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FUND**

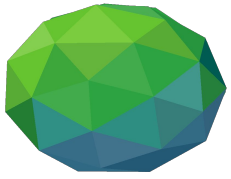
How GCF can unlock transformation and decarbonizing paradigm shift in urban areas? leveraging climate and blended finance

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Chair of Water Security Bureau- International Water Resources Association-IWRA

International Forum on Low Carbon Cities- 2022



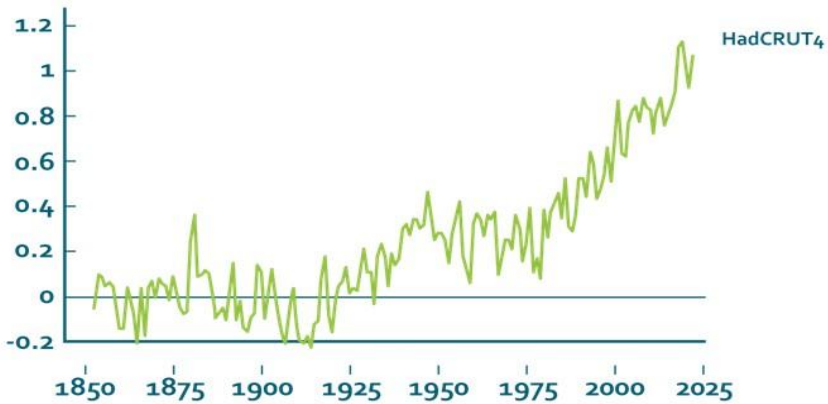
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Why we need Finance

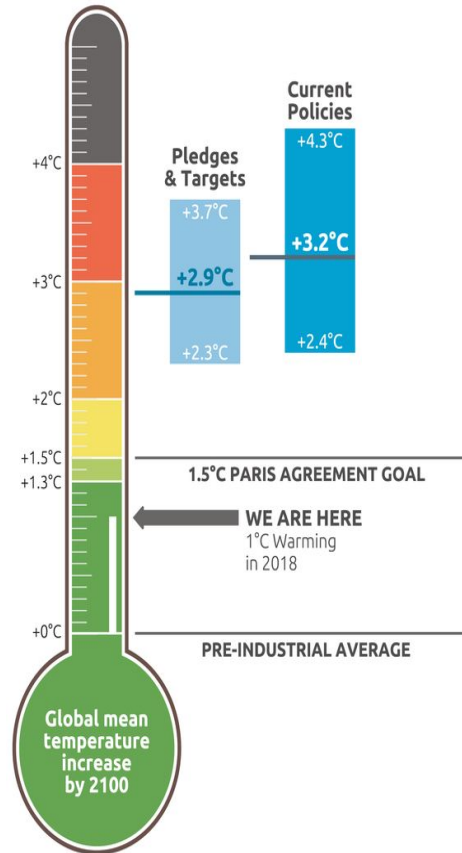
The Climate crisis: Where we are

Temperature rise since 1850

Global mean temperature change from pre industrial levels, °C



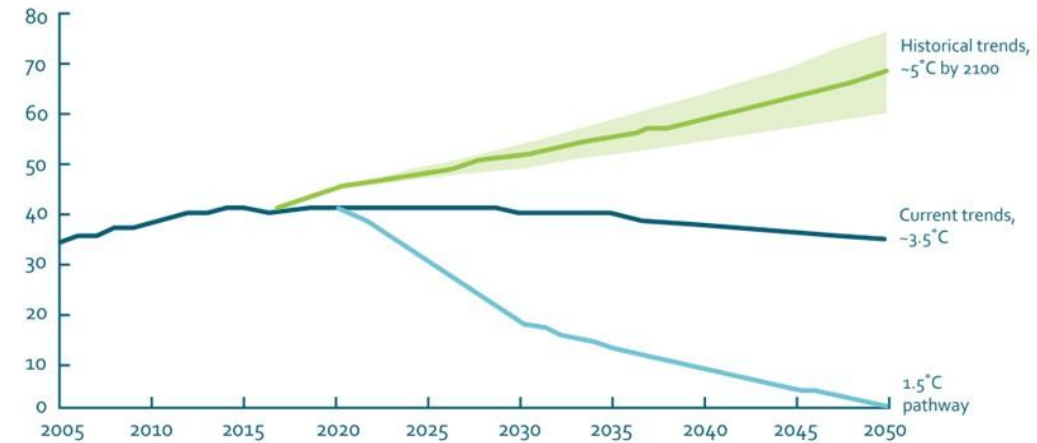
Source: UK Met Office



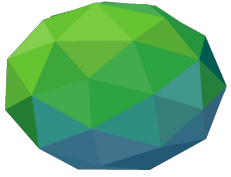
What needs to be done

Projected global CO₂ emissions, billion metric tons of carbon dioxide (GtCO₂) per year

billion metric tons of carbon dioxide (GtCO₂) per year



Source: UNFCCC

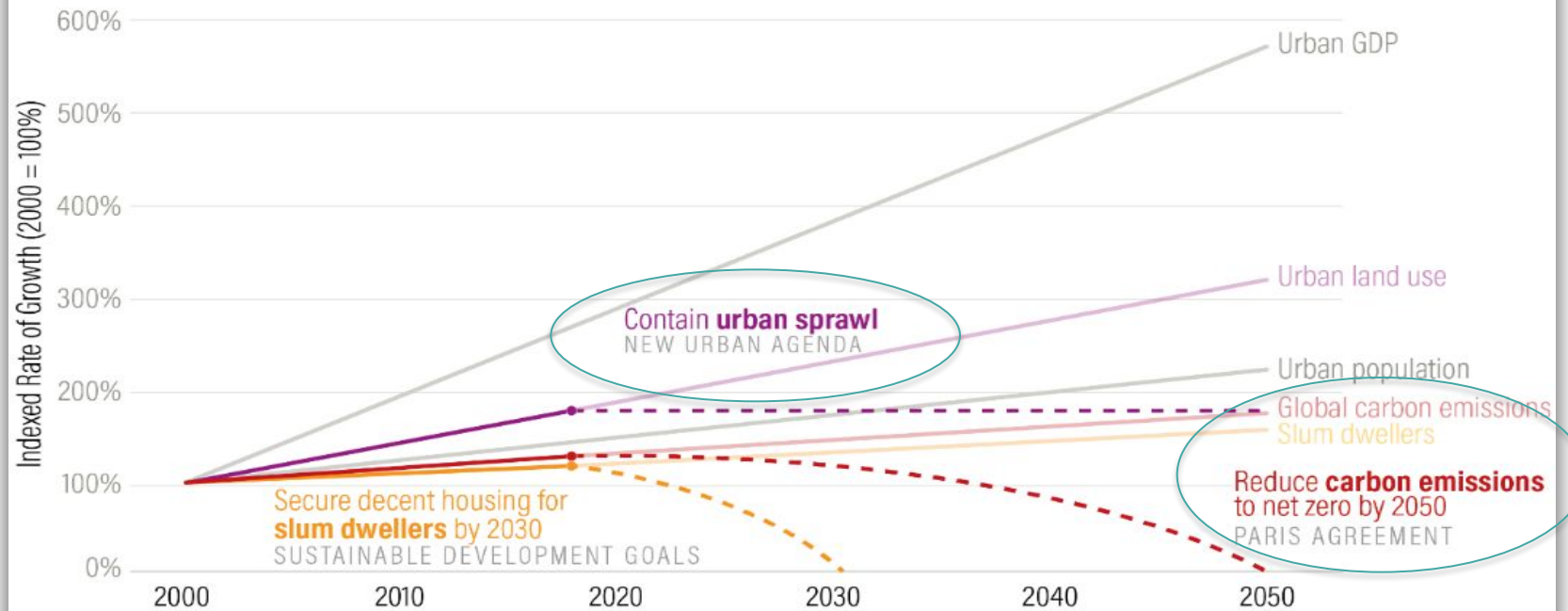


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Challenges to transformative urban adaptation and resilience

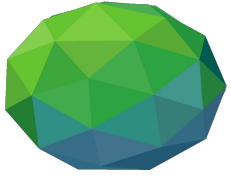


Reaching 3 Global Goals Means Major Change for Cities



Notes: This graph is for illustrative purposes only, showing 2050 trajectories for select indicators and what's needed to reach relevant global goals. **Urban GDP** is for the world's 750 largest cities. An increase in **urban sprawl** is almost inevitable, but should be managed and minimal. **Net global carbon emissions** are used as a proxy for urban emissions. **Slum dwellers** includes developing regions only.

Sources: Angel et al., 2011; Oxford Economics, 2015; UN DESA, 2014; UN Habitat, 2016; World Bank, 2017



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Cities and GHG emissions: INDICATIVE 80% burden of blame

Source of GHG emissions:
While currently 71% of GHG emissions; 76% of energy related GHG by 2030 will come from the cities.

50 cities with largest populations generate 2.6 billion tCO₂ annually

Within cities, 40% to 65% of total GHG emissions are from buildings and transport.

By 2030, Asia, Africa, and Latin America will hold 80% of the global urban population

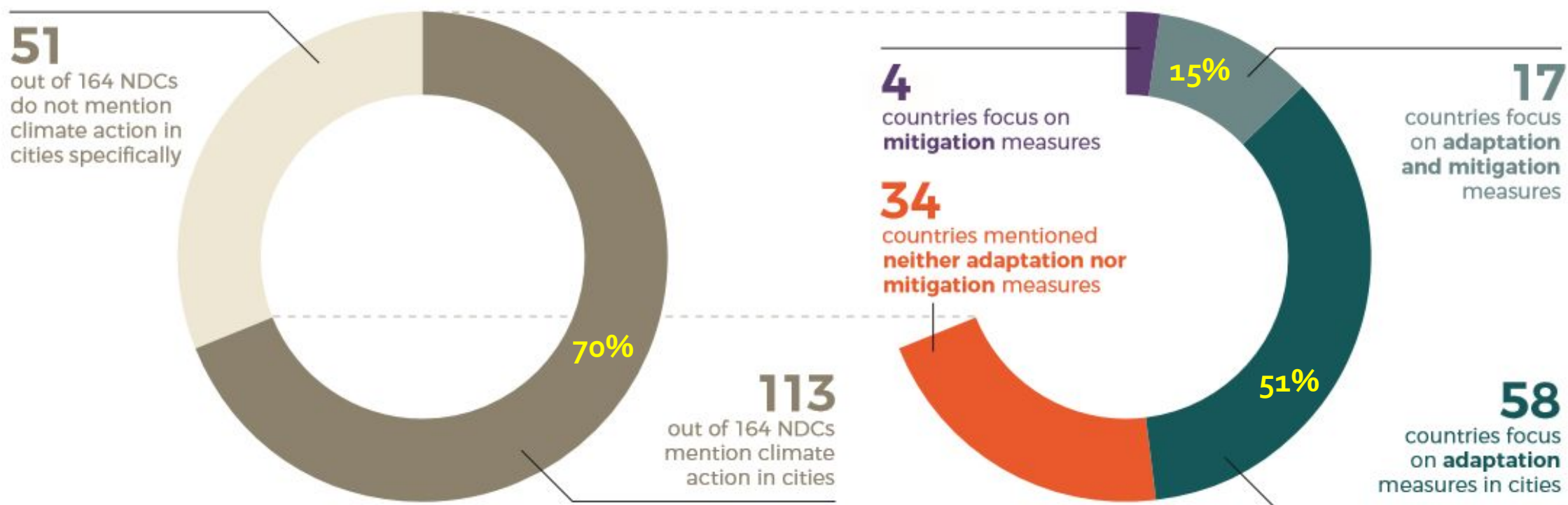
90% of the urban growth is taking place in developing countries

Importance of urban economies: By 2030, 60% of the world's population, are expected to live in urban areas (cities)

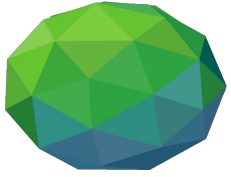


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Status of NDCs with considerations for action in cities



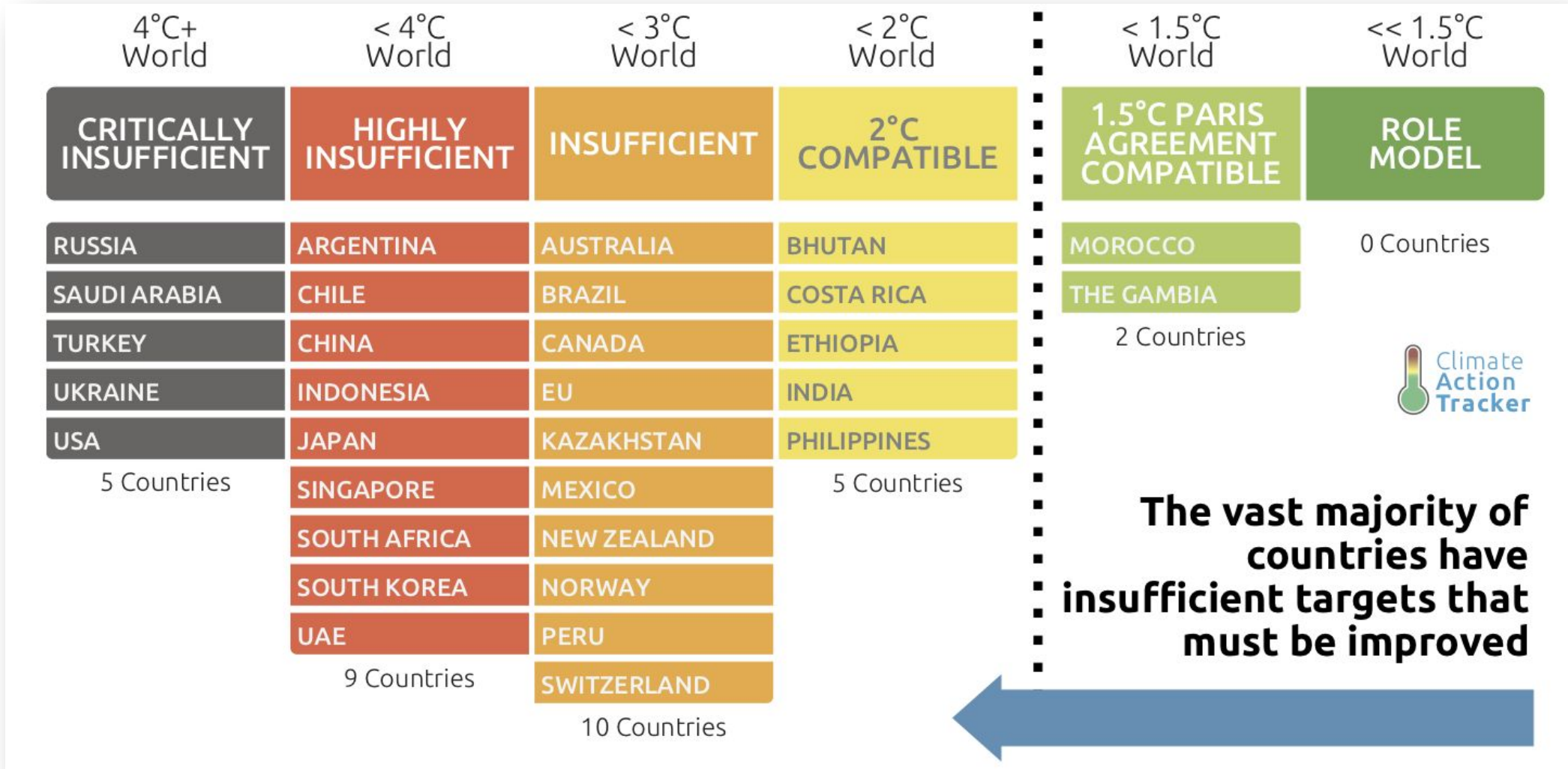
Low Carbon Cities (2018)

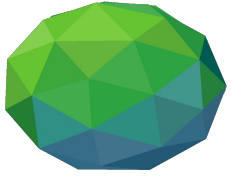


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NDCs of Vast majority of countries not in line with Paris

cities consume over 75% of natural resources, produce over 50% of global waste, and are responsible, directly and indirectly for emitting between 60-80% of greenhouse gases.



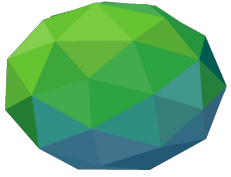


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Challenges to transformative urban adaptation and resilience

- SPREAD OF CONVENTIONAL URBANIZATION MUST BE STOPPED:
 - The global population grow from **4 -6.5 billion** live in cities and urban areas.
 - This urbanization surge will be felt in developing countries in **Asia and Africa (90%)**
 - These trends will translate into **massive** extension of the **urban infrastructure**.
- The urban transformation towards sustainability requires **FUNDAMENTAL CHANGES** in
 - land-use,
 - energy and
 - transport systems,
 - management of materials and
 - material flows,
 - urban settlement policies, and
 - resilient structural-spatial design of cities.
- THERE IS A LACK OF INTEGRATION AND LONG-TERM THINKING and Planning;
 - enabling environments vary in terms of how favorable they are to urban resilience building;
 - countries provide very different contexts and position different actors at the forefront of governance;
- There is a need for A **PARADIGM SHIFT AWAY FROM INCREMENTAL APPROACHES TO INFRASTRUCTURE AND URBAN DEVELOPMENT** that are essentially driven by short term requirements, towards transformative changes with a strategic, long-term urban resilience.
- Tying **urban resilience** into the complex web of **urban governance** is key but current governance trends show limitations in capturing resilience well.
- **Local governments** are typically in the role of service provision whereas **central or regional** governments have greater **capacities and resources**; and the **links between resilience and the mandatory enforcing, provisioning, incentivizing, and enabling functions of governance** are complex.

FOCUS ON SUBNATIONAL FINANCE AND DECENTRALIZED SOLUTIONS TO URBAN RESILIENCE AND ADAPTATION



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Barriers to achieve paradigm-shifting in the Urban Sector

Lack of **enabling** policy frameworks, **integrated** policy and planning systems, and institutional and technical **capacities** at **all levels of government**

Lack of **common standards, taxonomies and project assessment methodologies** for LECR infrastructure investments to channel PIC resources into viable urban climate investments.

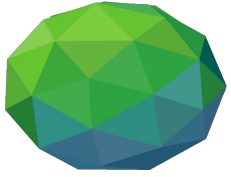
Limited support for **fostering new business models, institutions, technologies and financing structures**

Limited information on **best practice and performance data** associated with LECR urban infrastructure, which creates **barriers to replicating successful practices**

Lack of **upfront financing and structures** to cover pre-feasibility studies and project design in order to create a **pipeline of bankable LECR urban projects**

Higher **upfront costs and longer payback periods** of LECR urban investments, increasing their perceived **risk/reward profile**

Limited access to long-term **finance** at affordable rates and with appropriate **repayment schedules** due to shallow domestic capital markets and financing systems



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Estimating the urban climate finance

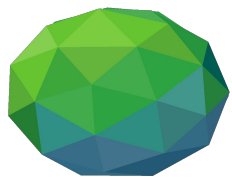
OECD: **USD\$6.9 trillion** will be needed for **investment in energy, transportation, and water and sanitation and telecoms** over the next 15 years to be consistent with a 2°C scenario (with a 66% probability) (OECD, 2017).

World Bank: Up to **USD\$400 billion** needs to **be invested on a global scale to urban resilience**. Failing to respond to climate change and natural disasters will cities worldwide will be **USD\$314 billion** every year by 2030 (World Bank, 2017).

Coalition for Urban Transition: A total of **US\$5 to US\$6 trillion** is required each year **to meet human and economic development needs over coming decades**. Therefore, the annual deficit in infrastructure investment is above **US\$1 trillion a year**. (Coalition for Urban Transition, 2018)

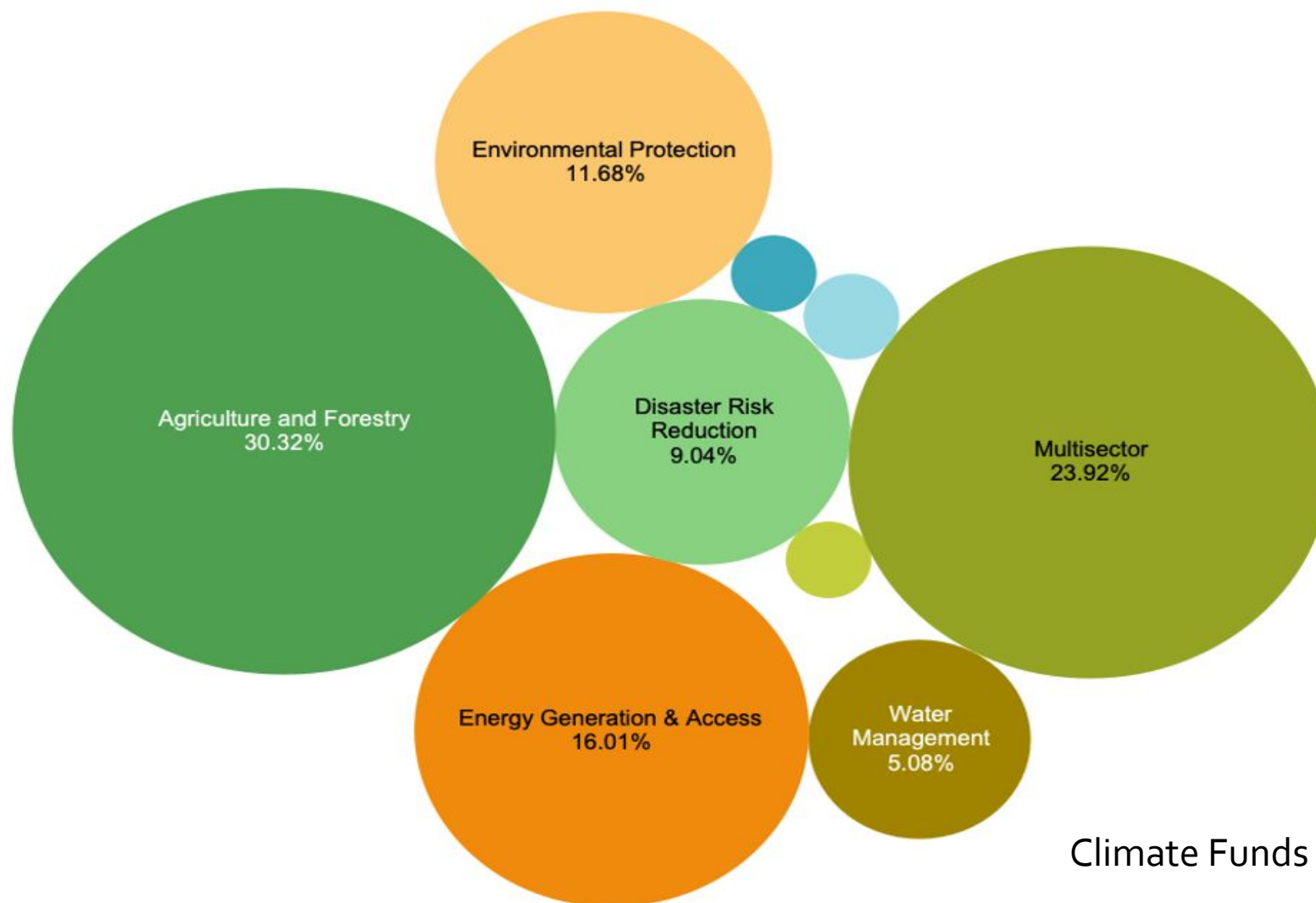
IFC: Estimates a **cumulative climate investment opportunity** of **USD 29.4 trillion in six urban sectors*** in **emerging markets cities** by 2030. The bulk, **USD 24.7 trillion**, rests with **green buildings**, which covers both new construction and retrofits (IFC, 2018).

Coalition for Urban Transitions: **Low-carbon cities** are a **\$24 trillion opportunity**, equivalent to nearly **one-third of the global** GDP in 2018 (Coalition for Urban Transitions, 2019).

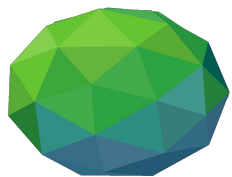


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Climate finance flows to developing countries

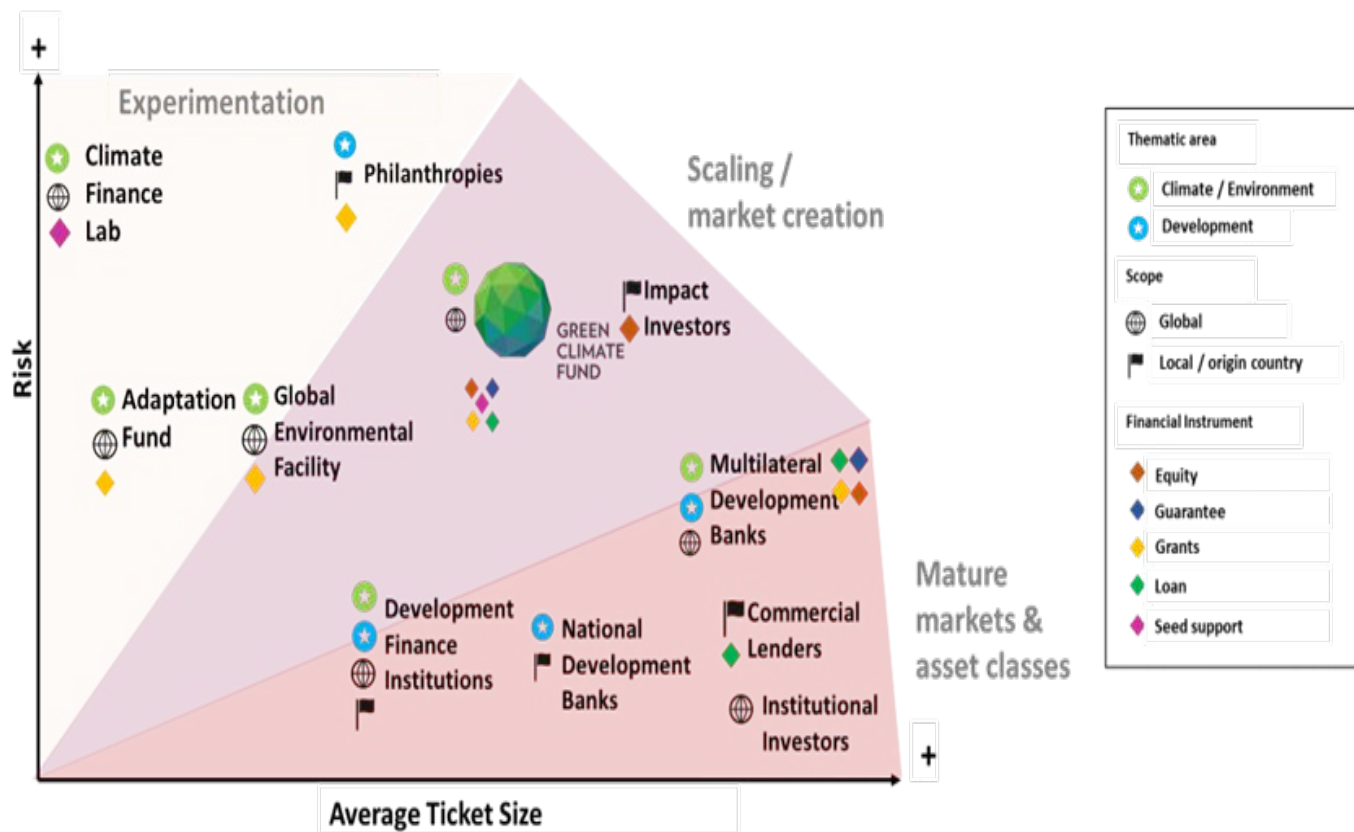
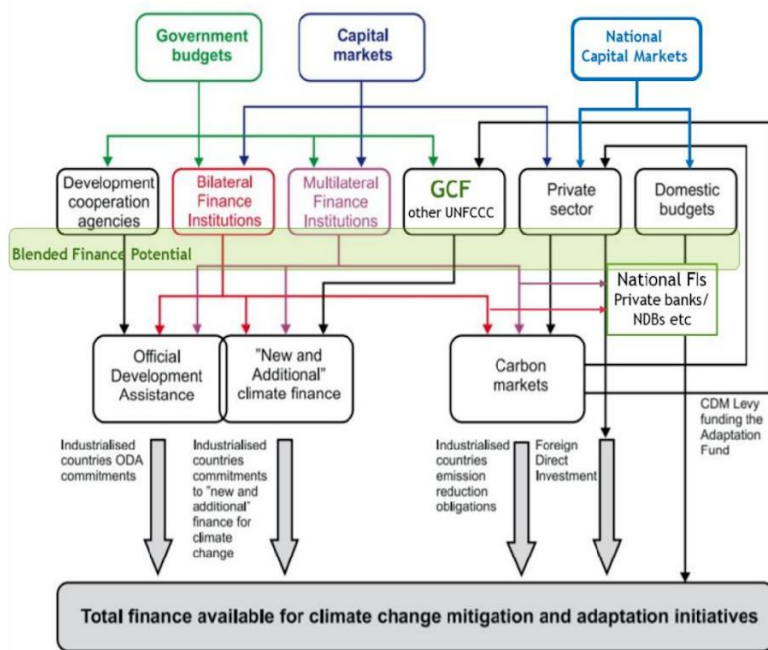


Climate Funds Update (2018)



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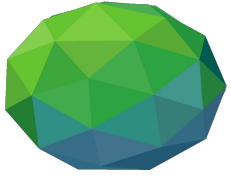
GCF in the Climate Finance Landscape and Potential Collaborators



Source: Adapted from Atteridge, A et al (2009)

Notes: CDM=Clean Development Mechanism, FI=Financial Institution, NDB=National Development Bank, ODA=Official Development Assistance

GCF: scaling transformational solutions and market-creation role, and as accelerator and amplifier for climate action



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GCF : Investment criteria for Water Security Sector



01

The world's largest climate fund



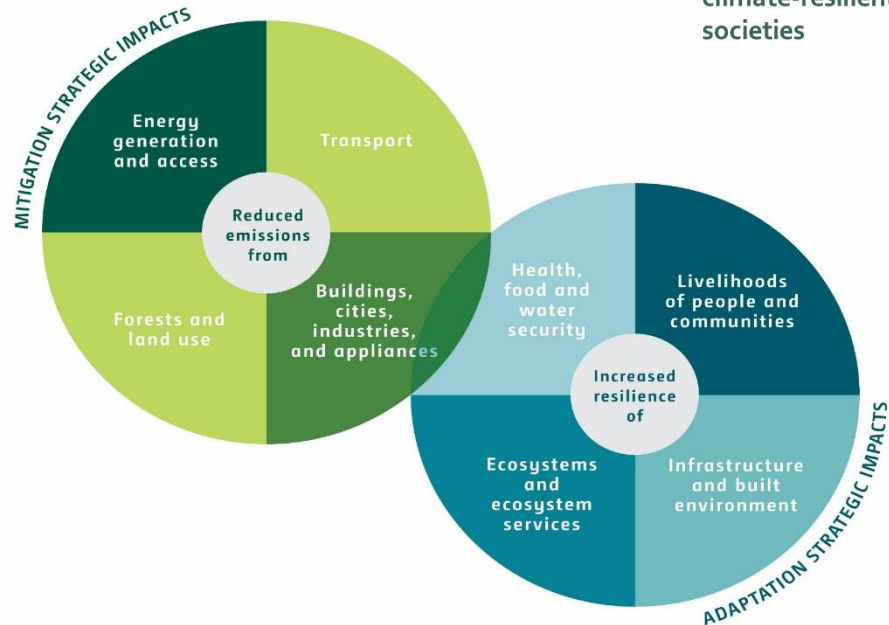
02

Set up by the UNFCCC, and serving the Paris Agreement



03

Supporting developing countries to transition to low-emission, climate-resilient societies



1

Impact potential

2

Paradigm shift

3

Sustainable development

4

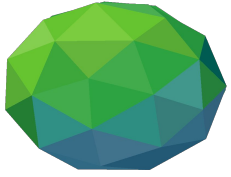
Recipients needs

5

Promote country ownership

6

Efficiency & effectiveness



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How we drive change

01

Transformational
planning



02

Catalyzing
innovation



03

Mobilizing
finance



04

Coalition and
Knowledge to
Scale-up Success



strengthening the capacity of urban institutions to **foster policy integration and enabling policy frameworks**, as well as to plan, programme and **build a pipeline of climate investments and improve skills in green procurement**

Invest in **policy, institutional, business model, financial and technological innovations**, with the potential to **break existing trends** and dramatically **scale-up** climate and resilience impact

catalyze **Private, Institutional and Commercial (PIC)** financing. This includes **de-risking** a pipeline of urban investments through **blended finance** and **improving cities' access to international and domestic capital markets**.

Generate and disseminate **knowledge** across urban sector project portfolio, **leverage partnerships** with urban networks and coalitions to **share lessons learned** and **replicate** good practices in order to reach scale.



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What We are looking for!!!

Climate Rationale and Additionality

Additionality of GCF Funding

- Why GCF?
- Projects must crowd-in additional financing on top of GCF

Strong Climate Rationale

- Climate Impact of investment is key
- Scientific evidence to provided

8 Results Areas



Energy



Transport



Buildings, Cities, Industries



Ecosystems



Livelihoods of people & comm.



Health, food and water security



Forests and land use



Infrastructure

Compliance with GCF Policies

- Fiduciary standards
- Risk Management
- ESS
- M&E Criteria
- Gender Policy
- Legal Standards

Country Driven Approach

- Alignment with NDCs
- Early country (NDA) engagement
- No-objection letter

Six Investment Criteria

1. Impact Potential
2. Paradigm Shift Potential
3. Sustainable development potential
4. Recipient needs
5. Country ownership
6. Efficiency & effectiveness

Completeness of documentation

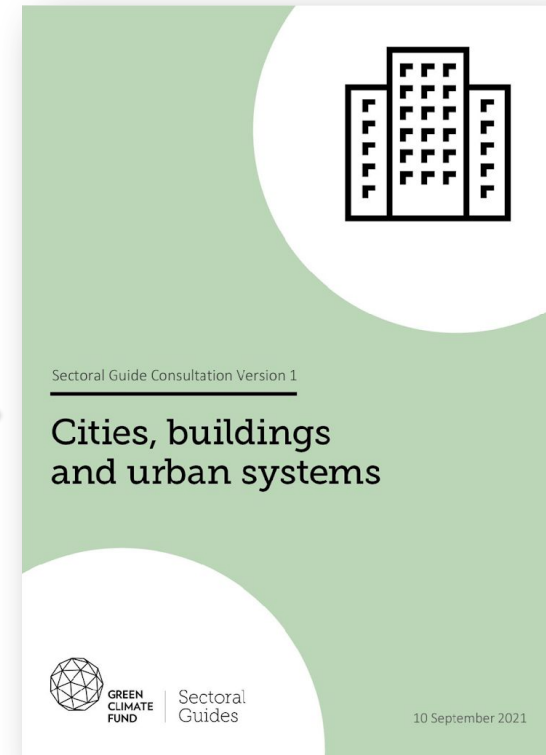
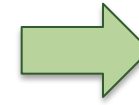
- Feasibility study
- Financial Model
- Project Timetable
- Gender Analysis
- Environmental studies
- No-objection letter

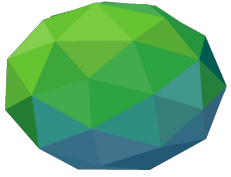


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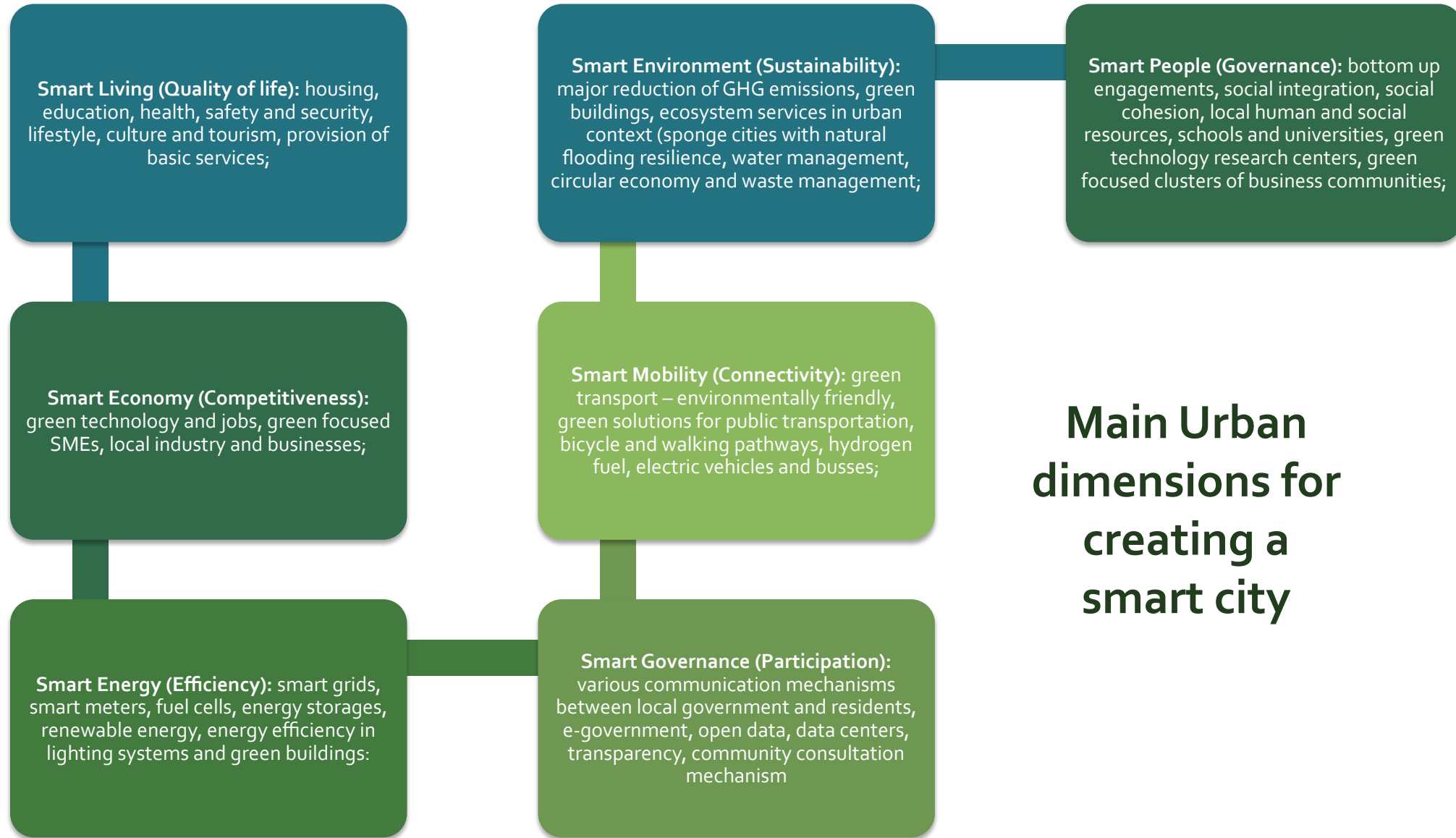
Transformative action fields for cities

Transformative Action Fields	2030 GHG emissions reduction	2050 GHG emissions reduction
Decarbonization of energy sector: renewable energy and storage	50% to 70% renewables, saving 35% - 45% of GHG At cost \$40-\$80 per MW	Up to 90% reduction on the basis of the same trend
Improving energy efficiency in building stock	Buildings: 32% reduction in primary material consumption and associated GHG	Buildings: 53% reduction in primary material consumption and associated GHG
Mobility and transport	20% to 45% emissions reduction	Same trend
Urban form	20% emissions reduction	40% emission reduction combined with transportation strategies
Urban resilience	DRR / Optimizing value for money through resilience enablers	DRR / Optimizing value for money through resilience enablers
Materials and material flow	32% reduction in primary material consumption and associated GHG	53% reduction in primary material consumption and associated GHG
Improving waste management	20 % reduction in related GHG emission	40% reduction in related GHG emissions

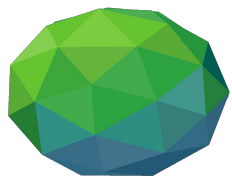




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Main Urban dimensions for creating a smart city



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Four drivers of paradigm-shift

Transformational planning & programming

Catalyzing climate Innovation

Mobilization of finance at scale

Expansion and replication of knowledge

Paradigm-shift pathways (Transformative Action Fields)

Decarbonized & distributed Energy

Energy efficient buildings

Green & mobility-enhanced cities

Circular urban economy

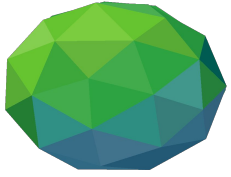
Compact & resilient urban form

- **Strengthen** mechanisms to **implement NDCs** and **urban climate targets** through **planning** and programming process
- Foster **integrated** urban, transport, energy and infrastructure **development**
- **Institutional strengthening** for pipelining and project development
- Develop and apply **new technical standards** and **performance standards** in support of the above

- **New business models** that **reduce** upfront capital cost requirements and tap new revenue sources (ex: pay-as-you-go schemes; land value capture, etc.)
- Support to **integrated implementation of new technologies**
- New institutions (ESCOs, etc.)
- New urban development models (TOD, etc.)
- New legislation (producer responsibility)

- **Increased access** to of cities and city institutions to **domestic and international capital markets** through
- Support to **pipeline development** at scale
- Catalyse and participate in **private sector funding** vehicles eg SPVs for PPPs
- Targeted investments in **catalytic funds**, city raisings and PPP structures
- Support to **direct access** AEs (especially NDBs) in subnational climate financing
- Mechanisms to **enhance the use of blended finance, sub-sovereign finance and mechanisms** to leverage the **private sector** to work for cities – especially in SIDS and LDCs
- Mobilization of **national and global PIC funds** through capital markets
- **Incentivize IFIs** to leverage resources and to incentivize efficiency and innovation

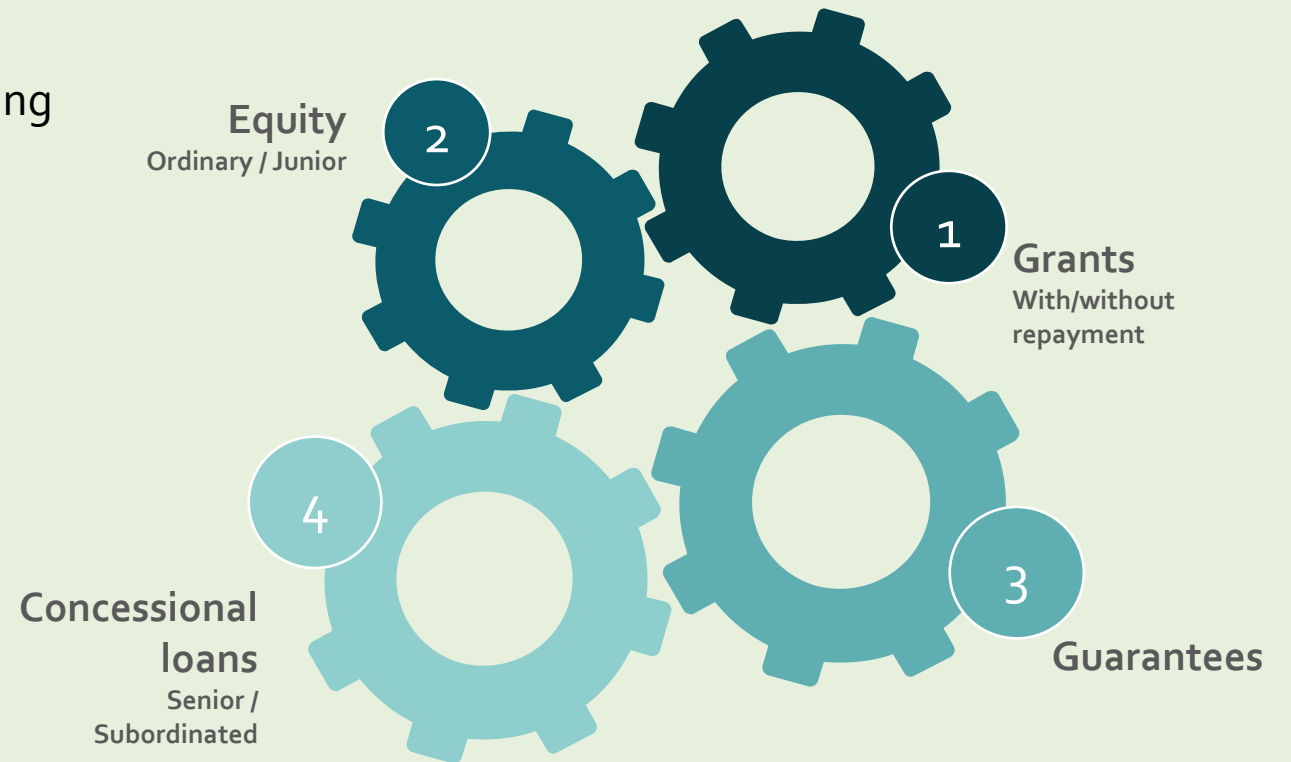
- Developing **knowledge products on business models** through the Community of Practice for each TAF
- Utilise **partnerships** within CCFLA to **upscale action on project development**, PIC financing and NDBs
- **Partner with other agencies & networks to maximize knowledge feedback / learning loops** in each TAF sector
- **Effectively disseminate knowledge** through GCF knowledge repository and networking events

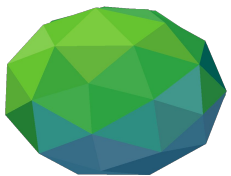


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HOW WE INVEST

- These can be combined into a variety of financing structures, e.g.:
 - Project-based (SPVs)
 - Direct equity/debt funds
 - Fund-of-funds
 - Structured finance vehicles
 - On-lending





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A FLEXIBLE RANGE OF INSTRUMENTS



Loans



Guarantees

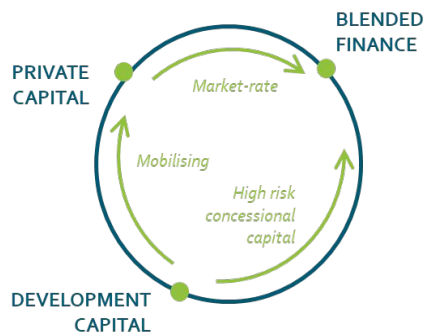


Equity



Grants

TO MAKE BLENDED FINANCE WORK



National Adaptation Plan: One-Off \$3 M / country

Country Readiness: \$1 M / country / year

Project Preparation Fund: \$1.5 million / Proposal

Micro: < USD 10 million
 Small: USD 10-50 million
 Medium: USD 50-250 million
 Large: > USD 250 million

SAP Project : \$25 million

INDCs

Country and Entity Programmes

NAPs

READINESS

PPF

FP

GCF pipelines

Sector Guides

Project Concept Notes

What sectors, what projects are a priority for the country?

Are there any gaps for identifying or strengthening entities?

Which entity(ies) is the most suitable to deliver the pipeline?



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ROLE OF THE GREEN CLIMATE FUND

De-risking & Concessionality

Need for concessionality

- › **Reducing risk** in a transaction;
- › Anchoring role for **co-investors** to participate;
- › Fostering **behavioral changes** conducive to stronger climate impacts;
- › **Creating demand** by making **climate solutions affordable**.
- › **Pricing** concessionality
- › **Subordinated** position;
- › **Flexible** term & tenor
- › **Flexible guarantees**
- › **Fit for purpose grants** to foster future climate action



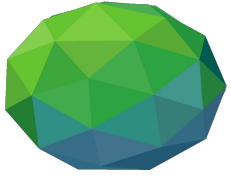
➤ Leveraging private sector, institutional investors and DFIs funding to **support green growth in Developing Countries**



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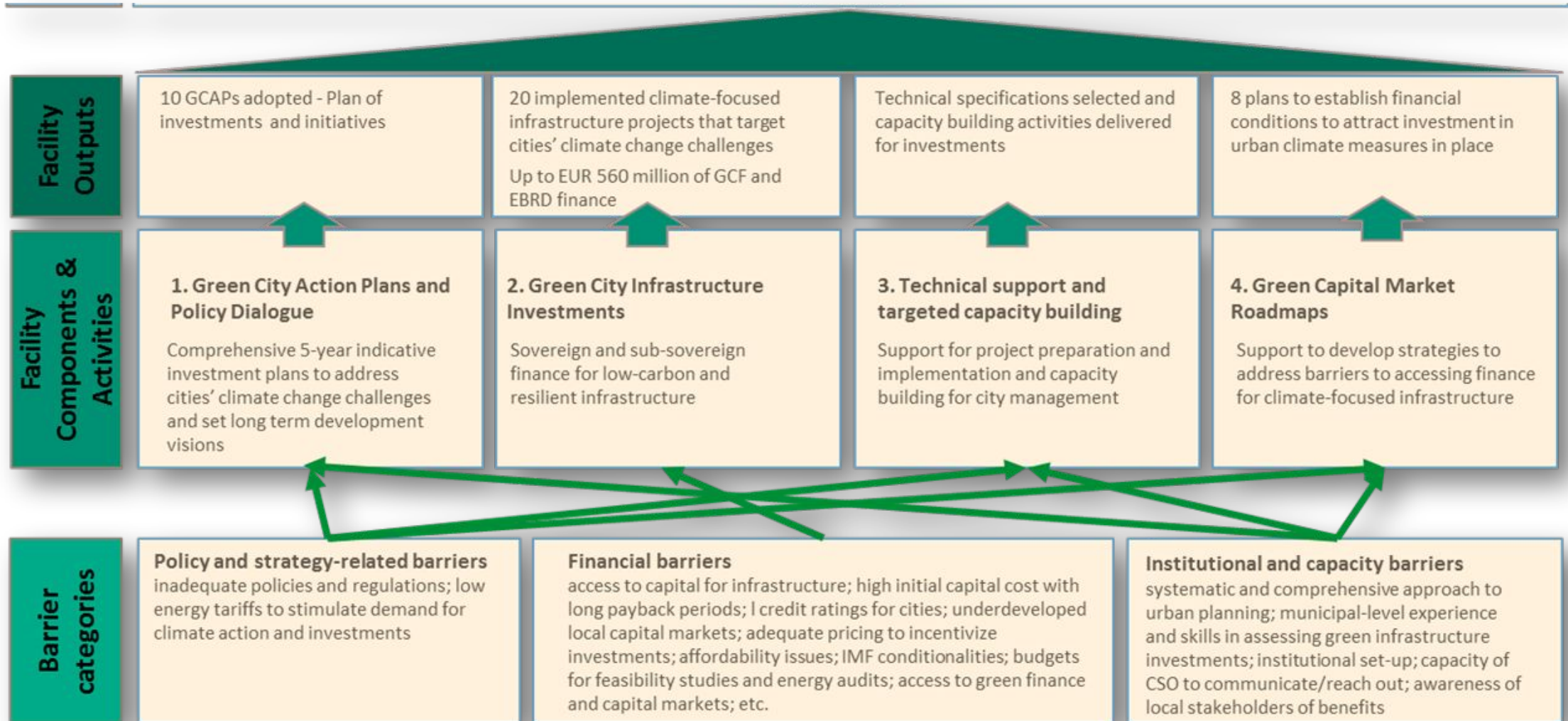
Selected GCF Portfolio in Cities / urban and energy efficiency sector

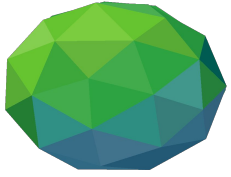
Title, Country and AE	Total Financing	GCF financing
ADB Ulaanbaatar Green Affordable Housing and Resilient Urban Renewal Project (AHURP) Mongolia	\$544 million	\$95 million concessional loan \$50 million grant
ADB ASEAN Catalytic Green Finance Facility (multi country: Cambodia, Indonesia, Lao PDR, Malaysia, Thailand and the Philippines)	\$3.385 billion	\$ 280 million concessional loan \$20 million grant
World Bank Viet Nam: Scaling Up Energy Efficiency for Industrial Enterprises in Viet Nam	\$ 497 million	\$75 million guarantee facility \$11.3 mil grant
ADB Catalyzing Climate Finance (Shandong Green Development Fund) PRC	\$ 1.5 billion	\$100 million concessional loan
UNDP Scaling-up Investment in Low-Carbon Public Buildings, Bosnia-Herzegovina	\$122 million	\$17.3 million grant
EBRD Green Cities Facility (multi-country: Albania, Armenia, Georgia, Jordan, Moldova, Mongolia, North Macedonia, Serbia, Tunisia)	Euro 600 million	Euro 65 million concessional loan; Euro 22 million grant



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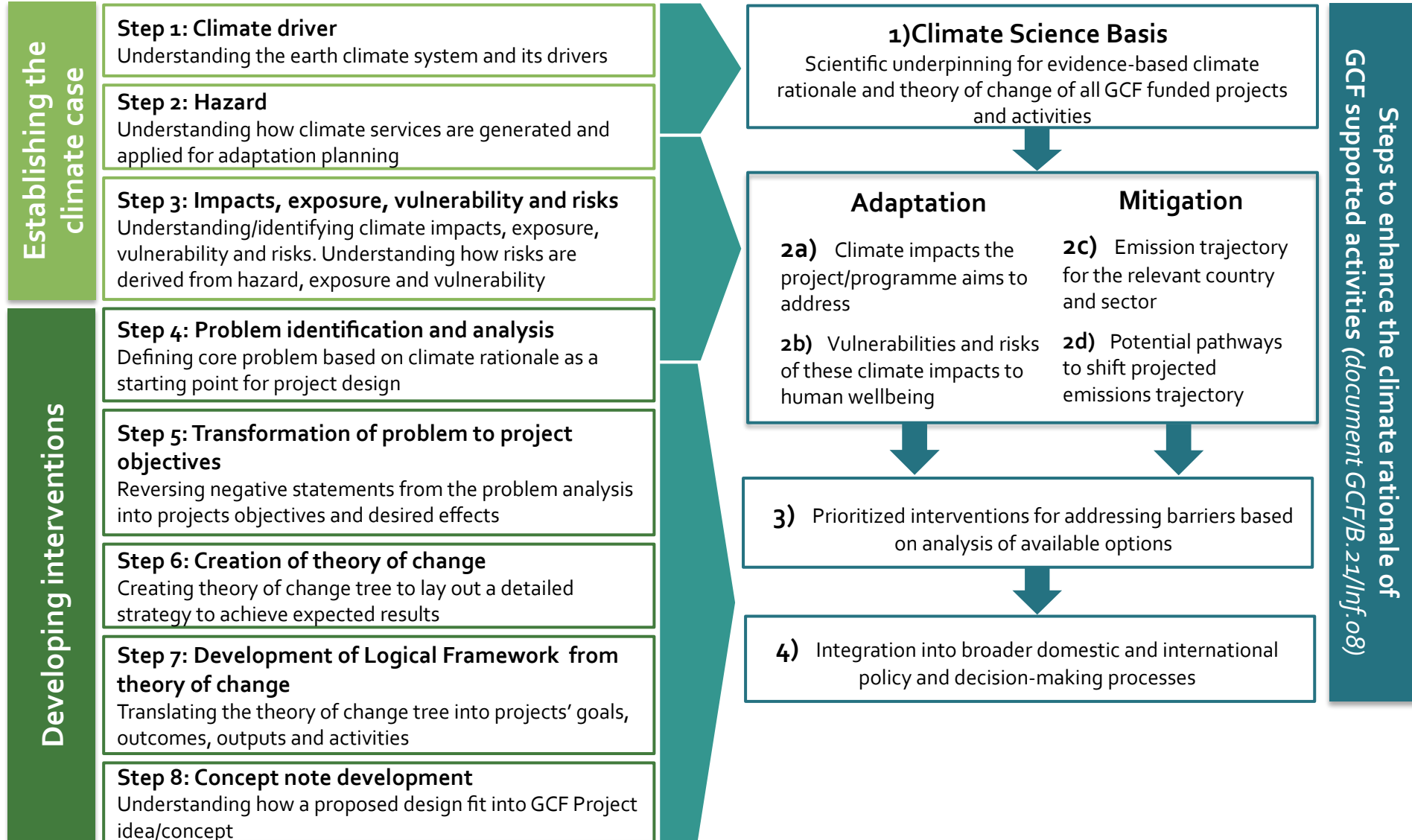
Example - EBRD Green Cities Facility – 560 million USD (GCF and EBRD)





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Project development process for climate financing

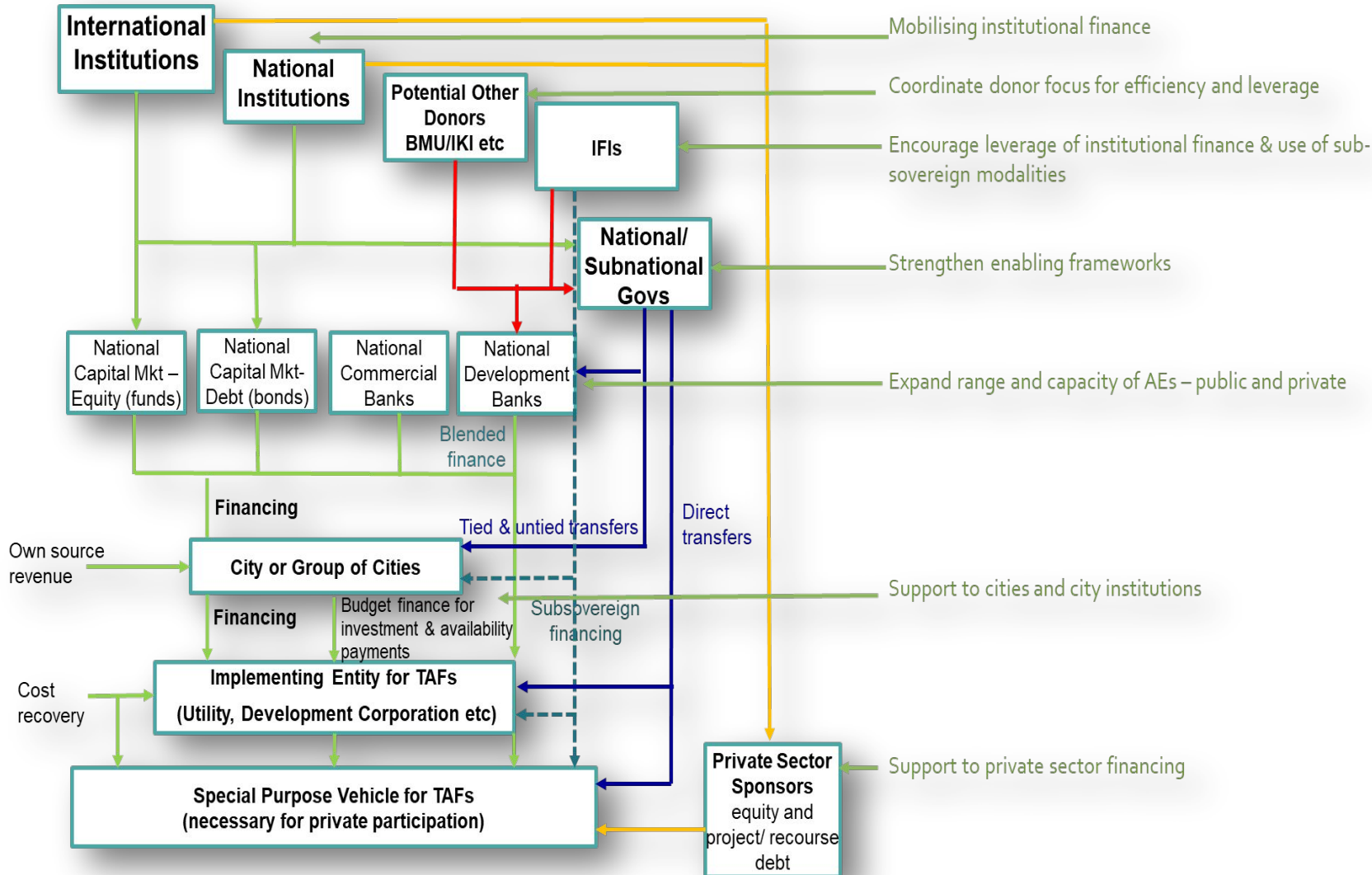




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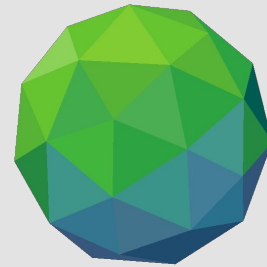
Take Home Messages- GCF & City Finance

GCF Urban Action Areas



Compact, connected, and coordinated cities could deliver up to 3.7 GtCO₂e/year of savings over the next 15 years and reduce infrastructure capital requirements by over US\$3 trillion

1. GCF can offer financing opportunities for urban projects which can **de-risk investments and attract private investors.**
2. GCF can support a **range of finance mechanisms** that will leverage institutional change and linkages .



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