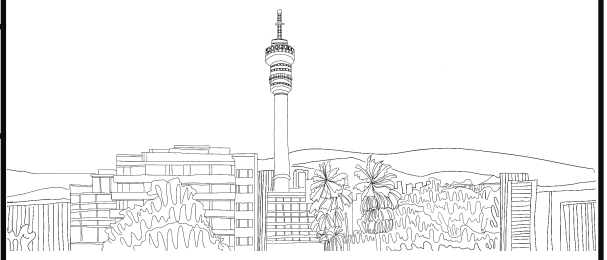
Johannesburg, South Africa

Population	6.1 million
Size	1,645 km^2
GHG Profile	22,038,151 tCO_2e total or 3.75 tCO_2e per capita in 2021
High-emission sectors	Energy & Buildings (58%) Transport (32%) Waste (10%)



From Planning to Implementation

With energy and transport contributing 90% of emissions, Johannesburg faces the dual challenge of rapid urbanisation and infrastructure strain. In 2022, over 180,000 households in informal settlements lacked reliable energy access, reinforcing the need for scalable, sustainable solutions. The **Urban Climate Action Programme – Climate Action Implementation (UCAP CAI)** is equipping city leaders with tools to **integrate climate priorities** into governance and finance, while advancing business models for **microgrid expansion and circular waste solutions**.

Energy & Buildings
Expanding Clean Energy Access in Informal Settlements with Renewable Power and Storage

Enables inclusive energy access through co-designed, community-led microgrid solutions, backed by scalable funding models and intergovernmental partnerships.

- ➔ **Provincial and city funding secured to expand microgrid solutions**, enabling scale-up beyond the pilot and showcasing alignment with regional resilience goals.
- ➔ **Community-led energy needs assessment conducted**, embedding local insights into project design and ensuring solutions meet lived realities.
- ➔ **Funding model development initiated**, including exploration of private-sector partnerships and warehouse participation to support long-term energy access.

Waste Management
Turning Green Waste into Compost to Reduce Landfill Impact

Establishes a public-private composting model that advances circular economy goals while reducing emissions from landfill waste.

- ➔ **Comprehensive business cases developed**, outlining implementation pathways, cost scenarios, and operational considerations to support citywide garden waste diversion.
- ➔ **Multi-stakeholder workshops and consultations held**, with city departments and private actors contributing to finalising the business case and refining implementation scenarios.
- ➔ **Facilitated City and private sector partnership** to divert garden waste to the private sector facility.

Climate Mainstreaming
Integration of climate action into policies and governance structures

Embeds climate accountability across city departments through tracking systems, business planning reforms, and community mobilisation initiatives.

**Calculations are continuously updated to reflect the project's evolution. This version is the latest as of June 10th 2025.*

- ➔ **Climate actions included in annual business plans of at least 10 departments,** following the inclusion of a climate action requirement into the business planning guide as a mandatory requirement for all business plans starting in 2024.
- ➔ **Green Jobs Youth Expo institutionalised as an annual city initiative,** with over 600 attendees including 500 students—mobilising youth and business around climate careers.
- ➔ **Climate finance tools and benefits mapping workshops delivered,** equipping city staff to develop more compelling, impact-led climate project proposals.

Joburg's Clean Energy Leap for Informal Settlements

Joburg hosts approximately **312 informal settlements,** containing over **249,000 structures.** These sites **lack access to the grid** and rely on illegal connections, creating serious risks such as electrocution and fires, while residents use polluting fuels for cooking and heating needs. UCAP CAI is working with the city to develop **solar powered energy solutions for informal settlements**, aiming to reduce 95,400 tons of CO_2eq/year and 172,450 kg of PM2.5 emissions annually, while providing health benefits from reduced fossil fuel use. A city-led solar **microgrid pilot has been launched** in the Amarasta informal settlement, with three additional projects currently underway.

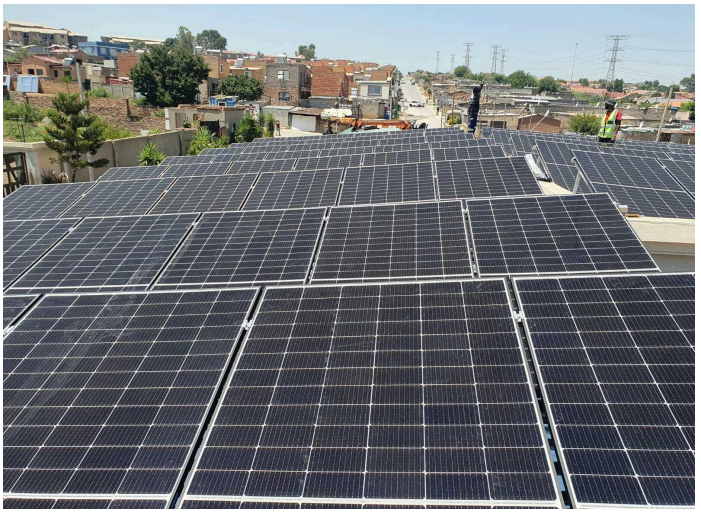


Figure 1: Solar microgrid pilot launched in the Amarasta informal settlement in Johannesburg

"We are ensuring that climate accountability and action are not just policies but everyday practices. These milestones mark a fundamental shift in how we plan, implement, and measure climate progress—creating a more resilient, inclusive, and sustainable future for all."
Lebo Molefe, Director of Climate Change and Air Quality

The scale-up of renewable energy infrastructure in informal settlements could enable the avoidance of greater amounts of GHG and air pollution emissions*:			
Pilot (View Settlement)	**144** households impacted	**55 tonnes/year** of CO_2eq emissions avoided	**99 kg/year** PM2.5 emissions avoided
Scale-up (City-wide)	**249,162** households	**95,400 tonnes/year**	**172,450 kg/year**

Supported by UK government funding (2022–2025), the Urban Climate Action Programme – Climate Action Implementation (UCAP CAI) accelerates progress against the delivery of Climate Action Plans (CAPs) in 15 Global South cities, in line with the Paris Agreement's 1.5°C target.

UCAP CAI Cities: Accra - Addis Ababa - Dar Es Salaam - **Johannesburg** - Lagos - Nairobi - Tshwane - Bogota - Guadalajara - Lima - Medellin - Mexico City - Jakarta - Kuala Lumpur - Quezon City

Last updated: 10/06/2025

For more information, contact osaracho@c40.org, and visit our webpage here!

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