Bureau of Energy Efficiency

सत्यमेव जयते
Government of India
Ministry of Power

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# ANGAN

## Augmenting Nature by Green Affordable New-habitat

A Courtyard for Revolutionary Change in Building Energy Efficiency

An International Conference on Building Energy Efficiency

9th-11th September, 2019 | Hotel The LaLiT, New Delhi

Bureau of Energy Efficiency

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THIS PRESENTATION WAS SHARED BY


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New Delhi


FOR THE SESSION:

*"Smart Cities and Smart Readiness Indicators (SRI) for Buildings"*

DURING ANGAN 2019

Knowledge Partner

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# Smart Cities and Smart Readiness Indicators ClimateSmart Cities Assessment Framework

Augmenting Nature by Green Affordable New-habitat (ANGAN)

*Building Energy Efficiency Conference*

Climate Smart Cities Project | 9 September 2019

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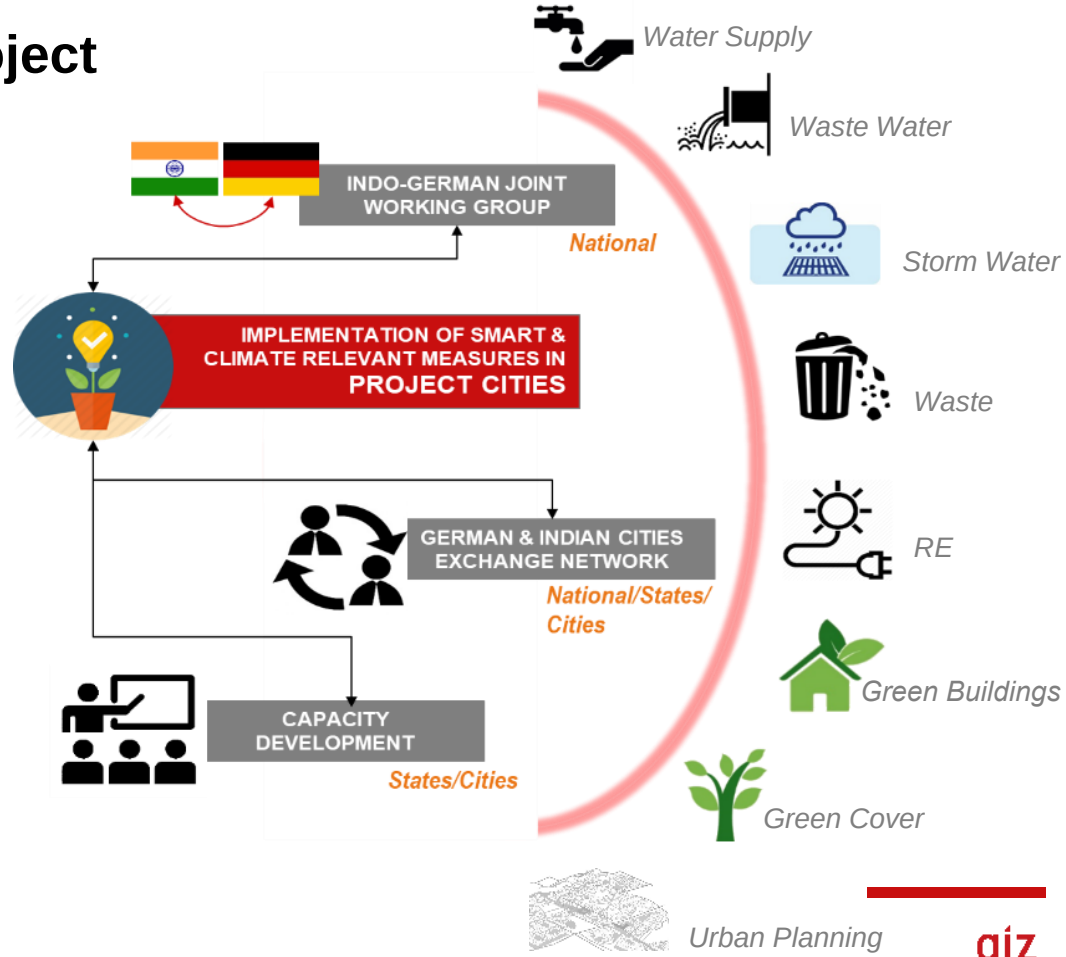
# GIZ - Climate Smart Cities Project

## Objective

Anchor climate-friendly solutions for urban infrastructure projects and area-based development in planning and implementation of Smart Cities

## Project Partners:

- Ministry of Housing and Urban Affairs
- State Governments – Kerala, Odisha, Tamil Nadu
- Cities - Kochi (Kerala), Bhubaneshwar (Odisha), Coimbatore (Tamil Nadu)



# ClimateSmart Cities Assessment Framework

The Ministry of Housing & Urban Affairs initiated the framework development under the Smart City Mission in Jan, 2019

- More than 30% population will live in Urban India by 2030
- India accounts for about **7%** of the global GHG emissions
- India is 6th most vulnerable in the world – loss of lives max (2119) and $21 billion loss in properties (2016)
- Consonance with the India's NDCs and SDGs
- Bringing together different indices, departments, data points towards a single aim

Why Climate?


- Objective, contextual, functional & practical Framework
- Mitigation and Adaptation aspects into a single framework
- Tool that is useful for assessment, for guiding action and for planning projects
- Roadmap for action. Not only an assessment



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# ClimateSMART Cities Assessment Framework

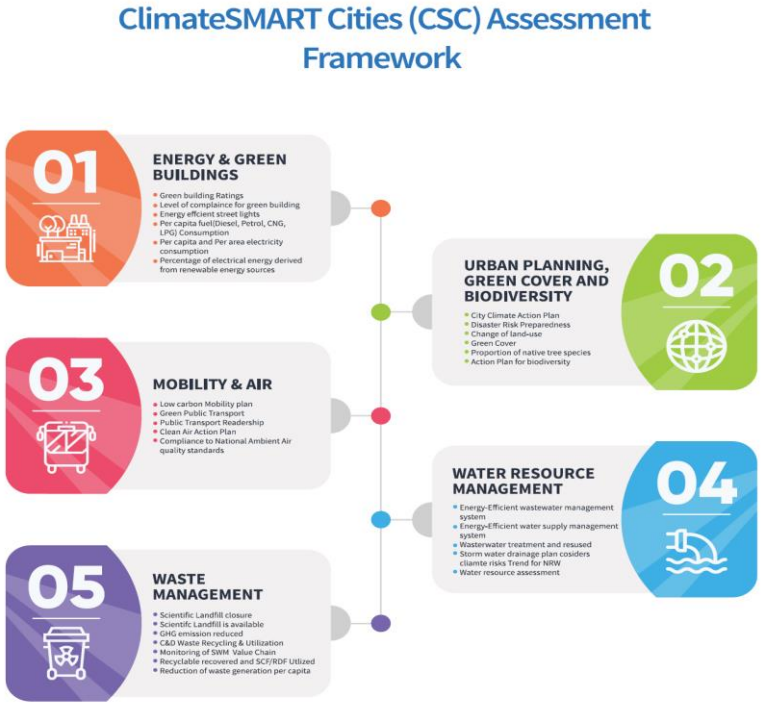
## Existing Frameworks Studied for developing the Framework

| Organisation/ Agency | Framework |
|---|---|
| World Bank | Global City Indicator Ranking Framework |
| European Union | “CITYkeys indicators” for Smart Cities & Projects |
| Asian Development Bank | Climate Risk Assessment and Screening Framework |
| Rockefeller Foundation - Cities Development Initiative Asia | Climate Resilience Project Screening tool |
| C40 | Global Aggregation of City Climate Commitments |
| U.S. Green Building Council | LEED v4.1; Cities and Communities: Existing; 2018 |
| Siemens and Economist Intelligence Unit | The Green City Index |
| Germanwatch, Berlin | Climate Risk Index 2019 |
| Confederation of Indian Industry – Indian Green Building Council (CII-IGBC) | “Green Cities” (for existing cities) |
| The Energy & Resources Institute – Green Rating for Integrated Habitat Assessment (TERI-GRIHA) | GRIHA for Cities |
| Frameworks and Indices of the MoHUA itself: Liveability / Ease of Living, Swachh Suvekshan, and the Mission monitoring | |

**Lesson: Each Index is “complete” or congruent in itself based on its main objective, scope and implementation aspects. Climate Assessment in the Smart Cities, needed a holistic framework**

# ClimateSMART Cities Assessment Framework

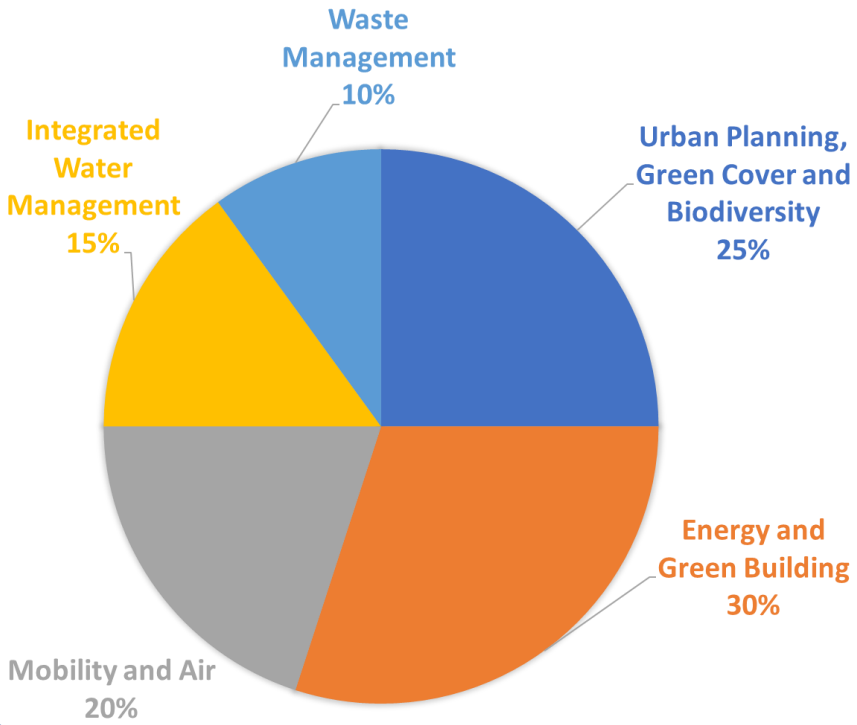
Launched in February 2019 under the Smart City Mission


www.smartnet.niua.org

# ClimateSMART Cities Assessment Framework

Weightages for CSC Assessment Framework

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# ClimateSMART Cities Assessment Framework

## 5 Thematic Areas with 30 indicators:

| | |
|---|---|
| **Energy & Green Building** | Electrical power from renewable energy sources |
| | Per capita and Per area electricity consumption |
| | Per capita fuel consumption |
| | Energy Efficient street lights |
| | **Level of compliance for green buildings** |
| | **Percentage of Green building ratings** |
| **Urban Planning, Green Cover, & Biodiversity** | City Climate Action Plan |
| | Disaster Resilience |
| | Rejuvenation and Conservation of Urban Environment |
| | Proportion of Green Cover |
| | Proportion of native tree species |
| | Action Plan for urban biodiversity |
| **Mobility & Air** | Low Carbon Mobility plan |
| | Low Carbon Buses |
| | Public Transport Ridership Index |
| | Percentage of coverage of Non-Motorized Transport network |
| | Clean Air Action Plan |
| | Level of Air Pollution |

| | |
|---|---|
| **Water Resource Management** | Water Resources Assessment and Management |
| | Extent for Non-Revenue Water |
| | Flood risk assessment and management |
| | Wastewater Recycle and Reuse |
| | Energy efficient wastewater management system in the city |
| | Energy efficient water supply system in the city |
| **Waste Management** | Reduction of waste generation per capita |
| | Recyclables recovered and SCF/RDF Utilized |
| | C&D Waste Recycling & Utilization |
| | GHG emission reduced |
| | Scientific Landfill is available |
| | Scientific landfill closure |

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# ClimateSMART Cities Assessment Framework

## Indicator 5: Level of compliance procedures in place for green buildings

Buildings are one of the prime contributors of GHG emissions.
Indicator checks the readiness of the city with regard to its compliance procedures in place for promoting green and energy efficient buildings

| | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| **Criteria/ Sub-indicators/ Progression Levels** | **Compliance procedures only available at state level** | **Inclusion for Energy Conservation Building Codes** (commercial & residential) and other certified green buildings **in city Development Control Regulations** (DCRs) | **Third party Pre-Certification given to upto 5%** of new buildings sanctioned in city under any green building certification | Third party Certification given to **6-10%** of new buildings sanctioned in city under any green building certification | Third party Certification given to **more than 10%** of new buildings sanctioned in city under any green building certification |
| **Evidence/ Data sources** | **NBC compliance available at state level** (Yes/No) | **Compliance procedures available at city level** | **ULB records** | | |

# Indicator 6: Percentage of buildings (commercial & residential) securing green building ratings (ECBC minimum base and additionally /BEE/third party framework)

The indicator checks the Built-up Area (BUA) of “green buildings” with respect to the total BUA as per different existing norms and incentivises the city for promoting green buildings.

| | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| **Criteria/ Sub-indicators/ Progression Levels** | **No green buildings certified** | **Upto 10% BUA in the base year are certified** | Upto **40% BUA** in the base year are certified | Upto **60% BUA** in the base year are certified | **All buildings in the base year are certified** |
| **Evidence/ Data sources** | ➢ List of buildings certified with Green building certificate along with BUA.<br>➢ List of all buildings along with total BUA completed in the base year | | | | |

# ClimateSMART Cities Assessment Framework

## Journey so far…..

| | |
|---|---|
| **Brainstorming Workshop & sub-group creation** | • Chaired by MoHUA with GIZ & NIUA as Strategic partners<br>• For Evolving Indicators and Framing the Assessment Methodology with 26 different organizations and ministries including MoEFCC<br>• 5 Sub-Groups created for development of indicators |
| **ClimateSmart Cities Assessment Framework** | • Confirmation of logic and finalization with MoHUA<br>• Launched by the Hon. Minister, MoHUA and other dignitaries at the 2nd Apex Conference of the Smart City CEOs on 26 February 2019 |
| **Feedback & Dissemination** | • Feedback on the assessment framework from cites through 4 Cluster Workshops in April 2019 – suggestions incorporated in Indicators<br>• Online portal with city logins for all 100 cities created |
| **Assessment phase** | • 4 Regional workshops held with the nodal officers<br>• Data upload by the cities and Data validation by PMU experts<br>• Expert Committee with sector experts providing guidance for the process<br>• Finalisation and announcement of results |

**…….launch of results on 2nd October, 2019**



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**Brainstorming Workshop for Evolving Indicators and Framing the Assessment Methodology, 25-01-2019**



**National Cluster and Regional Workshops on ClimateSmart Cities Assessment Framework, 8,9,10 & 15 April, 2019 and 12,13, 19 and 21 July, 2019**

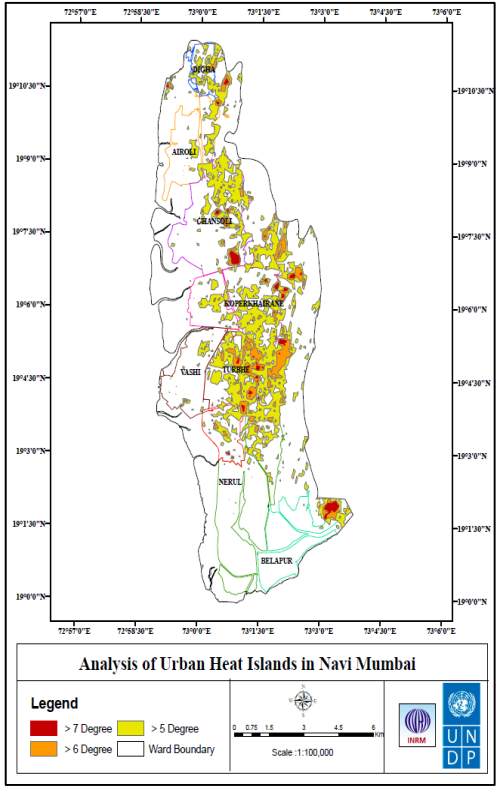
# Smart and Climate Friendly Cities

Integrate all sectors and parameters of the ClimateSmart Cities Assessment Framework

- Urban planning
- Green cover and biodiversity
- Integrated water resource management
- Waste management
- Mobility and air quality
- Energy & green buildings

Include mitigation and adaptation measures related to climate risks of your city into on-going decision making processes

Think city wide but act locally
Plan better – build better – save emissions, minimize vulnerabilities - increase resilient capacity of the city



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