

NATURE-POSITIVE URBAN DEVELOPMENT AND DECARBONISATION PATHWAYS FOR SOUTH AFRICAN CITIES



Global
Platform for
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INVESTING IN OUR PLANET

**CITY : (Johannesburg, Vhembe, Joe Qcabi, Gert Sibande); COUNTRY :
(South Africa)**

Building climate-resilient, nature-positive and low-carbon urban infrastructure systems

MOOKHO MATHABA

DEVELOPMENT BANK OF SOUTHERN AFRICA

3 JUNE 2026



KEY CHALLENGES

CITY : (Johannesburg, Vhembe, Joe Qcabi, Gert Sibande); COUNTRY : (South Africa)

Building climate-resilient, nature-positive and low-carbon urban infrastructure systems

- The participating municipalities face growing challenges associated with climate change, biodiversity loss, infrastructure backlogs, energy insecurity, and rapid urbanization.
- Traditional infrastructure planning approaches often do not adequately account for ecosystem services, climate risks, and nature-based solutions, resulting in increased vulnerability and higher long-term infrastructure costs.
- In Johannesburg, additional challenges include energy blackouts



KEY TAKEAWAYS FROM THE ACADEMY

The Academy highlighted the importance of adopting an integrated urban systems approach that combines climate resilience, biodiversity conservation, sustainable infrastructure planning, and low-carbon development. Key lessons relevant to our cities include:

- **Integrating nature-based solutions (NbS) into infrastructure planning** can reduce climate risks while enhancing ecosystem services and community wellbeing.
- **Green, blue and orange infrastructure networks** should be planned as critical municipal assets rather than standalone interventions.
- **Urban decarbonisation strategies are most effective when renewable energy deployment is combined with energy efficiency** improvements and supportive municipal policies.
- **Cross-sector collaboration between planning, environment, infrastructure, energy, and finance departments is essential** for successful implementation.

These lessons directly support the objectives of the SCIP programme and will inform future municipal planning, investment decisions and pipeline for GEF 9.



SLIDE 3: PRIORITY ACTIONS

Priority Action 1: Integrate climate and biodiversity considerations into municipal planning and infrastructure investment processes

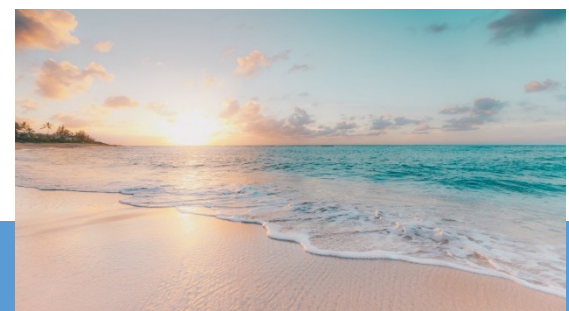
- Mainstream climate and biodiversity criteria into Integrated Development Plans (IDPs), Spatial Development Frameworks (SDFs), infrastructure master plans, and capital investment programmes.
- Identify priority nature-based solutions and ecological infrastructure investments.

Priority Action 2: Explore opportunities to integrate green, blue and orange infrastructure networks

- Map critical biodiversity assets, ecological corridors, wetlands, rivers, walkways and green spaces
- Incorporate ecological infrastructure into future urban growth and infrastructure planning.

Priority Action 3: Accelerate urban decarbonisation in Johannesburg

- Support implementation of Johannesburg's 200 MW embedded generation programme.
- Identify municipal buildings for energy efficiency retrofits.
- Strengthen project preparation to attract climate finance and private sector participation



SLIDE 4: IMPLEMENTATION SUPPORT NEED

Technical Assistance

- Climate risk and vulnerability assessments.
- Biodiversity and ecosystem service mapping.
- Green, blue and orange infrastructure planning tools.
- Renewable energy and energy efficiency project preparation support.

Capacity Building

- Training municipal officials on integrated urban planning and nature-based solutions.
- Knowledge exchange with cities implementing successful urban resilience and decarbonisation programmes.

Financing and Investment Mobilisation

- Access to climate and biodiversity finance.
- Project preparation facilities to develop bankable projects.
- Blended finance mechanisms to crowd in private sector investment.

Strategic Partnerships

- Leveraging collaboration with the GEF, World Bank GPSC, ICLEI Africa, DBSA, national government departments, development partners, academia, and the private sector.

Desired Outcomes

- Climate-resilient, biodiversity-positive and low-carbon cities that integrate ecological infrastructure into urban development while accelerating municipal decarbonisation and sustainable economic growth.

