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Swiss Agency for Development  
and Cooperation SDC



**CapacITIES**  
LOW CARBON • CLIMATE RESILIENT • CITY DEVELOPMENT

# Rajkot



INDIA



GUJARAT

Rajkot District

Rajkot Municipal Corporation



**Area**  
161.86 sq.km



**Population**  
1.7 Million



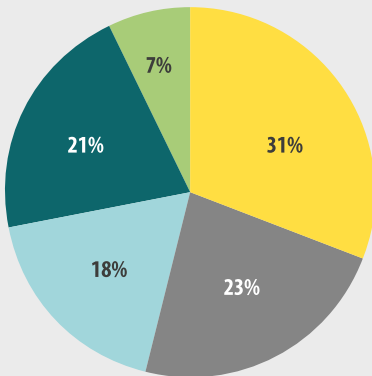
**Total Household**  
384,138



**Climatic Condition**  
Hot & Dry

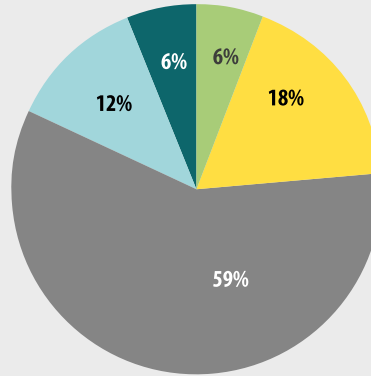
## GHG Emissions (2020-21)

### Community-wide Sectors



- Waste
- Transport
- Agriculture, forestry and fishing activities (i.e. mainly agriculture)
- Manufacturing Industry and Construction (i.e. Industrial sector)
- Commercial and Institutional Buildings/Facilities
- Residential Buildings

### Municipal Facilities



- Transport
- Street Lighting
- Water Sector
- Waste water treatment
- Buildings

tCO<sub>2</sub>e

**2.27**

Million Tonnes CO<sub>2</sub>e



**1.26**

Tonnes CO<sub>2</sub>e Per Capita

CapacITIES

addressing

SUSTAINABLE  
DEVELOPMENT  
GOALS

3 GOOD HEALTH AND WELL-BEING



6 CLEAN WATER AND SANITATION



7 AFFORDABLE AND CLEAN ENERGY



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION

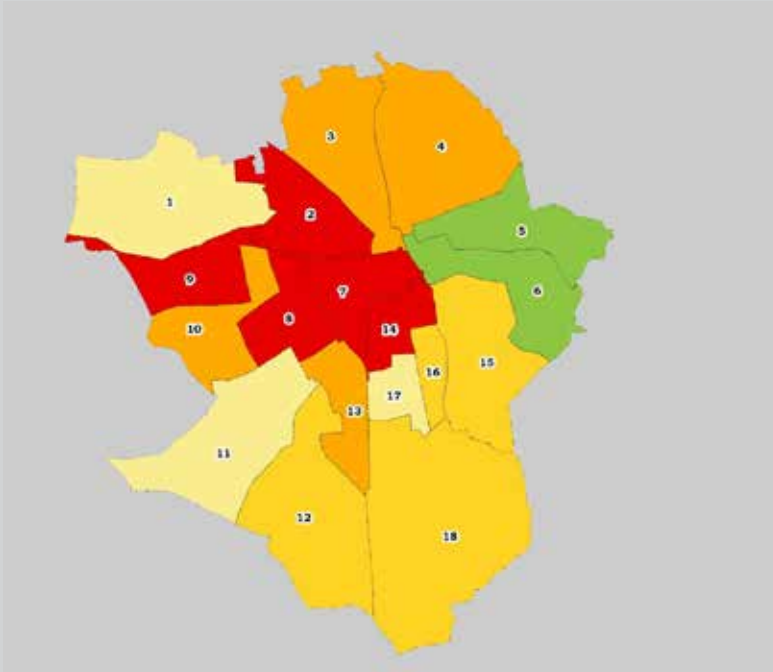


13 CLIMATE ACTION



# Vulnerability Assessment






## Five Wards Highly Vulnerable



- Wards impacted by All Fragile Urban Systems
- Wards impacted by at least Five Fragile Urban Systems
- Wards impacted by at least Four Fragile Urban Systems
- Wards impacted by at least Three Fragile Urban Systems
- Wards impacted by at least Two Fragile Urban Systems



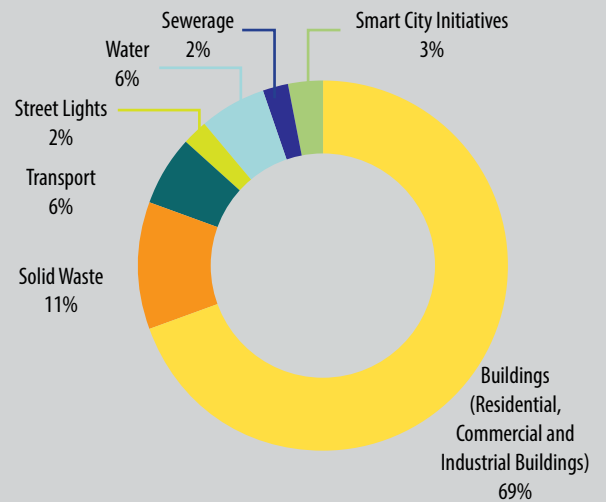
## Critical Urban Systems

 <b>Solid Waste Management</b> Lack of waste segregation	 <b>Water Supply</b> High Non Revenue Water (NRW)
 <b>Storm Water</b> Lack of storm water network	 <b>Health</b> Inadequate preventive health measures
 <b>Transport</b> Inadequate public transportation and lack of last mile connectivity	



## Climate Action Plan Potential by Sectors (2018-19 to 2022-23)

Estimated annual mitigation potential of 0.26 million tCO<sub>2</sub>e over the 2015-16 baseline



Sectorwise GHG Mitigation Potential

# Proposed Climate Actions (short term and medium term)

**Buildings (Residential, Commercial and Institutional, RMC)**

Solar PV systems, energy efficient fixtures, green building designs

**Wastewater**

EE and RE for STP and pumping station, 100% Coverage of sewerage network,

**Solid Waste Management**

Decentralized compost plant, waste to energy plant,

**Smart City Initiative**

Solar park, Implementation of Green Building policy

**Water Supply**

Reduction of NRW, EE and RE for WTP and pumping station, Augmentation of local water resource,

**Streetlights**

Replacement of existing street lighting with LED lights

**Transport**

E-buses in public transportation, PBS for last mile connectivity

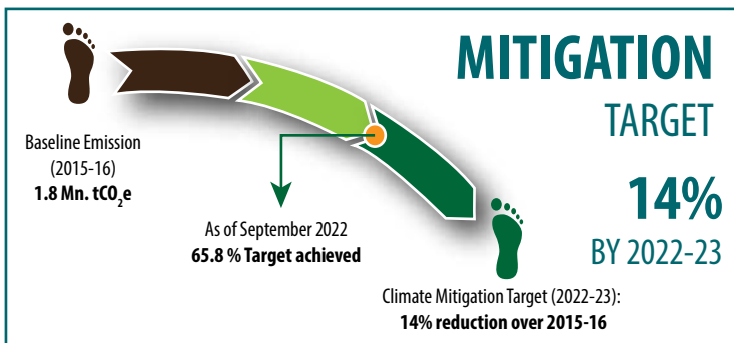


**CARBON FOOT PRINT**

**Target**

**14%**  
less by 2022-23

## Implementation Status of Climate Resilient City Action Plan (September 2022)



Baseline GHG emission 2015-16	1,887,658
CRCAP target (2022-23) (14% of 2015-16 baseline)	263,824
Emission reductions achieved until September 2022	173,677
% of target achieved as of September 2022	65.8%

## Implementation Status of Climate Resilient City Action Plan (September 2022)

**Energy Efficiency in Buildings**

**Example of Implemented Climate Actions (2019-2022)**

**GHG Mitigation per year**  
21,776 tCO<sub>2</sub>e

**Source of Funding**  
Beneficiary's own investment

**Energy Efficiency in Street Light**

**100% conversion of conventional streetlights with LEDs**

**GHG Mitigation per year**  
6,145 tCO<sub>2</sub>e

**Source of Funding**  
Energy Service Company (ESCO) with EESL

**Air Quality**

**CapaCITIES supported projects**  
Setting up PM sensors at 2 location

**Source of Funding**  
Smart Cities Mission

**Replication by the city**  
Scaling up Air Quality Monitoring at 18 more location

**Adaptation Benefits**  
Precautionary measures for health safety due to increased level of air pollution

## Sustainable Water Supply

### CapaCITIES supported projects:

- Technical report on Groundwater Quality, availability and waste water reuse
- Installation of Ground Water Recharge system at 5 location

### Projects Implemented by the city:

- NRW reduction from 28% to 22%
- Adoption of EE measures in water supply system based on energy audit findings
- Conversion of existing dry-bore wells and construction of new Ground Water Recharge systems
- Construction of "Atal Lake" in smart city area which will be filled through treated wastewater



### GHG Mitigation per year

5,385 tCO<sub>2</sub>e



### Adaptation Benefits

Reduction in flooding incidents, Increased Ground Water level, Reduced NRW, augmenting local water resources

## Transport

### Green Mobility Program - Co-financing project of providing 100 e-autos for first and last mile connectivity to BRTS / RMTS public transport



### Source of Funding

CapaCITIES, Municipal Budget, State Scheme



### GHG Mitigation per year

264 tCO<sub>2</sub>e compared to CNG autos & 154 tCO<sub>2</sub>e compared to diesel autos

## Climate Friendly Solid Waste Management

### CapaCITIES supported projects:

- Waste Quantification and Characterization Study
- Plastic waste monetisation feasibility study
- Carbon monetisation feasibility study for waste to energy project initiated by RMC

### Projects Implemented by the city:

- 200 TPD MRF plant for dry waste to RDF
- 375 TPD Aerobic composting for wet waste
- Assessment of carbon credit monetisation (by CapaCITIES)



### GHG Mitigation per year

138,990 tCO<sub>2</sub>e



### Source of Funding

AMRUT, Municipal Budget



### Adaptation Benefits

Reduced blockages of storm water and sewerage line due to solid waste

## Renewable Energy in Municipal Facilities & Social Housing

### CapaCITIES supported projects (Co-financing):

- Installation of 145kWp Solar PV at Aji WTP (70kWp solar PV installation supported under CapaCITIES)
- Installation of 32kWp Solar PV at Social Housing

### Replication by the city:

- 1 MW of Solar PV systems for STPs, Social Housing, and Municipal Buildings

### Bankability Project:

- Development of 10 MW solar project for Municipal own use with 4 MW development through municipal own budget



### GHG Mitigation per year

1,381 tCO<sub>2</sub>e



### Source of Funding

Municipal Budget

## Biodiversity

### Local Biodiversity Strategy and Action Plan, Concept Note for Tree Fund to finance urban forests



### Source of Funding

CapaCITIES, Municipal Budget



### Adaptation Benefits

Reduction in urban heat island effect, reduction in urban flooding due to reduced runoff

## Building CapaCITIES Beyond Climate Actions

### National and Global Reporting:

- ClimateSmart Cities Assessment Framework (CSCAF) 2.0
- Urban Outcome Framework (UOF)
- CDP- ICLEI Track
- Global Covenant of Mayors for Energy and Climate (GCOM)
- Various national challenges Cycles4Change, Street4People, Tranport4All, EatSmart Cities Challenge

### Support for sustainable urban development like planning support for

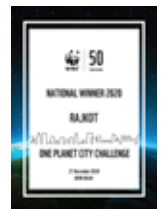
- Atal Mission for Rejuvenation and Urban Transformation (AMRUT)
- Swachh Bharat Mission (SBM),
- Smart Cities Mission (SCM)

### Support during Covid pandemic

First city in South Asia region to receive Compliance Badges from GCOM

National winner for OPCC since last 4 consecutive years

CSCAF 2.0  
★★★★★



## CapaCITIES contribution to India's Nationally Determined Contribution (NDC) by

enabling a 'Lifestyle for Environment', ensuring a climate friendly and cleaner path; contributing to a reduction in emissions intensity of GDP; enhancing renewable energy capacity; enhancing investments in key vulnerable sectors such as water resources; mobilizing domestic and international funds for climate action and building capacities and frameworks for quick diffusion of cutting edge climate technology in India'

### Implementing partners



### Knowledge Partner



For more information, please contact

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