

# Targeted Project Proposals – Options available to the Cities

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18 May 2023

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MP Ensystems Advisory Pvt Ltd

About MP Ensystems Advisory Private Ltd

Why cities matter

Climate risk mitigation & adaptation imperatives for a city

Challenges faced by city managers

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# About MP Ensystems Advisory Pvt Ltd

MP Ensystems Advisory Private Ltd. is a for profit private consulting firm set up in 2012

Expertise in :

- Electricity regulations,
- Business model development,
- Climate finance
- Socio-technical modelling and innovations in power and energy,
- Livelihood development
- Water sector

We work with private sector clients, multilateral financial institutions, philanthropies, academia, policy making institutions, development institutions and civil society organisations to create thought leadership towards a low-carbon and equitable future.

# About MP Ensystems Advisory Pvt Ltd



## ENERGY

Energy efficiency  
Renewable Energy  
Distribution sector reforms  
Power sector policies and  
innovations



## TRANSPORT

Sustainable Transport  
Urban Mobility Planning



## AGRICULTURE

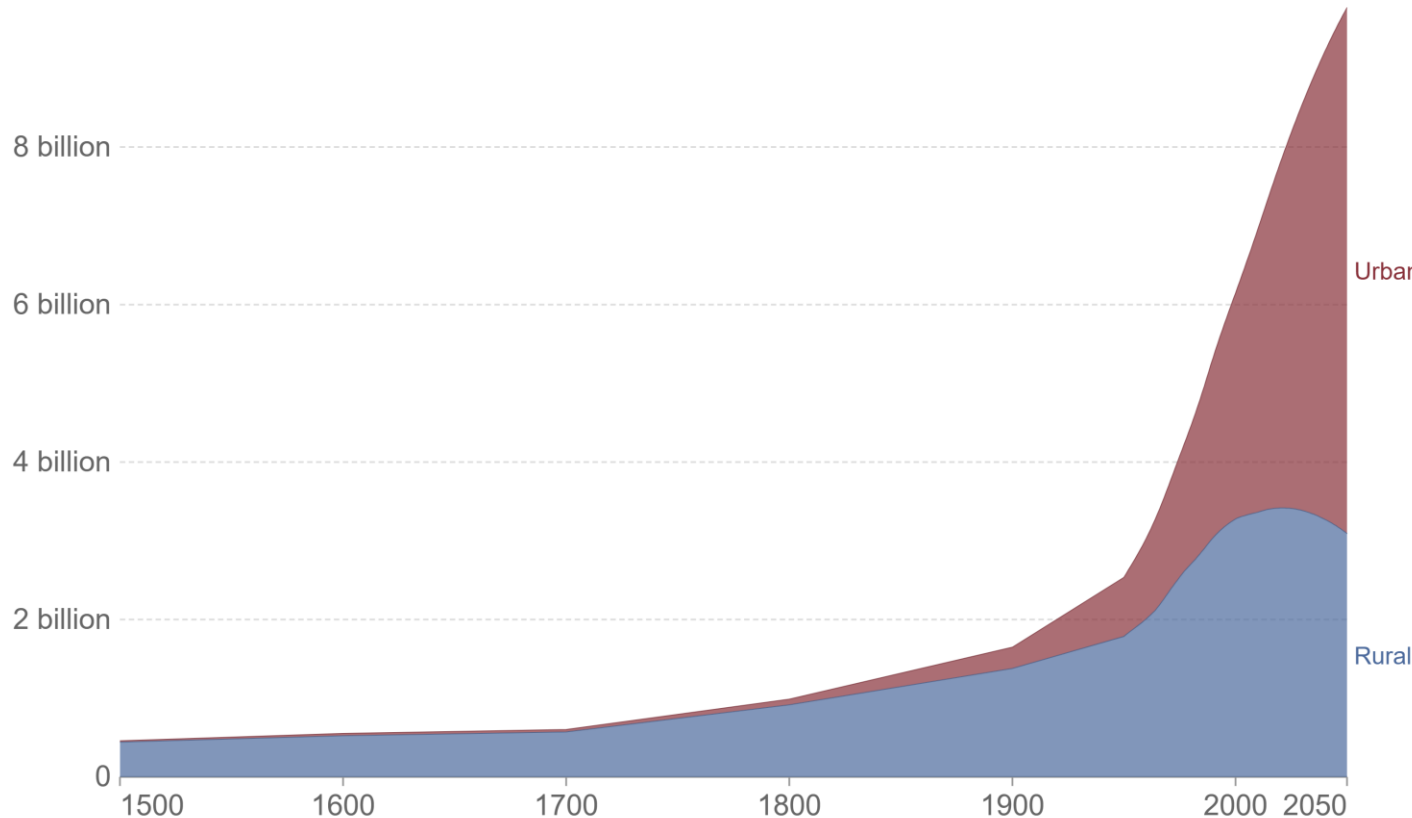
Rural Markets  
Greening value chains  
Livelihoods  
Energy Water Nexus

# Why cities matter

## Urban and rural population projected to 2050, World, 1500 to 2050

Total urban and rural population, given as estimates to 2016, and UN projections to 2050. Projections are based on the UN World Urbanization Prospects and its median fertility scenario.

Our World  
in Data



Source: OWID based on UN World Urbanization Prospects 2018 and historical sources (see Sources) [OurWorldInData.org/urbanization](https://OurWorldInData.org/urbanization) • CC BY

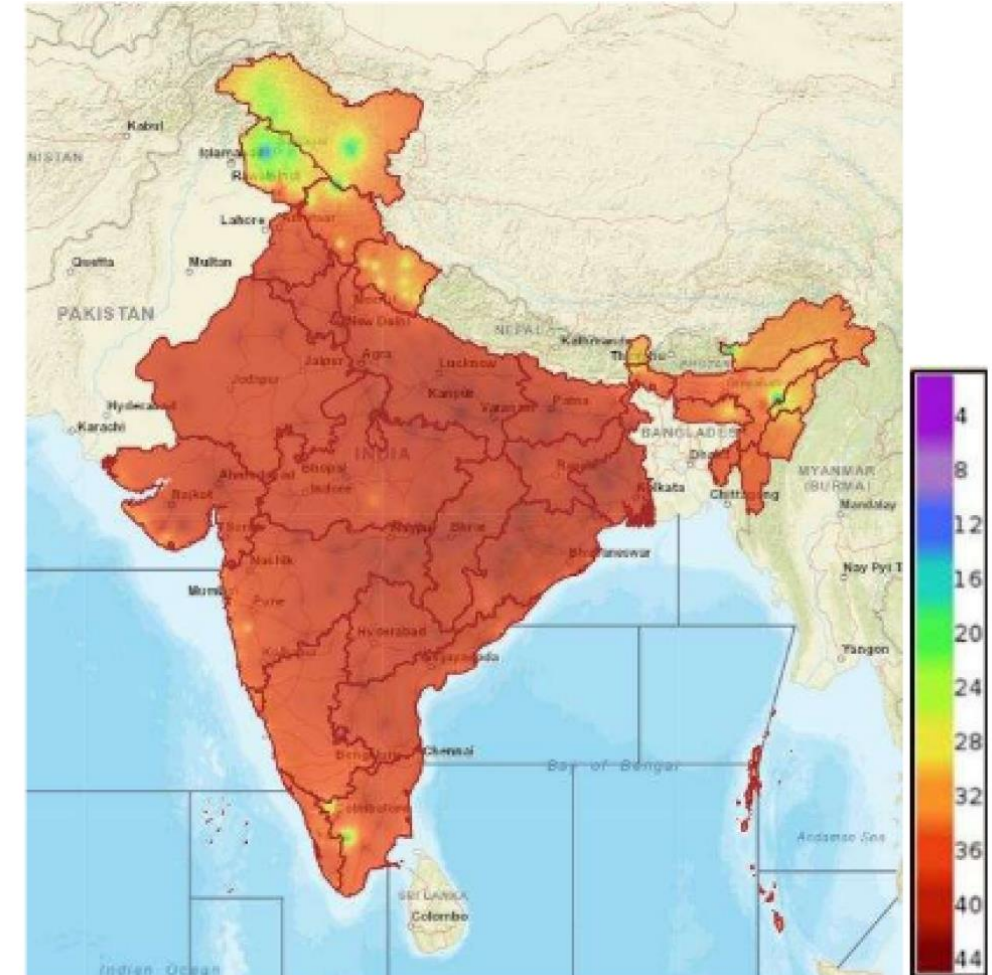
- Currently **55%** of the world's population lives in urban areas
- Expected to increase to **68%** by 2050
- By 2036, 600 million people will be living in urban cities in India, representing 40 percent of the population
- **Increase the strain on the already limited urban infrastructure and services**, with an increased need for clean drinking water, dependable power supply, safe and efficient road transport, and other essential services.

# Climate risk mitigation & adaptation

## Imperatives for a city

### Urban Heat Island effect

- Urban heat island refers to the phenomenon in which urban areas experience significantly higher temperatures than surrounding rural or natural areas.
- Increased Energy demand as high temperature result in increase in demand for air conditioning
- Impact on health and sometimes death
- Altered rainfall pattern
- Reduced air quality



Maximum temperatures in India on April 18, 2023



# Climate risk mitigation & adaptation Imperatives for a city

## Urban Flooding

- Cities witnessing receiving heavy showers in short time interval which inundates drainage systems thereby causing flooding.
- **Loss of life and property**
- **Public health risks**
- **Ecological Impacts**
- **Disruption of essential services**
- **Social and psychological impacts**



# Climate risk mitigation & adaptation

## Imperatives for a city

### Waste Management

- Rapid urbanization in India has led to over 30% of the population residing in 8,000 towns and cities, resulting in a significant increase in municipal solid waste generation.
- Low rate of waste treatment .
- **Dumping waste outside the city** is only solution for most of cities in India
- The **inefficient waste disposal** and management practices results in **environmental pollution, health hazards**, and the spread of diseases.
- **Lack of proper waste segregation** at the source
- **Inadequate recycling infrastructure**
- **Low public awareness** contribute to the challenges in implementing effective waste management practices.





# Challenges faced by city managers due to climate change

- **Buildings**

- Aging Infrastructure
- Building Safety and Compliance
- Building Maintenance and Repairs
- Emergency Preparedness
- Budgetary Constraints
- Technological Advancements



- **Flooding**

- Urbanization and Land Use
- Limited Open Spaces and Green Areas
- Encroachment of Water Bodies
- Inadequate Waste and Debris Management



# Challenges faced by city managers due to climate change

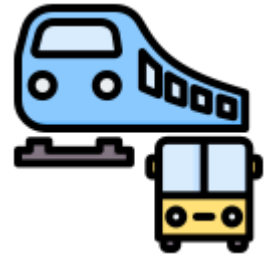
- **Waste Management**

- Increasing volume
- Inadequate Infrastructure
- Limited Landfill Space
- Hazardous Waste Management
- Informal waste sector



- **Service Delivery - Transportation**

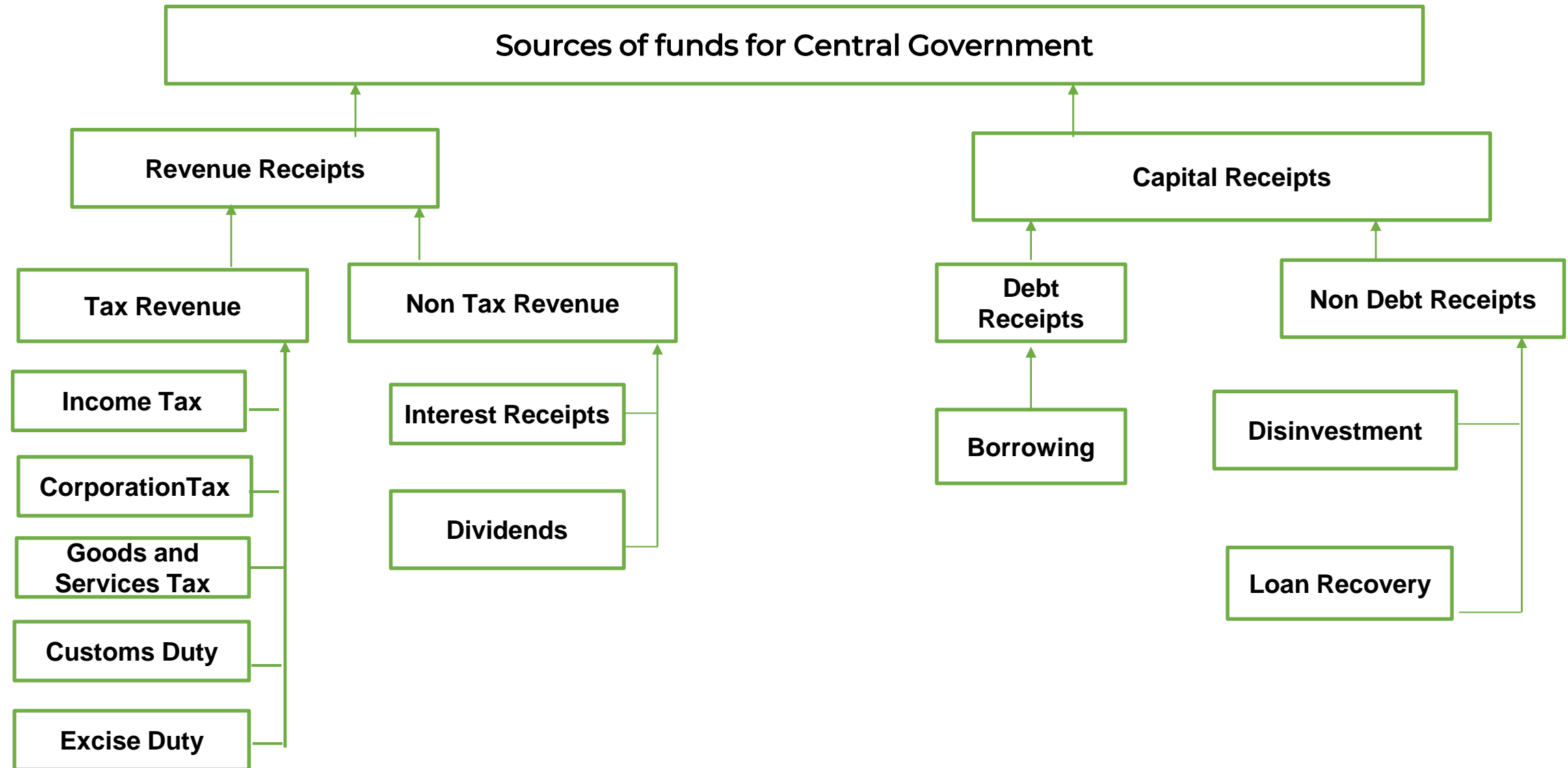
- Traffic Congestion
- Inadequate Public Transportation
- Lack of Intermodal Connectivity
- Air Quality and Pollution
- Infrastructure Development



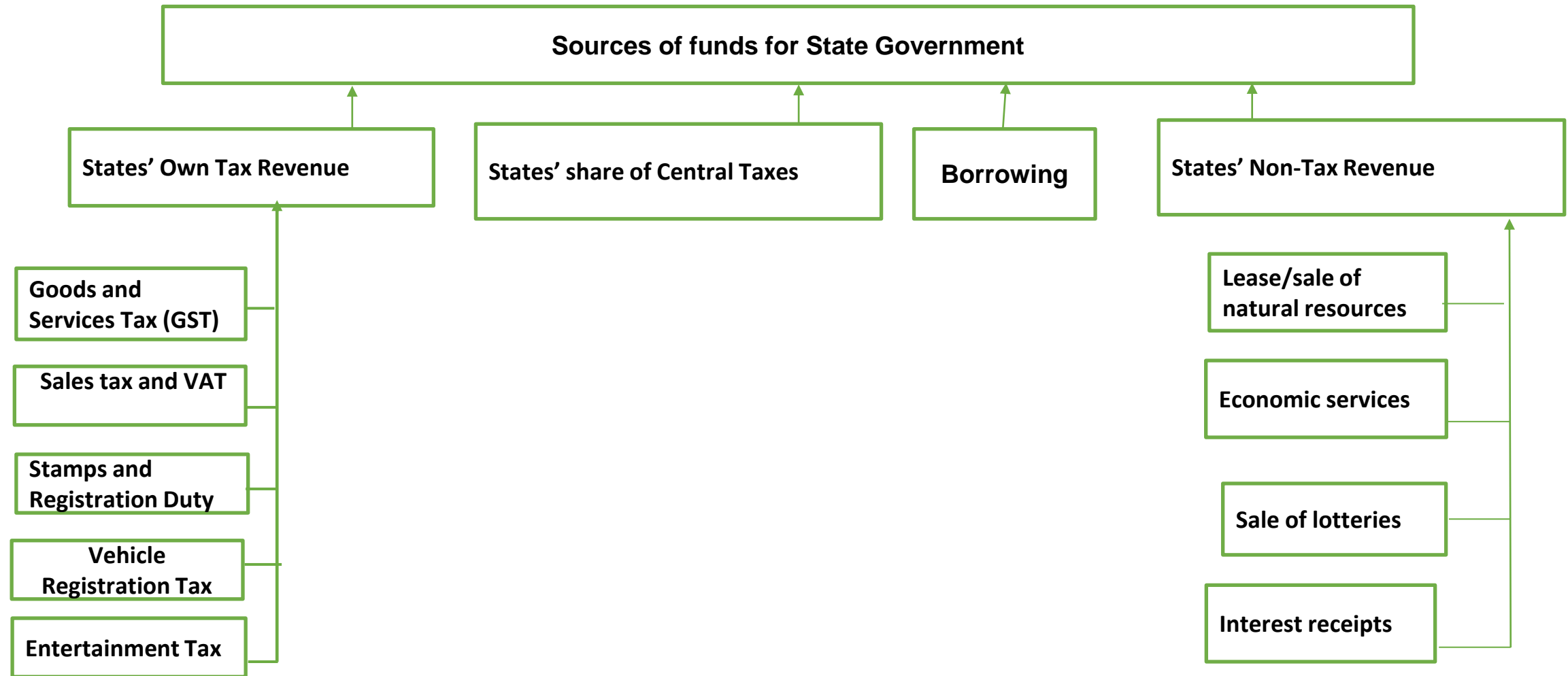
# Funding sources – India

- Government of India funds
- Matching contribution by States/ ULBs
- User Charges
- Public-Private Partnerships (PPPs)
- FFC recommendations
- The Pooled Finance Development Fund Scheme (PFDF)
- Borrowings from bilateral and multilaterals
- National Investment and Infrastructure Fund (NIIF)
- Convergence with other Government schemes

# Funding sources – Central Government

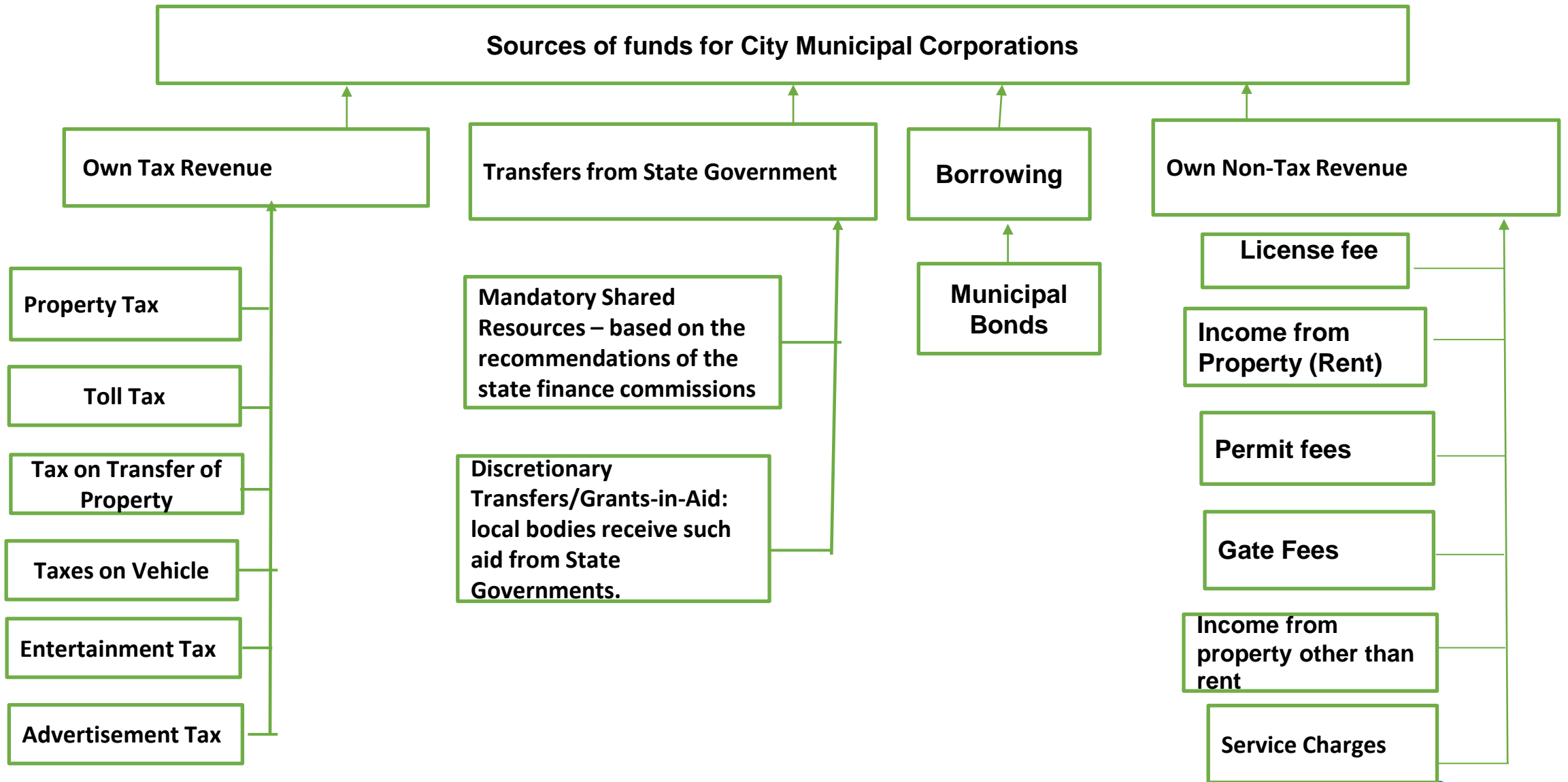


# Funding sources – State Government





# Funding sources – City/ Municipal Level



# Funding sources – Programs India

Name	Objective
Smart Cities Mission by Ministry of Urban Development	Promote cities that <b>provide core infrastructure</b> A clean and sustainable environment and application of 'Smart' Solutions. Focus on <b>sustainable and inclusive development</b> Idea is to create a <b>replicable model</b> which will act like a light house to other aspiring cities.
Atal Mission for Rejuvenation and Urban Transformation (AMRUT)	Ensure that <b>every household</b> has access to a tap with <b>assured supply of water</b> and a sewerage connection; Increase the amenity value of cities by <b>developing greenery</b> and well maintained open spaces (parks); Reduce pollution by <b>switching to public transport</b> or constructing facilities for <b>non-motorized transport</b> (e.g. walking and cycling).
Atal Mission for Rejuvenation and Urban Transformation (AMRUT) 2.0	AMRUT 2.0 is a step towards 'AatmaNirbharBharat' with aim of <b>making the cities 'water-secure'</b> and providing functional water connections to all House holds.
North Eastern Region Urban Development Programme	The Ministry of Urban Development has introduced North Eastern Region Urban Development Programme (NERUDP) to <b>improve quality of life of urban residents</b> . The scheme seeks to benefit residents of Agartala, Aizawl, Gangtok, Kohima and Shillong.
National Action Plan for Climate Change (NAPCC)	It outlines a national strategy that aims to <b>enable the country to adapt to climate change</b> and enhance the ecological sustainability of India's development path. <b>Eight —National Missions</b> which form the core of the National Action Plan and <b>focus on promoting understanding of climate change, adaptation and mitigation, energy efficiency and natural resource conservation</b> .

# Funding sources – India

Name	Objective
PM Awaas Yojana - (Urban) (PMAY-R, PM Housing Scheme Urban) by Ministry of Urban Development	Enable <b>better living</b> and drive economic growth stressing on the need for <b>people centric urban planning and development</b> . Envisages a "Slum Free India" in which every citizen has access to basic civic infrastructure and social amenities.
National Mission on Sustainable Habitat (NMSH) 2021-30	Promote <b>low-carbon urban growth</b> towards reducing GHG emissions <b>intensity</b> for achieving India's NDC. . <b>Build resilience of cities to climate change impacts</b> and strengthen their capacities to 'bounce back better' from climate-related extreme events and disaster risks.
Members of Parliament Local Area Development Scheme (MPLADS)	Each MP has the choice to suggest to the District Collector for works to the tune of Rs 5 crores per annum to be taken up in their constituency. <b>The Rajya Sabha Member of Parliament can recommend works in one or more districts in the State from where he/she has been elected.</b>
Faster Adoption and Manufacturing of Electric (& Hybrid) Vehicles in India Scheme (FAME India Scheme)	The scheme aims to encourage <b>progressive induction of reliable, affordable and efficient electric and hybrid vehicles</b> .
Swachh Bharat Abhiyan (Clean India Mission)	<b>Multiple objectives</b> including elimination of open defecation, addressing manual scavenging, and good sanitation and waste related practices
National Urban Livelihoods Mission (NULM)	The scheme is a <b>livelihood promotion programme to reduce poverty and vulnerability of the urban poor households</b> by enabling them to <b>access gainful self-employment</b> and skilled wage employment opportunities thereby enhancing their livelihood. It also addresses the livelihood concerns of urban street vendors. It has been implemented across 790 cities.

# Other Funding sources – Municipal bonds

Municipal Bonds issued by municipal corporations to fund infrastructure gap and can be used to fund projects that work towards improving a city's infrastructure. Municipalities are allowed to issue bonds to raise money to fund public infrastructure, such as roads, water supply and sewerage.

## Features of Municipal Bonds in India

Issued for a fixed term, with interest rates in the range of 5-10% paid annually or semi-annually with maturity periods that range from few years to several decades

Largely caters to institutional investor, **Indore Municipal Corporation (IMC)** launched India's first public issue of municipal bonds, this was the first time a municipal body targeted individual investors in India and the issue received an overwhelming response.

Municipal bonds have been gaining popularity among investors with NSE's index services subsidiary, NSE Indices Limited, launching India's first-ever Municipal Bond Index on February 24, 2023

# Funding sources – Green bonds

**Green Bonds** are fixed income financial instrument used to raise funds through debt capital market, these bonds fund environment friendly projects at lower rates and necessitates credibility and commitments associated with the process of raising bonds.

- Introduced to encourage companies to invest more in green projects like renewable energy production, water conservation, climate resilient infrastructure , waste and pollution control and Bioenergy technology development.
- These funds are used for public sector projects that encourage resource utilisation that is energy efficient, lower greenhouse gas emissions, improve natural ecosystems, and increase biodiversity, all of which will lower the economy's carbon intensity.
- Sustainable development and environment friendly projects need to be linked to capital markets and investors



# Funding sources – Sovereign bonds

In line with the country's target to reduce carbon emissions, The Reserve Bank of India (RBI) for the first time issued **Sovereign green bonds (SgrBs)** worth Rs. 16,000 Crores.

The central government will fund or refinance expenditures (in whole or in part) for green projects falling under "Eligible Categories" using the money raised from Sovereign Green Bonds (SGrBs). These include-

- Renewable energy
  - Energy efficiency
  - Clean transportation
  - Climate change adaptation
  - Sustainable water and waste management
  - Pollution prevention and control
  - Green buildings
  - Sustainable management of living natural resources and land use
  - Terrestrial and Aquatic Biodiversity Conservation
-

# World Bank - City Climate Finance Gap Fund

*The City Climate Finance Gap Fund is a global partnership that supports cities in developing countries plan for, prioritize, and deliver climate change mitigation and adaptation projects, climate smart urban development plans and inform future city level and country level urban climate policy and action.*

1. Providing technical assistance and capacity building.
2. Building a high-quality urban investment pipeline for later-stage technical assistance.
3. Sharing knowledge on project preparation with developers and financiers.

Projects supported by the Gap Fund will also result in social and environmental co-benefits, like improvements in urban quality of life, clean air, health, social inclusion, circular economy and job creation

<https://www.citygapfund.org/>

# The Asian Development Bank (ADB)

The Cities Development Initiative for Asia (CDIA) supports infrastructure projects that emphasize poverty reduction, environmental improvement, climate change mitigation and/or adaptation, and good governance.

Secondary cities from all ADB developing member countries are eligible to apply.

**Urban Environmental Infrastructure Fund** which aims to raise and invest cofinancing from development partner agencies. The fund prioritizes the following:

climate change mitigation and adaptation; urban environmental transportation services; urban environmental water and wastewater services; urban environmental solid waste management services; district heating and cooling services; and urban renewal.

The fund provides grants for technical assistance and investments focused on providing environmental benefits.

All ADB developing member countries are eligible to receive support from the fund.

[www.adb.org](http://www.adb.org)

# United Nations Environment Programme (UNEP) <sup>MP</sup>ENSYSTEMS

Urbanshift is the brand name for a new global initiative to improve lives and transform cities into green and liveable spaces that address climate change, biodiversity loss and pollution.

UrbanShift is working with cities to promote integrated development approaches such as nature-based solutions, low-carbon public transport systems, low-emission zones, and integrated waste management.

- UrbanShift focuses on both infrastructure and nature-based solutions for urban sustainability
- Engages with city-based organisations and the private sector
- Integrates gender and inclusion into planning and investment decision-making in cities.
- The initiative engages directly with local officials, urban practitioners and national governments to plan and implement innovative, cross-cutting solutions that address multiple urban issues.
- The solutions apply pilot approaches that can be easily scaled up and replicated

# Global Climate Fund

The objective of the Green Climate Fund is to support projects, programmes, policies and other activities in developing country using thematic funding windows

Green Cities Facility is joint investment by the Green Climate Fund (GCF) and the European Bank for Reconstruction and Development (EBRD) which prioritises sustainable, green investment.

Themes include energy efficiency (including built form) and reducing reliance on non-renewable energy sources, sustainable and low carbon transportation systems, green, resilient infrastructure, waste reduction and management, increased green areas, water cycle management and integrated planning

Cities which have higher than average energy and carbon density, and are facing a range of environmental and social issues, will have access to a Green Cities Facility

GCF will provide concessional financial instruments that will allow ambitious investments in climate-resilient urban infrastructure such as district heating/cooling, low-carbon buildings, and solid waste management.



# Global Green Growth Institute (GGGI)

GGGI supports national designated authorities (NDAs) and existing and potential national direct access entities (DAEs) to develop projects for submission to the Green Climate Fund (GCF).

GGGI has a unique in-country presence and prominent role as a neutral, trusted advisor and strategic development partner embedded in Member and partner governments.

GGGI serves the role of an enabler and facilitator of Members' transition into a low-carbon green economy, providing policy advice and technical support in the development of green growth plans, policies and regulations, mobilization of green investments, implementation of green growth projects, and development of local capacities and knowledge sharing.

Thematic areas supported are

- Solar Energy
  - Sustainable Transport
  - Green buildings and Industry
  - Forest (Sustainable) Landscape
  - Gender and Inclusive Development
-

**IFC's Cities Initiative** helps cities by financing and mobilizing private capital to invest in climate-smart projects in water, energy and other urban infrastructure and services.

**Focus areas** include green buildings, public transportation, EV's, waste management, water supply, and renewable energy.

**Utilities for Climate (U4C)** is a new initiative designed to offer water utilities access to IFC's advisory services, investment products and knowledge-sharing partnerships.

**Scaling ReWater** is an initiative to scale up the development of sustainable wastewater treatment and water reuse infrastructure in emerging economies. It is designed to unlock public and private finance through blended financing models.

**Scaling ReWater** can help clients as they develop wastewater treatments or plan for the reuse of existing infrastructure while mobilizing public, private, and concessional capital.

A new data-driven application, the **Advanced Practices for Environmental Excellence in Cities (APEX) App** will provide information in real time to help cities identify and invest in green solutions such as green buildings, recycling, renewable energy, and green transportation

The **IFC Electric Bus Toolkit** offers a systemic approach to key stakeholders interested in developing electric bus projects that are operationally feasible and commercially viable, from idea to implementation.

**Circularity Plus platform**, aimed at accelerating the development of sustainable waste solutions that reduce the climate impacts of cities and private waste generators. Through Circularity Plus platform, IFC provides rapid advisory support to waste management companies and select municipal governments for projects focused on circularity and value creation from waste.

# When/ how available

## Grants for implementation

Grant-in-aid refers to financial assistance provided by one level of government (typically the central or federal government) to another level of government (such as state, regional, or local governments), non-profit organizations, or individuals. . It is a transfer of funds from one entity to another to support specific activities or programs .

## Soft loans

A soft loan, also known as concessional loan or soft financing, is a type of loan that offers more favorable terms and conditions compared to standard commercial loans. **Soft loans are typically provided by governments, international organizations, or development banks** to support economic development, infrastructure projects, poverty reduction, or other developmental objectives in recipient countries. **Soft loans often have significantly lower interest rates, longer repayment periods and more flexible compared to commercial loans.**

## Technical help

Technical help refers to support provided to address specific technical issues, challenges, or knowledge gaps in a particular field. **It involves sharing expertise, providing guidance, and offering practical solutions to technical problems.** The focus is on enhancing understanding, skills, and capabilities in a specific area through expert advice, training, and knowledge transfer. Technical help does not involve financial assistance or funding.

# Types of programs at city level

- Electric Vehicle Charging Infrastructure
- Solid waste management and Circularity
- Waste water recycle and reuse
- Public building Energy Efficiency Improvement
- Large scale solarization of Cities
- Decarbonization of urban energy systems



# Proposal writing – Indicative Terms of reference

## **Project Title**

Name of the intended project

## **Problem Statement**

A reference to the need for the project to be undertaken

(Helps understand why the funding is sought and key area of implementation)

## **Introduce your Organisation**

## **Executive summary**

Provide an executive summary of the project/programme including:

Climate change problem , the proposed intervention by implementing authority and results that will be achieved in brief (Helps the evaluator to get a understanding of the project)

# Proposal writing – Indicative Terms of reference

## **Project/ Programme summary**

General Project Background, Clear description of Objectives, and impacts .

The final beneficiaries of the project/programme activities, should clearly identified (Helps in detailed understanding of objectives , project components, sub-components, impact of related objective)

## **Tasks to be undertaken, the Methodology and Deliverables**

List the tasks and the deliverable associated with the task with a clear timeframe of completion (Project intended tasks to be executed and the deliverables to be achieved in each task with timeline)

## **Financial Budget**

**A separate Document which highlights how the funds are to be utilized**

Provide full justification for all expenses including a table of services

(indicate the types of expenditures (e.g., Goods, Services, civil works, sub-grants, sub-loans, etc.) to be financed under the project)

[Urban and rural population projected to 2050, World, 1500 to 2050 \(ourworldindata.org\)](#)

[Funding Sources India -Schemes| National Portal of India](#)

[What is a Municipal Bond- Meaning & Types | IndiaBonds](#)

[Press Information Bureau \(pib.gov.in\)](#)

[Framework for Sovereign Green Bonds.pdf \(dea.gov.in\)](#)

[City Climate Finance Gap Fund \(worldbank.org\)](#)

[Cities Development Initiative For Asia \(cdia.asia\)](#)

[Urban Environmental Infrastructure Fund | Asian Development Bank \(adb.org\)](#)

[UrbanShift Programme | UNEP - UN Environment Programme](#)

[FP086: Green Cities Facility | Green Climate Fund](#)

<https://gggi.org>

[Utilities for Climate \(U4C\) Initiative \(ifc.org\)](#)

[Brochure | Scaling ReWater \(ifc.org\)](#)

[APEX Green Cities \(apexcities.com\)](#)

[Electric Buses: Enabling Green and Efficient Urban Transport \(ifc.org\)](#)

[Circularity Plus: Accelerating Waste-to-Value Solutions \(ifc.org\)](#)

# Thank you

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