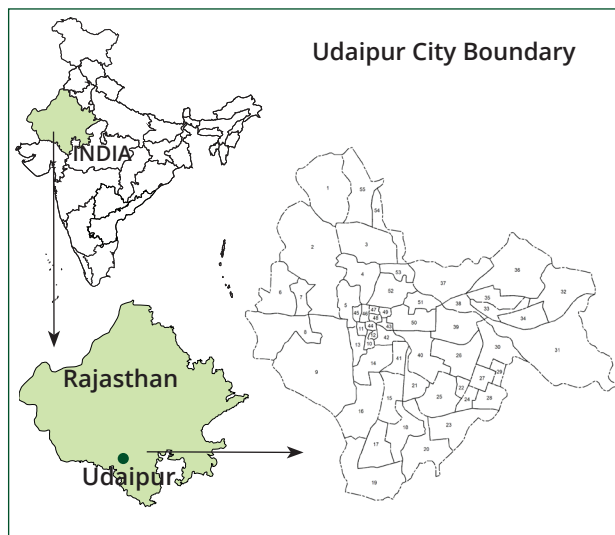




City Climate Profile - Udaipur

Udaipur city had been the capital of Mewar rulers for centuries. Maharana Udai Singh laid the foundation for the city in this fertile valley well-protected by the elevated Aravalli Hills, in 1557 A.D. Located in southern Rajasthan, close to the Gujarat border, the historical city of Udaipur lies separated from the Thar Desert by the Aravalli Hills. Today, it is the administrative headquarters for the District of Udaipur.

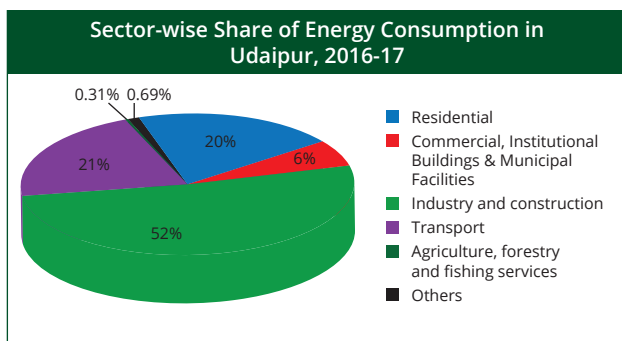
Population: 451,100 (2011 Census of India)
Area: 64 sq. km.
No of Wards: 55 wards
Gender Ratio: 928 females/1000 males
Literacy rate: 90%



Greenhouse Gas Emissions Inventory

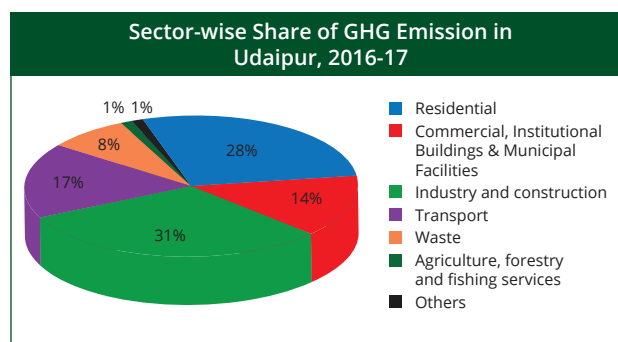
A GHG Emissions Inventory accounts for greenhouse gas emissions from various city activities like stationary fossil fuel combustion, electricity consumption and municipal solid waste and sewage disposal. The present GHG emissions inventory is prepared for the time period of 2011-12 to 2016-17.

14.21 Million Giga Joule of energy is consumed in Udaipur city. 52% of the total energy is consumed by the manufacturing industries and construction sector. The transportation sector consumes 21% and the residential buildings and the commercial/institutional sectors consume about 20% and 6% respectively. In terms of energy supply, grid electricity caters to 26% of the energy demand while accounting for 52% of the city's GHG emissions. This is largely due to the coal based electricity generation. Electricity use has been increasing in the residential and commercial/institutional sector. (see graph).



Total GHG emissions for Udaipur city were 1.23 million tonnes of carbon dioxide equivalent (tCO_2e) in the year 2016-17. Taking this into consideration, the average per capita GHG emissions for the year 2016-17 for Udaipur city were $2.48 tCO_2e$, which are higher than India's per capita GHG emission of $1.56 tCO_2e$ for the year 2010.

The manufacturing industries and construction sector accounts for 31% of the total GHG emissions, followed by the residential buildings sector, which accounts for 28%. The transportation sector accounts for 17% of the GHG emissions and commercial & institutional buildings/facilities and solid waste sectors contribute about 14% and 8% respectively to overall GHG emissions. (see graph).



Operations of the Udaipur Municipal Corporation resulted in $21,564 tCO_2e$ GHG emissions, contributing to 1.75% of the city's total GHG emissions. Energy use for provision of water supply results in 57.23% of municipal GHG emissions. Street lighting (30.5%), sewage treatment (7.63%), and on-road transport (4.34%) are other significant sources.



Low Carbon and Climate Resilient Solutions

Based on climate change impact, the following initiatives have been undertaken through the CapaCITIES project. Some are implementation projects to showcase change (Quick-wins) while others are detailed studies that will lead to financially viable projects (Bankable).

Quick-win Projects

Transport

- *E- Rickshaw Pilot Deployment – Completed.* Procurement of 18 e-rickshaws of various makes and types for the city and testing performance on city roads and preparation of case studies on e-rickshaw operations. Annual emission reduction from the pilot project includes 45.62 tCO₂e of GHG emission, 261 kg of NO_x and 132 kg of particulate mater. (Project cost: CHF 42'558)

Solid Waste Management

- *Solid Waste Management Decentralised Solid Waste Management System for the Selected Zero Waste Wards (SUNYA) – Ongoing.* At source segregation of waste at household level has been initiated in wards 1 and 41. A decentralized biomethanation plant will also be designed and installed, thereby reducing GHG emissions from disposal of biodegradable waste and reducing emissions from transport of this waste to centralized management facilities. (Project cost: CHF 107'355)

Urban Planning

- *Installation of Four Ambient Air Quality Monitoring Stations (AAQMS) – Ongoing.* Four locations have been identified. Installation, implementation and monitoring (including training for UMC staff for monitoring) – are in progress. The city currently has only one continuous ambient air quality monitoring station. The deployment of four additional sensor based AAQMS will improve the availability of air quality data from multiple locations, which will help prepare relevant policies to improve air quality. (Project cost: CHF 31'144)

Bankable Projects

Sewerage and Drainage

- *Scientific Assessment and Analysis for Effective Waste Water Management in Udaipur and Guidance on Tender Preparation – Completed.* Guidelines and recommendations for enhancement of proposed waste water treatment in the new STPs (40 MLD) have been prepared with an aim to meet the new improved treated waste water quality standards. This would ensure safe reuse and/or disposal of treated waste water. (Project cost: CHF 17'000)
- *Sludge Management Project for the 'Sub City' Area including Technology Suggestion – Ongoing.* A scientific assessment, considering local conditions is crucial for a sound and sustainable fecal sludge management system. This study provides UMC with appropriate engineering solutions for fecal sludge management. (Project cost: CHF 31'748)

Transport

- *Development of City Level Low Carbon Intermediate Para Transit (IPT) Action Plan and Financing Proposal – Ongoing.* In the absence of robust public transport in Udaipur, IPT is a preferred mode of travel in the city. It caters to more than 11% of trips in the city and provides employment (directly or indirectly). The primary objective is to develop an action plan for improving IPT, allowing for integration with public transport. The target is to increase ridership in public transport in a sustainable manner whilst reducing emissions per km. (Project cost: CHF 38'948)

Solid Waste Management

- *Solutions and Recommendations for the Scientific Closure of Tithardi Dumpsite (with Landfill Gas Estimation and Guidance on Tender Preparation) – Completed.* The Tithardi dumpsite consists of mixed waste and is not operational. Active landfill gas emissions were not observed during assessment. An appropriate landfill closure method was subsequently developed and corresponding tender specifications were also proposed. Accordingly, a tender for the closure of this dumpsite has been notified by the City. This will result in significantly improving environmental quality around the site. (Project cost: CHF 7'906)

For more information, please contact:

ICLEI- Local Governments for Sustainability, South Asia

C-3 Lower Ground Floor, Green Park Extension, New Delhi 110 016, Tel: +91-11-4974 7200, Fax: +91-11-4974 7201

Email: iclei-southasia@iclei.org, Udaipur Contact: +91-7042096759