





Ministry of Housing and Urban Affairs Government of India

Climate Centre for Cities

(C-Cube)

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2nd International Conference on Building Energy Efficiency - ANGAN (Augmenting Nature by Green Affordable New - Habitat)

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ClimateSmart Cities Assessment Framework





First country to do nationwide climate assessment **impacting over 140 million** people (~1/3rd of urban population). Assessment framework linked with **national and international framework** and goals



Development stage indicators to provide guidance for enabling climate actions within ongoing activities



Vision Building Climate Actions in Cities

Action 01

Climate variability and climate change considerations are included in all urban projects (infrastructure) and not implemented as separate initiatives.

Action 02

Cities mainstream climate actions through improved collaborations with stakeholders, improved planning, infrastructure resilience and monitoring impacts.

CSCAF 2.0

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Energy and Green Buildings

Mobility & Air Quality

Water Management

Waste Management



Landfill / dumpsite Scientific Remediation

Scientific Landfill availability & operatio

MANAGEMENT

City Climate Action

Disaster Resilience

Clean Technologies Shared Vehicles

Climatesmart City Assessment Framework

Flood/water stagnation risk management

Wastewater Recycle and Reuse

Energy-efficient water supply system

Energy-efficient wastewater management system

URBAN PLANNING, GREEN COVER & BIODIVERSITY

Urban Biodiversity

roportion o Green Cover

CSCAF Nomenclature & Scoring Levels

Development stage indicators

Existing Name	Development L
Five Star	Cities are able to showcase im impacts
Four Star	Cities have allocated budgets actions
Three Star	Committees are in place / plan initiated
Two Star	Cities have started collecting of hired technical agencies to star
One Star	Cities have either not started th the process of thinking about

evel Explanation

plementation / actions /

/ started implementing climate

ns in place / project proposals

data / formed committees / rt planning climate action projects

inking about climate change or in climate actions

City Progress

Year on year progress of cities





Cities Performance: CSCAF 2.0



Note:

- Each Indicator is scored between 0-100 marks based on their level wise performance.
- Thematic area score is a compilation of respective indicators. Final Scoring is compilation of all 28 indicators.



Energy and Green Building

Total Electricity Consumption in the City

Energy Efficiency Street Lighting in the City



Electrical Energy derived from Renewable Sources

Fossil Fuel Consumption in the City

Promotion of Green Buildings Green Building Adoption

EGB Progress

Energy and Green Building: City Score





Energy and Green Building *Indicator: Electricity Consumption in the City*

Average electricity consumption per capita per annum Five Stars cities –394 kWh Two Stars cities –1710 kWh





The per capita electricity consumption in cities is >10 times compared to the city with lowest per capita electricity consumption

The per capita electricity consumption in cities is > 4 and < 10 times compared to the city with lowest per capita electricity consumption

Data provided by cities: DISCOMs, Urban Local Bodies, State Electricity Distribution Authority



Performance Criteria

The per capita electricity consumption in cities is > 2 and < 4 times compared to the city with lowest per capita electricity consumption

The per capita electricity consumption in cities is > 1.1 and < 2 times compared to the city with lowest per capita electricity consumption The per capita electricity consumption in cities upto 1.1 times compared to the city with lowest per capita electricity consumption

Energy and Green Building Indicator: Total Electrical Energy in the City Derived from **Renewable Sources**

10 Cities have more than 15% of their electricity needs generated through renewable energy





from renewable electricity generated energy sources is from renewable less than 5% energy sources

Data provided by cities: DISCOMs, Urban Local Bodies, State Electricity Distribution Authority



energy sources is less between 5 -10%

energy sources is less between 10 -15%

from renewable energy sources is more than 15%

Energy and Green Building Indicator: Fossil Fuel Consumption in the City

Average fuel consumption (MS & HSD) per capita per annum Five Stars cities – 22 litres **Three Stars cities – 124 litres**





The per capita per annum CO2 emissions from fossil fuel consumption in cities is >10 times as compared to the city with lowest per capita per annum CO₂ emissions

The per capita per annum CO2 emissions from fossil fuel consumption in cities is > 4 and < 10times as compared to the city with lowest per capita per annum CO₂ emissions

Data provided by cities: BPCL, IOCL, HPCL and SHELL, Private Fuel Companies, National and State Gas Agencies



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29	26	09
Cities	Cities	Cities

Performance Criteria

The per capita per annum CO2 emissions from fossil fuel consumption in cities is > 2 and < 4times as compared to the city with lowest per capita per annum CO₂ emissions

The per capita per annum CO2 emissions from fossil fuel consumption in cities is > 1.1 and < 2times as compared to the city with lowest CO₂ emissions

The per capita per annum CO2 emissions from fossil fuel consumption in cities is up to 1.1 times as compared to the city with lowest per capita per annum per capita per annum CO₂ emissions

Energy and Green Building Indicator: Energy Efficient Street Lighting in the City

88 Cities have converted all streetlights to energy-efficient or renewable energy operated





use of energy efficient or renewable energy operated street lighting

lights in the city are energy efficient or renewable energy operated





lights in the city are energy efficient or renewable energy operated

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the city are energy efficient or renewable energy operated

Data provided by cities: ULB

Energy and Green Building Indicator: Promotion of Green Buildings

All States and UTs have established green building cells





Data provided by cities: MEASURE 1: Latest version of NBC 2016 and or ECBC 2017 Compliance procedures available at citylevelMEASURE 2, 3 & 4: ULB records, Gazette notifications, Government Orders, Office Circulars, Publicnotices, Departmental Orders, Internal circulars, Communications, meeting notices, meeting minutes, public awareness campaigns English, Hindi and regional languages), training programs conducted, updating green homes and buildings curriculum in schools and colleges and/or other relevantdocuments as data and evidences.

Energy and Green Building Indicator: Green Building Adoption

101 Cities have green buildings and are actively promoting the same





Data provided by cities: ULB, Town Planning Dept., Green Building agencies.

Energy and Green Building: Insights







All States and UTs have established green **building cells**



101 Cities

Have green buildings and are actively promoting the same

Energy and Green Building: City Actions



Belagavi

Belagavi is aiming to switch to renewable sources like wind and solar power to fulfil

the city electricity requirements and reduce dependance on conventional sources.

Rooftop Solar Plant

for Govt. Buildings





Solar Park in Diu

Diu Smart City runs on 100% renewable energy during daytime and is saving around 13,000 tonnes of carbon emissions every year. Due to low-cost solar energy, power tariffs have been cut in residential category by 10% last year and 15% this year.



Rajkot

Energy Efficient Streetlighting

This led to energy savings of 60% and GHG reduction of around 7,000 tonnes CO2 eq. The initiative helped the city government in saving INR 50 million, at the same time providing better illumination and enhancing public safety.



Warangal

Telangana Energy Conservation & Building Code

It has prescribed compliance guidelines for adoption of ECBC in building codes and building permission systems at ULB level



Rourkela

Introduction of **CNG** Vehicles in the Market by Piaggio

Leveraging on the Urja Ganga schemes for creation of CNG pumps and providing incentives for exchanging old petrol/diesel three wheelers.



Gurugram

Platinum Level LEED Certified Building of Sehegal Foundation

Gurugram has several certified green buildings with more than 11 million square metres of built up area under green buildings.

Alliance Members



AFD

GENCE FRANÇAISE



Government of India, Ministry of Powei



A JV of PSUs under the Ministry of Power

Social Media

Followers: 4780+ Campaigns: 1 Posts: 750+

LinkedIn: 2234

Twitter: **548**

Facebook: 738 Instagram: 1298

Events

10

part Learning Series 200 Participants trained

8

Chat4Change Webinars 270 Participants trained

Urban Thinker's Campus 2022, 2021

World Environment Day

Alliance Partners

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CPIN Members

250

Trainings

38

Training & Mentoring Sessions 1024 Officials trained

22 CSCAF aligned trainings 96 Officials trained

4 **CSC** aligned Trainings 200 Participants trained

Support to Cities







Technology, Data Solutions and Innovation Current Engagements









Ministry of Housing and Urban Affairs Government of India

Thank You

New Website: http://www.niua.org/c-cube/

Climate Data Observatory: <u>http://www.niua.org/c-cube/CDoT</u>

Amplify Portal: <u>http://amplifi.mohua.gov.in/data</u>

CSC Assessment Tool (GIZ): https://niua.org/c-cube/csc-sat/



