steady and varied funding, and ultimately increases the implementation of bankable SDG compliant projects.

SDG Indonesia One reduces transactional costs between DFIs, commercial entities, municipalities, and higher levels of government by merging stakeholder interests into a singular forum, enabling a multitude of project and financing opportunities for stakeholders. SDG Indonesia One is an important step by Indonesia to address its climate-smart infrastructure needs.

#### ABOUT PT SMI:

**2009**

Year founded

**\$5,134**

mn USD of Assets

**\$2,496**

mn USD equity

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## 7. There is a structural gap in project design.

- There is a **gap** between the municipalities wish list of infrastructure projects that are aligned to the national development plan and the NDB's capacity to help design projects and structure financial arrangements.
- However, often NDBs are not involved at the **project design of climate infrastructure projects**, but then are asked to execute and operationalize the project.
- NDBs can **provide advisory services, TA for pre-feasibility studies, and feasibility studies**.
- Once bankability has been established, NDBs have the capacity to contribute to **structuring financial arrangements** and leveraging partnerships for PPP.
- **NDB's financial structuring** can improve the quality of the proposal and help to mobilize private sector financing.
- Another approach is the **donor-executed model**. The donor procures consultants, but the NDB proposes projects that can be supported by them.

## 7. There is a structural gap in project design.

### Case Study 7

#### Findeter (Colombia) – Sustainable and Competitive Cities



The Sustainable and Competitive Cities is a Platform led by IDB and Findeter which promotes strategic projects aimed at transforming intermediate cities through project design and planning to improve citizen quality of life. Findeter offers a holistic approach that takes sustainable infrastructure ideas of municipalities through every stage of the project lifecycle from conception to financing and implementation.

To make the Platform self-sustainable, Findeter is increasingly considering charging municipalities for project planning and preparation support. Meanwhile, Findeter supports its National Government in conducting pre-contractual and contractual processes as well as the monitoring of the implementation of social and sustainable infrastructure programs through its technical assistance program.

Additionally, under KfW's Municipal Environmental Protection Program, Findeter obtained non-refundable contributions worth EUR €910,000. These resources seek to enhance internal capacities and strengthen Findeter's Environmental and Social Risk Analysis System.

Through the Program, Findeter can assist municipalities in financing feasibility studies for eligible projects and create mechanisms to verify compliance with the technical and environmental requirements of projects that are financed under the credit line for Water, Basic Sanitation and Solid Waste Management.

#### ABOUT FINDETER:

**1989**

Year founded

**\$2,754**

mn USD of Assets

**\$329**

mn USD equity

## 8. Catalyzing private sector capital by **de-risking green urban infrastructure projects.**

- Mobilizing private sector capital through incentives that exist from pool of resources.
- NDBs use blended finance to reduce interest rates for green projects.

### ABOUT DBSA:

<b>1983</b> Year founded	<b>\$6,298</b> mn USD of Assets	<b>\$2,254</b> mn USD equity
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### Case Study 8

## DBSA (Southern Africa) – Embedded Generation Investment Programme



To foster innovation and spur the generation of renewable energy projects, the Development Bank of Southern Africa (DBSA) has turned to the GCF to de-risk and mobilize investments by Independent Power Producers (IPP) and local government entities in renewable energy projects.

The programme, titled the Embedded Generation Investment Programme (EGIP), is a credit support mechanism supporting non-sovereign backed Power Purchase Agreements for renewable energy projects in South Africa.

The Programme contains two components:

1. First, EGIP provides credit support to private sector solar and wind IPPs established as special purpose vehicles (SPV) backed by non-sovereign off-takers to enhance the bankability of renewable energy projects.
2. Second, EGIP provides credit support to SPVs which are owned by Local Community Trusts and/or, Small, Medium and Micro-sized enterprises to support their obtaining and managing equity ownership in local renewable energy sub-projects.

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## 9. NDBs may **lack** green urban infrastructure structuring and financing **capacity and experience**.

- The climate-smart infrastructure sector requires **specific** expertise that some NDBs lack.
- Some NDBs have **dedicated teams/units/departments** for infrastructure financing.
- Some NDBs are designing a **knowledge-sharing platform** to share best practices in the industry and **engage with peers** and attract private sector investment.
- Some NDBs naturally focus on **deals that are less complex** than climate-smart urban infrastructure, which often involves a range of new risks such as performance of new technologies.

## 9. NDBs may **lack** green urban infrastructure structuring and financing **capacity and experience**.

### Case Study 9A

#### **Banobras (Mexico) – Mexico Projects Hub (Proyectos México)**



In 2017, Banobras and the National Government created the Mexico Projects Platform, an online platform that consolidates, standardizes, and promotes official infrastructure project profiles, linking projects with investors and encouraging long term financing.

Furthermore, the platform hosts a knowledge hub promoting best practices to facilitate project execution, provides direct assistance for investor questions, and requests follow-up on investment projects to learn from stakeholder experiences in the platform.

Information on the platform is consistently updated based on communication with official sources, which is then provided to stakeholders through the platform's registration program. The platform advances the visibility of projects sponsored by government entities; establishes transparency regarding projects' performance and presents comparability in opportunities.

In 2018 alone, 34 sources of official project information and 11 sources of cross-sectional information made it possible to present more than 700 investment opportunities between new projects, active-projects, and vehicles listed on the two stock exchanges in Mexico. The hub is visited by 40,000 users per month on average.

To see example of projects, see Annex E.

#### ABOUT BANOBRAS:

**1933**

Year founded

**\$44,533**

mn USD of Assets

**\$3,122**

mn USD equity

## 9. NDBs may **lack** green urban infrastructure structuring and financing **capacity and experience**.

### Case Study 9B

#### NADB (Mexico-USA) – Utility Management Institute



As part of a multifaceted effort to address water utility mismanagement and inadequate water infrastructure in the US-Mexico border region, NADB created a technical assistance program called the Utility Management Institute, or UMI.

UMI connects and trains water utility professionals from the US-Mexico border region to upgrade cross-border water utility management while sharing best practices for application to varying local contexts. Attendees of UMI are instructed in capacity building measures that improve planning, design and implementation of utilities, financial planning and administration, and utility leadership.

UMI emphasizes the importance of climate-smart water and wastewater infrastructure, working under the NADB mandate of funding infrastructure. Many attendees have applied their UMI training to establish successful water utilities that improve water facilities while increasing municipal revenue capture.

Additionally, the enhanced capacity ensures a more consistent green-infrastructure project pipeline for NADB, fulfilling the mandate of NADB and increasing climate-smart infrastructure throughout the region.

#### ABOUT NADB:

**1994**

Year founded

**\$1,959**

mn USD of Assets

**\$653**

mn USD equity

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## 10. International Climate Fund **accreditation** enhances NDBs' ability to support the financing of green urban infrastructures.

- Some NDBs have achieved **International Climate Fund Accreditation** and are the preferred intermediaries for climate funds in their countries.
- Others are in the process of **applying for accreditation** and this process is regarded as a main goal.
- Green Climate Fund (GCF) accreditation may be complex but it can help improve the governance around climate projects and have positive reputational effects. The accreditation process assesses entities' policies and procedures, tracks records and the capacity of the NDB to manage resources in line with GCF fiduciary standards, as well as their ability to manage environmental and social risks that may arise at the project level. Achieving such accreditation would enhance an NDB's access to diverse sources of finance and be the preferred intermediary channel in its country from international climate funds, meanwhile receiving TA to de-risk investments and allow the NDB to invest and support climate-smart urban infrastructure.
- GCF accreditation also pushes NDBs to improve their environmental, social, and financial policies (CPI 2019).



## 10. International Climate Fund **accreditation** enhances NDBs' ability to support the financing of green urban infrastructures.

### Case Study 10

#### Findeter (Colombia) – GCF Accreditation



Findeter works closely with the National Planning Department (DNP) in formulating a national strategy and while ensuring it meets the obligations set out by the Green Growth policy.

Findeter has positioned itself as a partner for international development organizations and has successfully acquired additional resources to build capacity and enhance its support for cities and municipalities in Colombia. For example, Findeter is a Green Climate Fund (GCF) accredited institution, which has opened new possibilities for access to credit resources and international technical assistance.

The GCF accreditation enabled Findeter to source external consulting services to develop, structure and formulate the Nationally Appropriate Mitigation Action (NAMA) for Municipal Solid Waste. Findeter signed an agreement with the United Nations Office for Project Services (UNOPS) for USD \$310,000 for a non-refundable technical cooperation to support the implementation of the NAMA Solid Waste Project.

This project is closely aligned with the interest of the National Government, particularly in enhancing their knowledge in the structuring of the economic models under which those specific prototypes are made.

#### ABOUT FINDETER:

**1989**

Year founded

**\$2,754**

mn USD of Assets

**\$329**

mn USD equity

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## 11. Most NDBs do not **report** the breakdown of their exposures to local government and green infrastructure financing.

- NDBs' Annual Reports do not present a **breakdown of their exposure** by green infrastructure or municipal financed transactions.
- **Transparency** of the climate-smart urban projects financed can enhance the NDBs' ability to further access climate funds which it may channel to local governments.
- Some NDBs report on **impact** e.g. the amount of carbon emission reductions in financed projects.
- Others report on specific **climate mitigation and adaptation projects**.
- There is a **lack of consistent climate-smart investment outcomes** which make it difficult to monitor and track projects focused on resilience.

# 11. Most NDBs do not report the breakdown of their exposures to local government and green infrastructure financing.

## Case Study 11

### BDMG (Brazil) – Monitoring and reporting on the Impact of Climate-Smart Infrastructure projects.



The Banco de Desenvolvimento de Minas Gerais (BDMG) has made significant efforts to track, study, and report data concerning the impact of infrastructure projects which have or will potentially receive BDMG financing. In 2019, BDMG and IDB signed an agreement through which IDB and supporting consulting firms evaluated and reviewed BDMG's portfolio, project selection, resource allocation, and management of SDG related bonds to restructure BDMG's SDG Bond issuance.

Using results from this review, IDB will help BDMG build a methodology for calculating socio-environmental benefits and create an automated SDG tagging system that ensures BDMG's SDG bonds will be issued according to best practice monitoring and evaluation. To ensure the system is successful, IDB will monitor implementation.

Meanwhile, IDB is further supporting BDMG's monitoring systems by developing a Carbon Calculator which calculates the carbon dioxide and greenhouse gas emissions of BDMG projects. The partnership has created maps of relevant data from BDMG projects and suggested possible indicators, while the project's calculation tools regarding renewable energy generation, energy efficiency, transport, and sanitation have yet to be developed.

Once created, BDMG will host an impressive monitoring and tracking system that utilizes SDG and green-oriented data to implement future climate-smart infrastructure projects.

#### ABOUT BDMG:

**1962**

Year founded

**\$1,248**

mn USD of Assets

**\$352**

mn USD equity

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## 12. NDBs can foster **strategic partnerships** to link local, national, and international stakeholders.

- Municipalities are heterogeneous in size, financing needs, and capacity.
- NDBs are in an appropriate position to leverage their strategic partnerships with Multilateral Development Banks and climate funds, as they understand the **local governments' needs** and can match them with the **requirements of MDBs/DFIs**.
- Relationships with the different line ministries and other relevant stakeholders can support in advocating for policies and overcoming regulatory barriers that municipalities face.
- Knowledge exchange platforms with peer institutions or international organizations focused on green urban infrastructure share experiences and best practices.
- Information exchange and data collection with stakeholders help prioritize climate-smart urban infrastructure needs and technologies that are human centered.

## 12. NDBs can foster **strategic partnerships** to link local, national, and international stakeholders.

### Case Study 12

#### IIFCL (India) – PMDO and ESMU



India Infrastructure Finance Company Limited (IIFCL) is an active organizer and facilitator for partnerships amongst both private and public actors, enabling PPPs access to resources and financing in the climate-smart infrastructure sphere, exemplified in the Pooled Municipal Debt Obligations Facility (PMDO).

The PMDO represents a partnership between the Indian institutions of IIFCL, IL&FS, IDBI Bank and Canara Bank to finance urban infrastructure projects on a PPP basis. The projects include development of common infrastructure for SMEs, solid waste management, power generation, wastewater treatment and other urban infrastructure facilities such as city bus transport, etc.

The PMDO facility is instrumental for structuring the acquirement of resources for projects in a bankable format and providing credit to set-up mandated projects at reasonable rate of interest.

IIFCL has also utilized international partnerships to grow its capacity and financial capabilities when engaged in environmentally conscious infrastructure projects. Through partnerships with major DFIs such as ADB, KfW, EIB, and JICA, IIFCL has secured lines of credit and received technical assistance predicated on IIFCL's environmental and social safeguard framework targeting the development of climate-smart and climate-friendly infrastructure.

IIFCL's international partnerships have catalyzed innovations in IIFCL safeguard policies resulting in the formation of IIFCL's award winning Environment and Social Safeguard Management Unit (ESMU).

#### ABOUT IIFCL:

**2006**

Year founded

**\$5,889**

mn USD of Assets

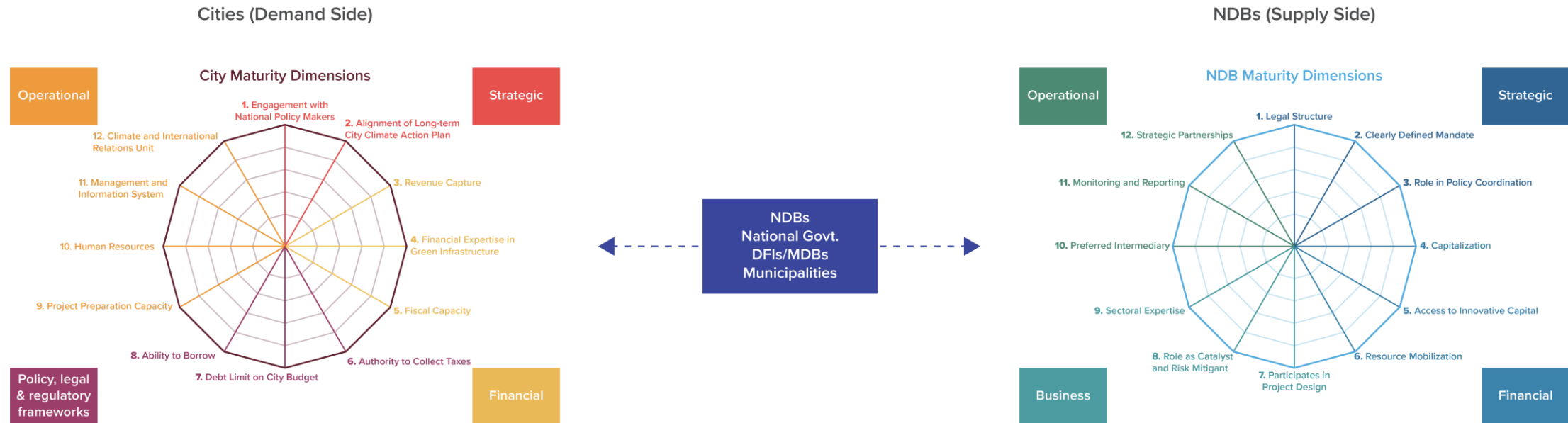
**\$634**

mn USD equity

# **05 Conclusion and Recommendations**

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# Linking the demand and supply side barriers of climate-smart urban infrastructure financing to actionable opportunities



- Cities and NDBs face several barriers which can be addressed by different stakeholder groups. In other words, overcoming these barriers is not solely in the purview of NDBs or cities.
- The Maturity Dimensions (above) represent areas of opportunities key stakeholders can take to scale up NDB financing for climate-smart urban infrastructure.
- Each key stakeholder identified below can play a role individually and collaboratively in bridging the gap in financing green urban infrastructure.

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## Synthesizing demand for financing of climate-smart urban infrastructure projects and prioritizing actions for NDBs

- The analysis in this knowledge product aims to link the challenges and opportunities faced by cities and NDBs in financing climate-smart urban infrastructure.
- Mature cities that meet most of the criteria of each of the 12 dimensions (e.g. Cape Town or Curitiba) can access finance from international capital markets and the bond market at a less expensive cost than what would be available from their NDB.
- **The focus and priority of NDBs should be placed on supporting and financing cities where funding and capacity are limited, but where a drive to advance climate action exists. The NDB can play a significant role in filling the technical and financial gaps that prevent cities from raising capital from markets or other forces.** These cities may have demonstrated ambitious Climate Action Plan but require technical assistance and financial support. Other cities may have leveraged project preparation facilities, engaged with city climate networks and utilized planning resources to prioritize climate-sensitive sectors and clearly present their project objectives and impact. NDBs can enhance their internal capacity to cater to the heterogenous infrastructure project needs of the cities they finance through identifying the barriers cities face on a legal/regulatory/policy, institutional, financial or operational level.
- NDB's maturity in financing climate-smart urban infrastructure can be measured against the 12 defined dimensions. **NDBs that score highly on the Strategic dimension (legal structure, clearly defined mandate and role in policy coordination) should prioritize financing for climate-smart urban infrastructure.**
- NDBs can enhance their support for urban green infrastructure projects at various stages of the infrastructure project development. NDBs can play a strategic role at the policy level; provide the right financing tools and non-financial support; act as a catalyst and risk mitigant to mobilize private capital; enable access to diverse sources of finance as the intermediary channel; and develop sectoral expertise to scale up financing for climate-smart urban infrastructure projects.



# Recommendations to National Development Banks

## Strategic

1. Encourage national governments (as part of a collaborative exercise and to initiate the dialogue for consideration) to provide NDBs a suitable **legal structure** that allows the flexibility to take higher risks and provide longer tenors, which are necessary for financing climate-smart urban infrastructure.
2. Encourage national governments to give NDBs a **mandate** that includes a climate focus for infrastructure and urban development to support local governments. This will enable NDBs to align with the Paris Agreement and contribute to their national climate goals and commitments such as the Nationally Determined Contributions (NDCs). With the mandate secured, develop a strategy to pursue and promote climate-smart urban infrastructure, with clear objectives and priorities in advancing projects. NDBs may adopt international standards for green lending, sustainability and risk management including Equator Principles and TCFD.
3. Seek a seat at the **national policy table** on the policy, legal and regulatory issues pertinent to development, urban and green finance, in order to promote coordinated policies and alignment across ministries and agencies.

## Financial

4. Build a strong relationship with the Ministry of Finance to ensure political commitment to supporting the NDB's (renewed mandate) and sufficient **capitalization** to be able to execute this mandate.
5. Make greater use of **innovative capital**, notably accessing dedicated pools of capital from institutional investors, achieving economies of scale by aggregating multiple projects, and offering low and fixed interest rates and long repayment terms.
6. **Mobilize additional resources** by raising resources from international climate funds, institutional investors, and DFIs to support local government needs.

## Recommendations to National Development Banks (2)

### Business

7. Strengthen **planning, project design** and improve its ability to perform credit and investment appraisals by enhancing internal capacity to support city mandates and structures for long term planning and implementation of climate investment at scale.
8. Develop and utilize **de-risking instruments** such as guarantee programs, equity programs or credit support mechanisms to catalyze private sector investments, as well as developing its internal capacity to structure innovative instruments.
9. Deepen NDB **sectoral expertise** and build internal capacity to identify and structure green infrastructure projects. NDBs may set up a dedicated division focused on advancing climate-smart infrastructure projects and prioritizing low carbon alternatives.

### Operational

10. Make use of international climate fund **accreditation** to enhance governance, resource management, policies and processes of climate projects. This can improve project track records, improve access to financing from climate funds and the ability to receive technical assistance to de-risk investments, and have positive reputational benefits.
11. Strengthen **monitoring and reporting** via improved data collection and capturing social, environmental and climate impacts
12. Develop **strategic partnerships** and build relationships to ensure political support, leverage diverse resources and source of capital, support the needs of green urban infrastructure projects, and benefit from peer learning and knowledge exchange. This may include participation in global forums for green investments banks and NDBs, as well as engaging with other local and regional development banks to streamline functions. Work with local governments to strengthen their financial capacity and knowledge on international climate finance players, objectives of concessional funds and assessment criteria for climate-smart urban infrastructure projects.

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# Recommendations to **Cities/Municipalities**

## Strategic

1. Engage with **national policy makers** to gain political will and commitment to support in financing and implementation of green infrastructure projects. Garner political support for projects from relevant ministries to avoid overlap or disruptions during implementation of climate-smart infrastructure projects and streamline functions.
2. Design and align **City Climate Action Plans** with national priorities to ensure political motivation to support. Climate considerations would be integrated across departments including budget, urban planning, mobility and other functions to ensure a comprehensive green approach.

## Financial

3. Strengthen **revenue capture**, which signals financial strength and capacity to financiers to invest in climate-smart urban infrastructure.
4. Build **financial expertise** in green infrastructure and a **strong long-term capital plan** with a project pipeline that overcomes interruptions due to changes in administration.
5. Seek support to build **financial capacity** from NDBs, SDBs and IFIs through technical assistance and project preparation facilities to clarify objectives, prioritize projects, enhance project design and enable access to finance from diverse sources.

## Recommendations to Cities/Municipalities (2)

### Policy, legal and regulatory frameworks

6. Play an active advocacy role with national authorities, with the support from subnational development banks, to decentralize fiscal **authority to collect taxes**. Seek support for mandates, funding sources and structures for climate-smart infrastructure investments at scale.
7. Play an active advocacy role with national authorities, with the support from subnational development banks, to find innovative solutions to **allow debt / increase debt limit on city budget**.
8. Play an active advocacy role with national authorities, with the support from subnational development banks, to overcome regulatory, legal and policy conditions that restrict or limit a city's **ability to borrow** from NDBs.

### Operational

9. Seek financial and non-financial support from NDBs, SDBs, IFIs and city climate associations to enhance the city's **project preparation capacity** throughout the project development lifecycle, from pre-investment phase (in concept, design and scoping) to the investment phase (with implementation).
10. Develop **human resources** by hiring qualified staff and training existing staff that ensure climate-infrastructure projects are well designed and maintained.
11. Invest in a strong **management information system** to coordinate among departments and monitor and track progress of projects.
12. Dedicate resources for **international outreach** and set up a climate unit to join city climate initiatives for peer knowledge exchange of good practices and access to technical climate tools and resources to help with pre-feasibility and feasibility stage climate risk assessments of projects, E&S impact assessments, etc. Seek to form and strengthen alliances with adjacent local governments / coalition of municipalities to coordinate climate-smart infrastructure investments at scale.

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## Recommendations to National Government Ministries

1. **Reassess the legal structure of NDBs** with an infrastructure mandate to allow for the flexibility to take higher risks and provide longer tenors which are necessary for financing climate-smart urban infrastructure.
2. **Assign NDBs a clear role in national climate goals**, including Nationally Determined Contributions, and in the national infrastructure strategy.
3. **Review and update the mandate of NDBs** with an infrastructure and urban development focus, to include a climate focus.
4. **Review the legal and regulatory frameworks** to overcome barriers for municipalities in executing climate-smart urban infrastructure projects. This may include revisions to laws on financial responsibility that may limit a municipality's budget debt limit which hinders its ability to finance large infrastructure projects. Consider fiscal decentralization on the authority to collect taxes, to empower municipal revenue stream to finance projects. Also review enabling frameworks for implementing agencies that can undertake sustainable climate investment at scale such as development corporations.
5. **Ensure the NDBs are well capitalized**, have the political support and sufficient resources to leverage their role to finance and operationalize climate-smart urban infrastructure that are aligned with national goals.
6. **Recognize the importance of National Development Banks as critical public policy instruments** by inviting them to the policy table to contribute to policy recommendations, participate in project design and support in financing, implementing and monitoring climate-smart urban infrastructure. **Encourage dialogue with NDBs** across different ministries. The Ministerial responsibility:
  - **Finance:** NDB mandate and financial base. Coalition of Finance Ministers for Climate Action, Helsinki Principles.
  - **Environment/Energy:** NDB alignment with NDCs and encourage the formulation and implementation NDCs at the local government level through City Climate Action Plans
  - **Infrastructure/Transport:** NDB's part of the national vision for sustainable infrastructure and transport.
  - **Urban development:** NDB's part of the vision for sustainable urban development.

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## Recommendations to International Finance Institutions

- 1. Support National Development Banks in making greater use of innovative capital**, notably accessing dedicated pools of capital from institutional investors, funding in various currencies, achieving economies of scale by aggregating multiple projects, and offering low and fixed interest rates and long repayment terms.
- 2. Provide National Development Banks with financial resources as well as project preparation facilities and technical assistance** to enhance their capacity to support local governments in structuring and financing climate-smart urban infrastructure projects. Assisting National Development Banks in strengthening planning and project design can improve the quality of climate-smart urban infrastructure projects.
- 3. Advise National Development Banks in developing and utilizing de-risking instruments** to catalyze private sector investments.
- 4. Assist National Development Banks in deepening their sectoral expertise and building internal capacity** to identify, finance and implement green infrastructure projects with local governments.
- 5. Engage with National Development Banks to develop partnerships and build relationships** to ensure political support, leverage diverse resources and source of capital, support the needs of green urban infrastructure projects, and benefit from peer learning and knowledge exchange.
- 6. Build partnerships and initiatives to enhance local governments' financial knowledge and access to information** on climate finance players, objectives of concessional funds and assessment criteria for climate-smart urban infrastructure projects. Provide support to NDBs to enhance their capacity and resources to enable them to support cities' reach a fiscal and technical level sufficient to increase their access to diverse sources of finance.

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# Annexes

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An aerial photograph of a coastal city, overlaid with a semi-transparent blue filter. The image shows a multi-lane highway curving along the coast, a sandy beach, and a large circular park area with a central monument. The overall scene is a mix of urban infrastructure and natural coastal features.

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## Annex A: Subnational Development Banks (SDBs)

**SDBs, as a subset of NDBs, with a focus on supporting local governments, play a key role in catalyzing financing for climate-smart urban infrastructure.**

The creation of a Global Alliance of SDBs supported by the Global Fund for Cities Development (FMDV) to accelerate climate finance in local projects is a flagship program of the Leadership for Urban Climate Investment (LUCI) initiative coordinated by the Alliance. The African chapter is the most advanced with the RIAFCO (Réseau des Institutions Africaines de Financement des Collectivités Locales), which is also supported by FMDV.

- Some National Development Banks can also be considered SDBs if they provide financial and/or non-financial support to local governments (e.g. Findeter in Colombia).
- SDBs (as defined by FMDV) are used by national governments as financial intermediaries for fiscal decentralization through intergovernmental transfers, fiscal equalization and central grants for local projects.
- They can play a broader role as financial channels offering cities technical assistance (TA) to diversify their portfolio of investments, lending at concessional or market rates, and providing guarantees, credit enhancement, or PPP.
- In developing and middle-income countries, they can catalyse development assistance funds and international climate finance channelled towards local projects.
- They can provide TA, reinforce capacities, improve creditworthiness and manage project preparation facilities (PPFs) to support cities in structuring pipelines of projects.

To learn more about SDBs, a research paper from AFD (2020), 'From global to local: subnational development banks in the era of Sustainable Development Goals' is available here: <https://www.afd.fr/sites/afd/files/2020-11-11-39-16/global-local-subnational-development-banks-sdg.pdf>

# Annex B: Summary of Barriers and Opportunities from The Policy Brief on Enhancing the Role of National Development Banks in Supporting Climate-Smart Urban Infrastructure

General Barriers		Barriers for NDBs	
Framework Conditions	Limited incentives/weaker policy environments relative to incumbent technologies.	Institutional	Lack of clear mandate to promote climate change programs (or even, sometimes, infrastructure), or climate-smart urban infrastructure.
	High (perceived) risks of (new) low-emissions technologies.		Short political and electoral cycles can lead to shifting priorities.
	Behavioral and data biases that favor conventional practices over innovation.		Lack of capacity to mainstream climate objectives into their portfolios.
	Lack of capacity to integrate climate in infrastructure planning/assessment.		Limited access to international concessional climate finance.
	National regulations often prohibit/hamper direct lending to cities/municipalities.		Lack of capacity to identify/assess climate-smart urban infrastructure projects.
Project Level	Lack of bankable project pipelines.		Limited resources/capacity to provide support to cities in project preparation.
	Timing mismatch: high upfront construction costs but long payback periods.		Financial
	Limited capacity to structure urban infrastructure projects.	Smaller NDBs cannot afford to invest in major infrastructure investment requiring significant upfront capital.	
Investment Level	High development/transaction costs (e.g., limited data on new technologies).	Lack of financial instruments to attract a wide range of investor types, especially private investors.	
	Insufficient risk-adjusted returns.		
	Lack of suitable investment instruments.		

# Annex B: Summary of Barriers and Opportunities from The Policy Brief on Enhancing the Role of National Development Banks in Supporting Climate-Smart Urban Infrastructure (cont'd)

## Opportunities for NDBs

- Enhance the financial capacity/situation of urban institutions to improve access to finance
- Improve urban institutions capacity for developing climate-smart projects
- Develop or strengthen NDB climate mandates, policies and targets
- Increase engagement with domestic government agencies to develop climate projects and plans
- Seek accreditation and support from multilateral funds and MDBs/IFIs
- Build internal capacity to identify, structure and finance climate-smart urban infrastructure
- Build bankable project pipelines through project preparation support
- Increase use of risk mitigation instruments
- Adapt and deploy financing instruments to mobilize institutional investors



## Recommendations for NDBs

- Assess the current status of key institutional factors (e.g. mandate and policies; financial product offerings and other support for infrastructure) and, as necessary, adjust to prioritize or at least not preclude climate-related investments, including for climate-smart urban infrastructure.
- When necessary, seek accreditation and support from international climate funds, MDBs/IFIs, and international networks to develop additional capacities and/or to secure concessional climate finance (e.g., for project preparation).
- Develop and deploy additional product offerings (e.g., PPFs; risk mitigation instruments; other financial instruments) with the aim of addressing barriers to climate-smart urban infrastructure investment and catalyzing private investment.
- Enhance collaboration with relevant national and local government entities involved in key planning efforts such as NDCs and city climate action plans.

## Annex C: Key levers within a city's administrative toolkit that can enhance access to finance for climate-smart urban infrastructure from NDBs

Revenue Stream

Corporate Portfolio and Program Management

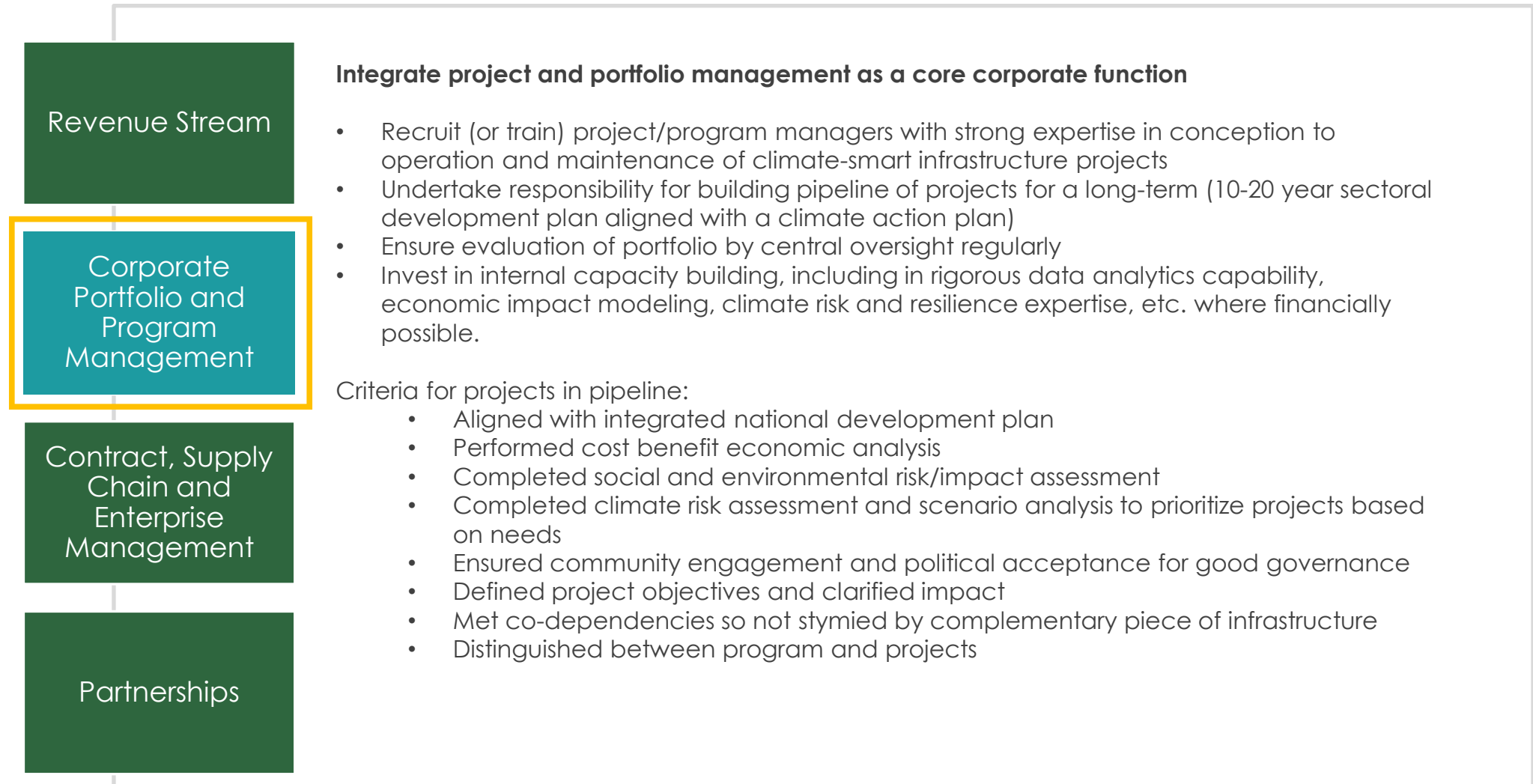
Contract, Supply Chain and Enterprise Management

Partnerships

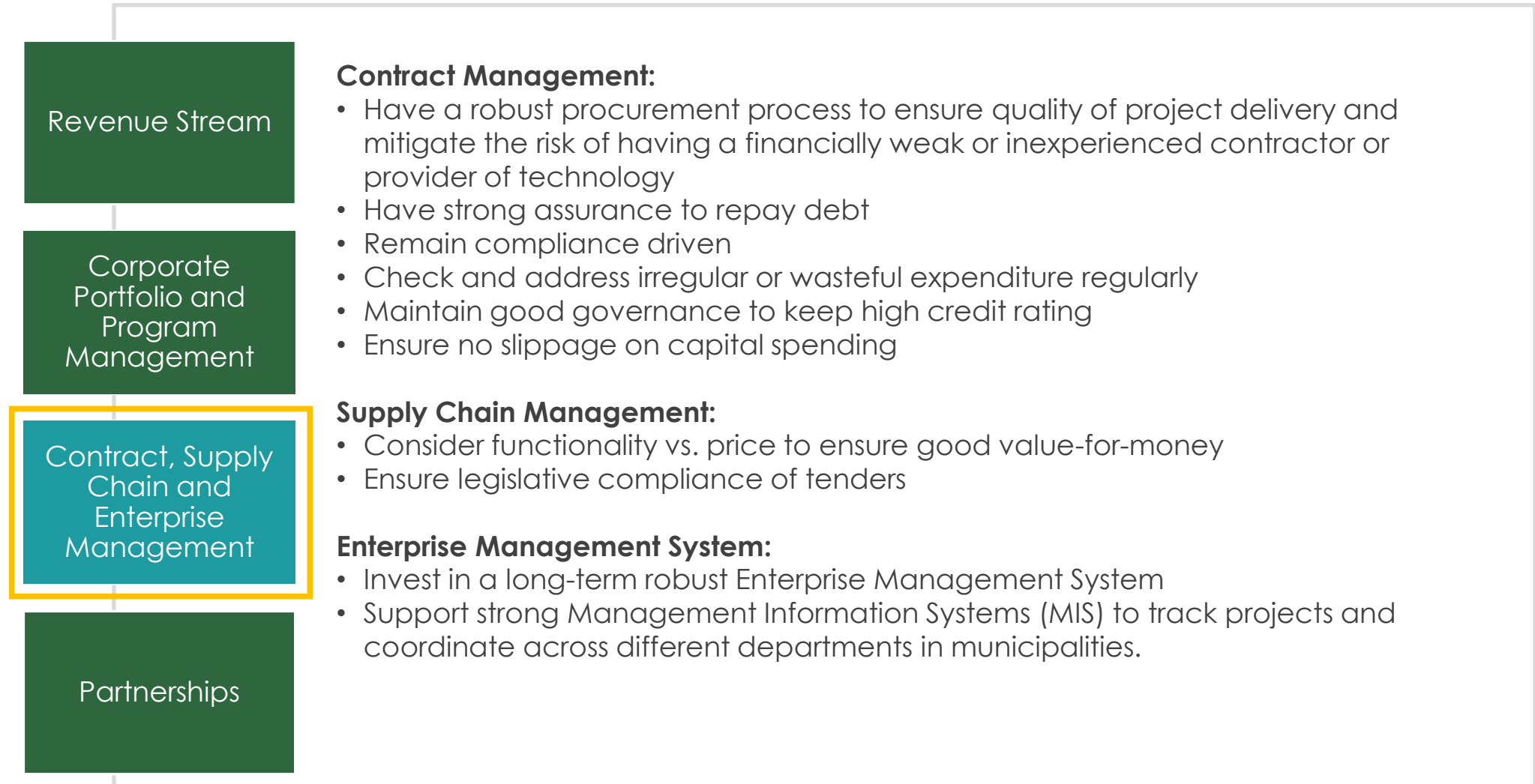
### Building a strong revenue stream

- Finance public infrastructure through diverse sources of financing:
  - Tariffs – utility revenues
  - Property taxes – city revenues
  - Service fees
  - Maintenance charges
  - Direct loans (paid off by tariffs)
  - Cross subsidies
  - National government funds
  - Green bonds
- Clearly define municipality assets and potential value capture
- Have a robust revenue collection system to bill consumers of public services
- Demonstrate long-term ability to collect revenues to sustain operations
- Charge fees for maintenance and upgrades
- Innovate around value capture for informal settlements
- Demonstrate capacity to ring-fence revenues associated with new infrastructure (e.g. for expense reduction from energy savings)

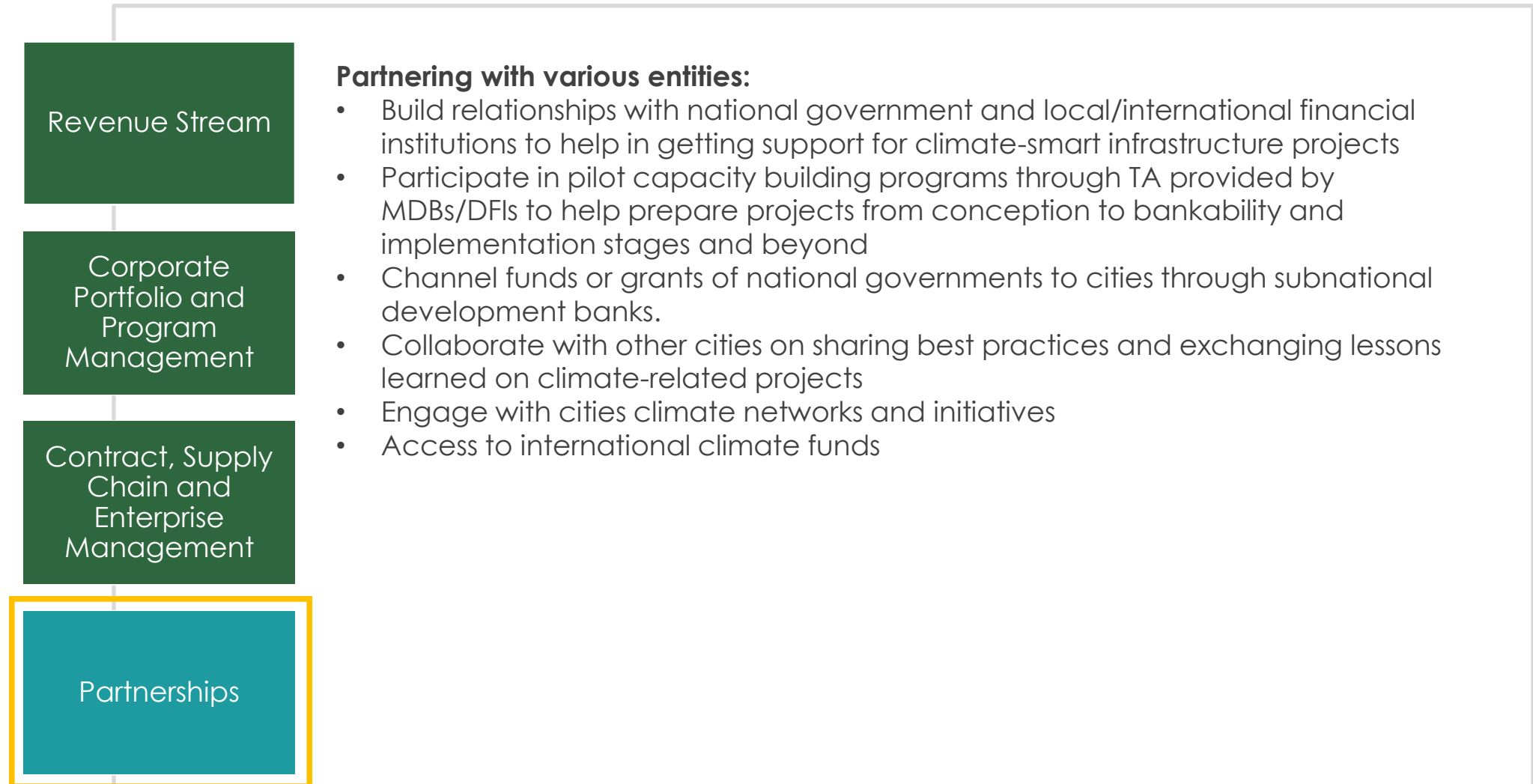
## Annex C: Key levers within a city's administrative toolkit that can enhance access to finance for climate-smart urban infrastructure from NDBs



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## Annex D: The NDB maturity dimensions and parameters explained

- Based on the 12 main dimensions explored in the NDBs interviewed, each of these dimensions is presented in a positive value statement intended to define what “mature” means for each area. Each dimension is scored out of 5, based on our assessment, with 5 being a fully fledged NDB capable of optimizing climate-smart urban infrastructure financing.
- It is not enough to be very strong in one area or parameter. One stronger area does not necessarily offset a weaker area. The most mature NDBs are those that find a balance between all four parameters. For a strong and mature NDB, the harmony or balance among the four common parameters, and the four key dimensions within each parameter, is as important (if not more important) than the absolute “scores” of individual dimensions or parameters.
- The NDB maturity scale is intended to create a standard and consistent measure of comparison for NDBs financing green urban infrastructure.

## Annex D: 1. Legal Structure and Regulatory Obligations

- The NDB's **legal structure** is established in an Act or Statutory Agreement
- The NDB is **not regulated** by the same financial regulation as other FIs and commercial banks.
- The Act **defines the role** of the NDB in achieving its mandate and objectives.
- The NDB has more **financial flexibility** and ability to **take higher risk** required for climate-smart urban infrastructure projects to achieve the assigned policy mandate.

Nascent	Early	Developing	Advanced	Mature
<p>The NDB is structured as a limited liability company subject to the same financial regulations as commercial banks and other FIs.</p>	<p>The NDB is not enacted by a statutory law that allows the bank to take higher risk and exempts the bank from the same financial regulations as commercial banks and other FIs.</p>	<p>The NDB Act defines the role of the NDB in achieving its mandate and objectives.</p>	<p>The NDB is enacted by a statutory law that allows the bank to take higher risk and exempts the bank from the same financial regulations as commercial banks and other FIs.</p>	<p>The NDB is enacted by a statutory law that allows the bank to take higher risk and exempts the bank from the same financial regulations as commercial banks and other FIs. The Act defines the role of the NDB in achieving its mandate and objectives.</p>

## Annex D: 2. Clearly Defined Mandate

- The NDB has a **specific mandate** that clearly defines its role in supporting local governments,
- The NDB's mandate is **specific to the infrastructure sector**.
- The NDB's mandate **emphasizes support for sustainable and climate-smart projects**.
- The mandate allows the NDB to take **higher risk than the commercial bank**.
- The NDB plays a **complementary role to private sources** of capital and catalyzes investments in green urban infrastructure.
- The NDB **participates in PPPs** to help accelerate green urban infrastructure development.

Nascent	Early	Developing	Advanced	Mature
The NDB's mandate is unclear in terms of supporting infrastructure and municipalities.	The NDB's mandate does not explicitly mention support for infrastructure or municipalities.	The NDB has a mandate to finance infrastructure or municipalities.	The NDB has a clearly defined mandate to finance infrastructure or municipalities.	The NDB has a clearly defined mandate to explicitly finance green urban infrastructure by supporting municipalities.

## Annex D: 3. Role in Policy Coordination

- The NDB has a **seat at the national policy table** to participate in urban infrastructure and climate action policy discussions.
- The NDB proposes **policy recommendations** for climate and urban infrastructure projects.
- The NDB **operationalizes** the green urban infrastructure policies.
- The NDB plays a convening role, is the trusted advisor, financier and catalyst of green urban infrastructure projects, often playing the role of **Secretariat** to an inter-ministerial committee.
- The NDB **coordinates** among the regulator and different ministries (Ministry of Finance, Ministry of Energy, Ministry of Environment, Ministry of Transport, Ministry of Home Affairs, etc.) to ensure policies are comprehensive and not overlapping to avoid confusion for municipalities and stakeholders.
- The NDB then **coordinates partnerships** among federal and municipal government, DFIs/MDBs, private sector and other stakeholders.

Nascent	Early	Developing	Advanced	Mature
The NDB never engages with ministries to recommend policies for financing green urban projects. The NDB never coordinates among different ministries.	The NDB rarely engages with ministries to recommend policies for financing green urban infrastructure. The NDB rarely coordinates among different ministries.	The NDB sometimes engages with ministries to recommend policies, playing a convening role, is the trusted advisor and financier for green urban projects. The NDB sometimes coordinates among different ministries and facilitates partnerships among local, regional and national government actors as well as with IFIs/MDBs.	The NDB often engages with ministries to recommend policies and is the main financier for green urban projects. The NDB coordinates among different ministries and facilitates partnerships among local, regional and national government actors as well as with IFIs/MDBs.	The NDB has a seat at the national policy table to participate in urban infrastructure and climate policy discussions. The NDB regularly engages with ministries to recommend policies, playing a convening role, is the trusted advisor and financier for green urban projects. The NDB coordinates among different ministries and facilitates partnerships among local, regional and national government actors as well as with IFIs/MDBs.

## Annex D: 4. Capitalization

- The NDB's **equity is large** enough in supporting climate-smart urban infrastructure deals which require large amounts of upfront capital.
- The NDB can offer **long-term loans** (tenors of 10+ years) at competitive rates

Nascent	Early	Developing	Advanced	Mature
<p>The NDB is very poorly capitalized and unable to finance urban infrastructure projects nor provide long term loans (10+ years).</p>	<p>The NDB is poorly capitalized to be able to finance green urban infrastructure projects and provide long term loans (10+ years).</p>	<p>The NDB is moderately capitalized to be able to finance green urban infrastructure projects and provide long term loans (10+ years).</p>	<p>The NDB is adequately capitalized to be able to finance green urban infrastructure projects and provide long term loans (10+ years).</p>	<p>The NDB is sufficiently capitalized to be able to finance large green urban infrastructure projects and provide long term loans (10+ years).</p>

## Annex D: 5. Access to Innovative Capital Sources

- The NDB issues **green bonds** to finance climate-smart urban infrastructure projects.
- The NDB is committed to report periodically on goals achieved and climate-related impacts transparently to capital providers.
- The NDB may have a **special fund** dedicated to financing sustainable urban infrastructure. This fund can have a **lower interest rate that is subsidized** by the federal/national government to incentivize the private sector to invest in sustainable infrastructure.

Nascent	Early	Developing	Advanced	Mature
<p>The NDB does not have the capacity to provide access to innovative capital.</p>	<p>The NDB does not provide access to innovative capital through issuance of green bonds.</p>	<p>The NDB is considering or is in the process of issuing green bonds or is considering a special fund dedicated to green urban infrastructure which provides low interest rates that is subsidized by the federal government.</p>	<p>The NDB provides access to innovative capital through issuance of green bonds or has a special fund dedicated to green urban infrastructure which provides low interest rates that are subsidized by the federal government.</p>	<p>The NDB provides access to innovative capital through issuance of green bonds and has a special fund dedicated to green urban infrastructure which provides low interest rates that are subsidized by the federal government.</p>

## Annex D: 6. Resource Mobilization

- The NDB has access to a pool of public and private sources of capital through **blended finance schemes** or **grant fund**.
- The NDB has a **dedicated resource mobilization unit** to deploy the funds from the national government, international DFIs and other sources according to the financing and capacity needs of green urban infrastructure projects.
- The NDB uses blended finance to **reduce interest rates** of green urban infrastructure projects financed.
- The NDB can **cover the extra capital costs** associated with Greener technologies through blended finance or grant funds from DFIs.

Nascent	Early	Developing	Advanced	Mature
The NDB does not have the capacity to pool and mobilize public and private resources of capital through blended finance schemes or grant funds.	The NDB has limited experience in mobilizing public and private resources of capital through blended finance schemes or grant funds.	The NDB has some experience in mobilizing public and private resources of capital through blended finance schemes or grant funds and match them with the green urban infrastructure (PPF/TA/financing) needs of municipalities.	The NDB can pool and mobilize public and private resources of capital through blended finance schemes or grant funds and match them with the green urban infrastructure (PPF/TA/ financing) needs of municipalities.	The NDB has a dedicated unit to pool and mobilize public and private resources of capital through blended finance schemes or grant funds and match them with the green urban infrastructure (PPF/TA/financing) needs of municipalities.

## Annex D: 7. Involvement in Project Design

- The NDB participates in the **design** of climate-smart urban infrastructure projects in urban planning and climate programs to help shape the project at the early stage of development.
- The NDB incorporates the financial consideration of climate risk, mitigation, adaptation and **impact** into green urban infrastructure projects.
- The NDB supports projects from **conceptualization through to implementation** and monitoring over the life span of the infrastructure.
- The NDB has a **pipeline of bankable green projects** to finance.
- The NDB participates in **PPPs** on climate projects or urban infrastructure investments.

Nascent	Early	Developing	Advanced	Mature
The NDB never participates in project design of green urban infrastructure from conceptualization through to implementation and never participates in PPPs.	The NDB rarely participates in project design of green urban infrastructure from conceptualization through to implementation and rarely participates in PPPs.	The NDB sometimes participates in project design of green urban infrastructure from conceptualization through to implementation and sometimes participates in PPPs.	The NDB often participates in project design of green urban infrastructure from conceptualization through to implementation, has some bankable projects and participates in PPPs.	The NDB always participates in project design of green urban infrastructure from conceptualization through to implementation, has a pipeline of bankable projects and participates in PPPs.



## Annex D: 8. Role as Catalyst and Risk Mitigant

- The NDB offers financial **de-risking instruments** to mobilize private and institutional investors through first loss, guarantees, partial risk / credit guarantees, junior loans, etc.
- The NDB can lead and **facilitate PPPs**. The NDB has good relations with donors, private/institutional investors and MDBs/IFIs as a **trusted financier** to structure green infrastructure projects. It channels the grant portion of blended finance schemes by **working upstream**.
- The NDB offers **PPFs** to transform municipality green infrastructure wish list into build **bankable projects**.
- The NDB offers **TA** programs to enhance the **institutional capacity** and **strengthen the financial position** of municipalities to increase their **access to diverse sources of finance**.
- The NDB helps in the **structuring of financial arrangements** and funding schemes by finding sources of capital from international and private/institutional investors.
- The NDB has **high level of technical capacity** and know-how of structuring large green urban infrastructure deals including PPP.
- The NDB can invest in green urban infrastructure in the form of **equity**.
- The NDB guides municipalities by **providing information** such as knowing who the stakeholders are, what the criteria of assessment is, etc.

Nascent	Early	Developing	Advanced	Mature
The NDB does not offer de-risking instruments to mobilize private sources of finance.	The NDB rarely offers de-risking instruments to mobilize private sources of finance	The NDB offers some de-risking instruments to mobilize private sources of finance.	The NDB offers some de-risking instruments to mobilize private sources of finance. The NDB sometimes invests in some form of equity in green urban projects. The NDB sometimes leads and facilitates PPPs. The NDB channels grant portion of blended finance schemes to work upstream and offers TA and PPF for municipalities to design a pipeline of bankable projects.	The NDB offers de-risking instruments to mobilize private sources of finance. The NDB invests in the form of equity in green urban projects. The NDB leads and facilitates PPPs. The NDB channels grant portion of blended finance schemes to work upstream and offers TA and PPF for municipalities to design a pipeline of bankable projects.

## Annex D: 9. Sectoral Expertise

- The NDB has strong **sectoral expertise** of climate-smart infrastructure financing.
- The NDB builds internal capacity **to identify and structure green infrastructure projects**.
- The NDB brings an added value of **local knowledge** of climate risks, adaptation and mitigation needs in infrastructure requirements.
- The NDB **aligns climate-smart urban infrastructure needs** with national development goals.

Nascent	Early	Developing	Advanced	Mature
The NDB has no sectoral expertise in green urban infrastructure financing.	The NDB has weak sectoral expertise in green urban infrastructure financing, but brings added value of local knowledge.	The NDB has moderate sectoral expertise in green urban infrastructure financing, can identify and structure projects, and brings added value of local knowledge.	The NDB has adequate sectoral expertise in green urban infrastructure financing, can identify and structure projects, and brings added value of local knowledge.	The NDB has strong sectoral expertise in green urban infrastructure financing, can identify and structure projects, brings added value of local knowledge and aligns climate infrastructure needs with national development goals.

## Annex D: 10. Preferred Intermediary

- The NDB is the **preferred intermediary** for international green/climate funds.
- The NDB has **Green Climate Fund (GCF) Accreditation**.
- The NDB acts as the **government arm to finance and deliver climate projects** and support in achieving climate goals such as the Nationally Determined Contributions.
- The NDB is the **primary source of access to concessional international climate finance** to fund green infrastructure projects.
- The NDB is building its capacity to enable its role in **channeling investor funds** to climate projects.

Nascent	Early	Developing	Advanced	Mature
The NDB is not the preferred intermediary for green/climate funds and has no interest or capacity to apply for accreditation.	The NDB is rarely the preferred intermediary for green/climate funds and is not considering applying for accreditation.	The NDB is sometimes the intermediary for green/climate funds and is interested to become an intermediary for channeling international green/climate funds.	The NDB is often the preferred intermediary for green/climate funds and is in the process of applying for GCF accreditation.	The NDB is the preferred local intermediary for international green/climate funds and has GCF accreditation.

## Annex D: 11. Monitoring and Reporting

- The NDB **reports on impact** of green urban infrastructure projects financed such as GHG emissions reduction.
- The NDB enhances **data collection** by defining and setting indicators to track green / urban / infrastructure projects.
- The NDB **reports** on, inter alia:
  - % exposure of climate-smart infrastructure projects
  - % of exposure of municipal funding

Nascent	Early	Developing	Advanced	Mature
The NDB does not collect and track data on green urban infrastructure projects financing and reports on impact.	The NDB collects and tracks limited data on green urban infrastructure projects financing and reports on impact.	The NDB collects some data on green projects financing.	The NDB collects and tracks some data on green urban infrastructure projects financing and selectively reports on impact.	The NDB collects and tracks robust and relevant data on green urban infrastructure projects financing and regularly reports on impact in its Annual Reports and to key stakeholders.

## Annex D: 12. Strategic Partnerships

- The NDB has **strategic partnerships** with climate funds, international donors, institutional investors and philanthropists.
- The NDB **matches donors** with the heterogeneous needs of municipalities for capacity building, structuring bankable projects and climate-smart urban infrastructure financing.

Nascent	Early	Developing	Advanced	Mature
<p>The NDB does not have much contact with climate funds, international donors, institutional investors to fully support the needs of municipalities in financing green infrastructure projects. The NDB never engages in green urban infrastructure initiatives to exchange experiences and share knowledge on the sector.</p>	<p>The NDB has some contacts with climate funds, international donors, institutional investors to fully support the needs of municipalities in financing green infrastructure projects. The NDB rarely engages in green urban infrastructure initiatives to exchange experiences and share knowledge on the sector.</p>	<p>The NDB has some limited partnerships with climate funds, international donors, institutional investors to fully support the needs of municipalities in financing green infrastructure projects. The NDB sometimes engages in green urban infrastructure initiatives to exchange experiences and share knowledge on the sector.</p>	<p>The NDB has partnerships with climate funds, international donors, institutional investors to fully support the needs of municipalities in financing green infrastructure projects. The NDB often engages in green urban infrastructure initiatives to exchange experiences and share knowledge on the sector.</p>	<p>The NDB has strategic partnerships with climate funds, international donors, institutional investors to support the needs of municipalities in financing green infrastructure projects. The NDB regularly engages in green urban infrastructure initiatives to exchange experiences and share knowledge on the sector.</p>

## Annex E: Mexico Projects Hub (Proyectos México)



The **Mexico Projects Hub** is an online platform created by the Mexican government and Banobras as an initiative to gather information on major government infrastructure projects to promote visibility and communication with the aim of attracting local and foreign investments.

### City Infrastructure Projects Overview

PROJECT	SECTOR	SUBSECTOR	INVESTMENT (MILLIONS USD)	TYPE OF CONTRACT	STAGE	REQUEST FOR PROPOSALS/ ANNOUNCEMENT
0898 Construction and Rehabilitation of the San Antonio de los Buenos WWTP	Water and Environment	Water sanitation	26	State PPP	Preinvestment	February 2021
0854 Sea Museum in La Paz	Real Estate and Tourism	Tourism	25	Federal PPP	Preinvestment	April 2021
0851 Integral Management of Solid Urban Waste and Special Handling in the Metropolitan area of Monterrey, Nuevo Leon	Water and Environment	Solid Waste	508	Federal PPP	Preinvestment	2020
0846 Water Measurement National Network	Water and Environment	Water Supply	149	Federal PPP	Preinvestment	4th Quarter 2020

## Annex E: Mexico Projects Hub (Proyectos México)

### EXAMPLE

Green Infrastructure:  
Solid Waste  
management  
investment opportunity

The platform also serves as a knowledge hub promoting best practices to facilitate project execution, provides direct assistance for investor questions, and requests follow-up on investment projects to learn from stakeholder experiences in the platform.

### Website of the Mexico Projects Hub:

<https://www.proyectosmexico.gob.mx/en/projects-hub/>

### PROJECT

CONSTRUCTION OPERATION, MAINTENANCE, CONSERVATION AND EXPLOITATION OF A CENTER FOR THE INTEGRAL MANAGEMENT OF SOLID URBAN WASTE AND SPECIAL HANDLING IN THE METROPOLITAN AREA OF MONTERREY, NUEVO LEON.  
SECTOR: WATER AND ENVIRONMENT

Last Update	January 15, 2020	<a href="#">FOLLOW THE PROJECT</a>	<a href="#">PRINT DATASHEET &gt;</a>
Short Name of the Project:	0851 Integral Management of Solid Urban Waste and Special Handling in the Metropolitan area of Monterrey, Nuevo Leon		
Type of Investment:	Greenfield		
Subsector:	Solid Waste		
Asset (s):	Solid Waste Treatment Plant		
Contract Currency: Mexican Pesos MXN	Estimated Investment MXN: 10,153,000,000	Estimated Investment USD: 507,650,000	Green Project
<small>Exchange rate (USD/MXN) used by the Ministry of Finance for the economic plan 2020: \$ 20</small>			
Contract Scope:	Construction, Operation, Maintenance, Conservation, Exploitation		

DISPLAY ALL



### DESCRIPTION

The project consists of the construction and operation of a center for the integral management of solid urban waste and special handling in the metropolitan area of Monterrey, which aims to increase the useful life of the current landfill to 30 years, in addition to taking advantage of the intrinsic value of the waste, to avoid its final disposal in a sanitary landfill. It is integrated by 5 complementary processing centers. Each center will have a specific purpose:

- Admission, registration and quality control center
- Waste separation and transformation center
- Energy assessment center through direct combustion process
- Methane gas production center through anaerobic digestion process
- Final disposal center in sanitary landfill.

The viability of the Integral Management Center will be based on the by-product market and the generation and commercialization of electrical energy, as well as the sale of recyclable materials.