



CITY OF TSHWANE

A prosperous Capital City through freedom, fairness, and opportunity

CLIMATE RESPONSE PLAN



Introduction

The City of Tshwane's sustainability journey has grown from leaps and bounds since the signing of the Compact of Mayors, launched at the 2014 United Nations Climate Summit.

The effects of climate change are already being experienced in the City with temperature increases higher than the global average, changes in rainfall patterns and extreme weather events.

The City of Tshwane is concerned for its vulnerable residents who bear the brunt of climate impacts. Our emissions per capita are nearly double the global average. Our Climate Response Plan is about putting a five-year plan in place that will provide a secure foundation for medium term planning whilst addressing priority concerns and low hanging fruit in the interim.

**“ City of Tshwane
is an emerging
climate leader
charting an
accelerated
course of action
for the sake of
our future
generations.**

~ Cllr Solly Msimanga



Where we are

The City undertakes a carbon footprint annually to guide our Mitigation Programme. We have also completed a Climate Risk and Vulnerability Assessment and this guides our Adaptation Programme.

We report annually to both the Carbonn Registry and Carbon Disclosure Project as encouraged by C40 Cities Climate Leadership Group and ICLEI – Local Governments for Sustainability.



GPC Inventory 2014/15

Waste	10,848,006 tCO ₂ e
Transportation	4,568,488 tCO ₂ e
Stationary Energy	12,652,286 tCO ₂ e
TOTAL EMISSIONS	28,068,780 tCO₂e



Intervention 1:

Enhance and protect the City's natural ability to buffer climate change impacts



The City has an abundance of natural resources that provide invaluable eco-services such as heat mitigation, flood attenuation and enhanced water quality. These are under threat partly due to development patterns in the City.

The City is striving to put protective measures in place for 31 priority wetlands by 2021 according to its Wetlands Management Plan. Our land use planning and natural resource management is to be closely guided by our Bioregional plan which identifies biodiversity priority areas.

Intervention 2:

Develop an integrated approach to water management in the City

Water scarcity is anticipated in the Climate Risk and Vulnerability Study with drought measures to become a norm. The City is dependent on bulk water supplied by Rand Water, a quarter of which is lost through ageing infrastructure.

The City is aiming to develop an integrated and holistic approach to water management, diversifying the water mix and exploring the re-use of groundwater, storm water and rainwater. A Water Demand Management Programme inclusive of leaks management will be intensified with penalties for non-compliance.



Intervention 3: Build Climate Resilient Communities



The nexus between exposure and vulnerability to climate risks and social vulnerability is self-evident. The poor of the City bear the brunt of climate impacts and have low levels of resilience. Those with resources are increasing their water and electricity consumption to cope with climate impacts. Disaster management is yet to fully and explicitly address climate change.

The City is ensuring that a suite of interventions address poverty, exposure to climate hazards, status of informal and risky dwellings and general health and wellbeing. In the initial stages, resources will be focused on refining knowledge and understanding of climate impacts and building a multi-disciplinary and stakeholders' fora to build urban resilience. Disaster management will prioritise disaster risk reduction measures.

Intervention 4:

Promote mixed-use densification and transit oriented development

The Apartheid morphology of the City has yielded urban sprawl, low population densities and unreasonably long commuter distances. The unsustainable nature of historic spatial planning is yielding more than four million tonnes of carbon dioxide equivalent per year due to transportation.

Modern and efficient modes of transport such as the Bus Rapid Transit system – known as A Re Yeng - and strategies to densify and diversify central urban nodes are central to overcoming these spatial inefficiencies. Transit oriented development will integrate spatial planning, building design and transport infrastructure.



Tshwane Green

Behaviour change is half of the battle. Tshwane Green is an outreach campaign targeting different stakeholder groupings, using different methods and techniques to champion support for desired outcomes.



Tshwane Green Ride, Hammanskraal, October 2017

Celebrating Earth Hour 2017



Tshwane Green shows stakeholders in practical ways what change is required.

At the helm of Tshwane Green is the Executive Mayor of City of Tshwane, Cllr Solly Msimanga, walking the talk to inspire change.



Innovation hackathon, Sustainability Week 2017

Intervention 5: Promote cleaner mobility

Motorised transport will always have a place in a City such as Tshwane that covers a vast area – over 6,000km². However, an uptake of mass transit and cleaner modes of transport such as electric vehicles are priorities as the City intends to reduce transport-related emissions.

The bus rapid transit system, A Re Yeng, has forty CNG-propelled buses which will be fueled from landfill gas. Corporate fleet has ten electric vehicles and the City has solar-powered EV charging stations. Infrastructure for electric vehicles will be rolled out in the City through partnerships with the private sector and the South African National Energy Development Institute. Non-motorised transport will become an increasingly viable mode of transport particularly for shorter distances.



Intervention 6: Retrofit existing buildings and build green buildings

Buildings are heavy consumers of resources both in their construction and maintenance. This has prompted the City to promulgate a Green Building Policy and By-law. Furthermore, it is a member of the Green Building Council of South Africa's Green Building Leadership Network. The City is also a member of the World Resources Institute's Building Efficiency Accelerator (BEA) Programme.

The City is leading by example as its own municipal headquarters, Tshwane House, is a 5-star rated green building. Through the BEA Programme, the City is retrofitting the HB Phillips building in the Pretoria Central Business District as part of a general upgrade to demonstrate that older buildings can operate optimally through the right kind of investment.



Intervention 7: Promote energy efficiency

Before tackling sources of energy, which in the City of Tshwane are predominantly carbon-heavy, the reduction in energy consumed, particularly in areas within the City's control, is paramount.

Energy efficiency measures pursued by the municipality include the switch to energy-saving lightbulbs within municipal buildings and streetlights, the installation of solar water heaters in low-income housing, and assessing the efficiency of its own operations such as the waste water treatment works. It is also exploring ways of enhancing the thermal efficiency of poor designed and constructed homes through simple but effective interventions such as the application of cool coatings.



Intervention 8: Promote cleaner and renewable energy

The City is primarily dependent on electricity derived from coal-fired power stations which is also a source of revenue for the City. This dependence translates into close to half of the City's carbon emissions.

An Embedded Generation Policy has been established and there is a steady progression of renewable energy installations in the City that are below the licensing threshold.

The City is investing in renewable energy systems for own use to reduce operational costs with hydro-energy gaining traction in the water reticulation system. It is advocating for low carbon alternative energy solutions to meet suppressed demand, particularly in informal settlements.



Intervention 9:

Divert waste from landfills and find innovative uses for waste

The GPC Inventory for City of Tshwane shows that 10,848,006 CO₂e is produced on an annual basis through our waste management practices. Little diversion of waste takes place and recycling typically occurs through informal recycling practices.

The City of Tshwane will facilitate the diversion of waste from landfills by introducing separation at-source and recycling infra-structure.

Residual waste will be processed to produce energy. Landfill gas will be captured to power vehicles.



Intervention 10: Pursue sustainability support mechanisms

A key lever for change is the City's purchasing power and hence a Sustainable Procurement Policy has been adopted to ensure that the City's capital and operational expenditure supports a sustainability agenda. Uptake is being engendered through supplier development programmes to enable suppliers to fulfill the requirements of revised, more sustainably oriented specifications.

The City is a member of the Global Lead City Network on Sustainable Procurement. Examples of sustainable procurement are evident in the municipal headquarters which was scoped to be a five-star green building, the purchasing of electric vehicles for corporate messenger fleet and CNG propelled buses for the bus rapid transit system.



“Our children are the rock on which our future will be built, our greatest asset as a nation. They will be the leaders of our country, the creators of our national wealth who care for and protect our people.” (3 June 1995)



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