Rajkot

**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: 21%
- Transport: 18%
- Agriculture, forestry and fishing activities (i.e. mainly agriculture): 31%
- Manufacturing Industry and Construction (i.e. Industrial sector): 7%
- Commercial and Institutional Buildings/Facilities: 23%
- Residential Buildings: 6%

**Municipal Facilities**
- Waste water treatment: 12%
- Buildings: 6%
- Water Sector: 6%
- Street Lighting: 18%
- Transport: 59%

**GHG Emissions (2020-21)**

- **tCO₂e**: 2.27
  - Million Tonnes CO₂e

**GHG Emissions (2020-21)**

- **CO₂e**: 1.26
  - Tonnes CO₂e Per Capita
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

- **Solid Waste Management**
  - Lack of waste segregation
- **Water Supply**
  - High Non Revenue Water (NRW)
- **Storm Water**
  - Lack of storm water network
- **Health**
  - Inadequate preventive health measures
- **Transport**
  - 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 tCO₂e over the 2015-16 baseline

- Buildings (Residential, Commercial and Industrial Buildings) 69%
- Smart City Initiatives 3%
- Solid Waste 11%
- Transport 6%
- Water 6%
- Sewerage 2%
- Street Lights 2%
### Proposed Climate Actions
**(short term and medium term)**

<table>
<thead>
<tr>
<th>Building (Residential, Commercial and Institutional, RMC)</th>
<th>Water Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar PV systems, energy efficient fixtures, green building designs</td>
<td>Reduction of NRW, EE and RE for WTP and pumping station, Augmentation of local water resource,</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wastewater</th>
<th>Streetlights</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE and RE for STP and pumping station, 100% Coverage of sewerage network,</td>
<td>Replacement of existing street lighting with LED lights</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solid Waste Management</th>
<th>Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decentralized compost plant, waste to energy plant,</td>
<td>E-buses in public transportation, PBS for last mile connectivity</td>
</tr>
</tbody>
</table>

| Smart City Initiative | |
|-----------------------| |
| Solar park, Implementation of Green Building policy | |

### Energy Efficiency in Buildings

<table>
<thead>
<tr>
<th>Example of Implemented Climate Actions (2019-2022)</th>
<th>GHG Mitigation per year</th>
<th>Source of Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% conversion of conventional streetlights with LEDs</td>
<td>6,145 tCO₂e</td>
<td>Energy Service Company (ESCO) with EESL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Air Quality</th>
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<thead>
<tr>
<th>CapaCITIES supported projects</th>
<th>Source of Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting up PM sensors at 2 location</td>
<td>Harvesting project Smart Cities Mission</td>
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<tr>
<th>Replication by the city</th>
<th>Adaptation Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaling up Air Quality Monitoring at 18 more location</td>
<td>Precautionary measures for health safety due to increased level of air pollution</td>
</tr>
</tbody>
</table>

### 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%

**Climate Mitigation Target (2022-23):**
14% reduction over 2015-16
### 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)

### 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

### 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**

### 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 tCO₂e compared to CNG autos & 154 tCO₂e compared to diesel autos

**Adaptation Benefits**
- Reduced blockages of storm water and sewerage line due to solid waste

### 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 tCO₂e

**Adaptation Benefits**
- Reduction in flooding incidents, Increased Ground Water level, Reduced NRW, augmenting local water resources

### Biodiversity

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

**Source of Funding**
- CapaCITIES, Municipal Budget

**GHG Mitigation per year**
- 1,381 tCO₂e

**Adaptation Benefits**
- Reduction in urban heat island effect, reduction in urban flooding due to reduced runoff

### Building CapaCITIES Beyond Climate Actions

**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

**CSAF 2.0**
- National winner for OPCC since last 4 consecutive years
- First city in South Asia region to receive Compliance Badges from GCOM

**Source of Funding**
- CapaCITIES, Municipal Budget

### Building CapaCITIES Beyond Climate Actions

**Support during Covid pandemic**

For more information, please contact

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