City of Tshwane

CLIMATE ACTION PLAN

A net-zero carbon and climate-resilient city by 2050

EXECUTIVE SUMMARY

CITY OF TSHWANE
IGNITING EXCELLENCE

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The need for climate action

The impacts of climate change, including higher temperatures, more erratic rainfall patterns and more frequent and intense extreme climate events, are expected to have a devastating effect on human health and well-being, economic development and the natural environment worldwide. Vulnerable populations will bear the brunt of the negative effects of climate change. This is also true for Tshwane.

Thankfully, it is not too late to take action. To avoid the worst impacts of climate change, we must limit the global average temperature increase to 1.5 °C above pre-industrial levels. This is more pressing for sub-Saharan Africa where regional temperatures have already exceeded this threshold. This will require rapid decarbonisation of the global economy to be net-zero carbon by 2050.

Adaptation efforts will also be required to protect vulnerable communities, infrastructure and other assets from the impacts of climatic change that are already locked in. It is important to build the resilience of people and communities to ensure that they can withstand climate impacts. Tshwane has already experienced close to a 2 °C temperature increase since 1960.

Through this **Climate Action Plan (CAP)**, the City of Tshwane reconfirms its commitment to playing its part in addressing global climate change by ensuring that Tshwane becomes a net-zero carbon and climate-resilient city by 2050. As a rapidly growing capital city and a regional knowledge hub, our city has the opportunity to pursue an ambitious, evidence-based sustainable growth strategy to combat climate change and shape a safer, cleaner, healthier, more prosperous and more equitable future for all our residents. The City of Tshwane also has the chance to serve as a climate action trailblazer, inspiring other cities in South Africa and beyond.

The City has long been at the forefront of climate action: In 2015, we led a delegation of South African municipalities at the Paris Local Leaders Summit on the side lines of COP21, which resulted in the Paris City Hall Declaration on the role of local government leadership in addressing climate change. The City of Tshwane is also a member of the C40 Cities Climate Leadership Group, the Green Building Council of South Africa and the Global Lead City Network on Sustainable Procurement. This CAP, guided by the 2015 Paris Agreement and aligned with South Africa's Nationally Determined Contribution (NDC) and the United Nations Sustainable Development Goals (SDGs), is a key next step in the City of Tshwane's climate action journey.

The CAP builds on the City's Climate Response Strategy of 2017, a solid evidence base consisting of a Greenhouse Gas Emissions Inventory (GHGEI) and a Climate Risk and Vulnerability Assessment, best-practice research and extensive stakeholder engagement. **Its goal is to transform Tshwane into a net-zero carbon and climate-resilient city by 2050.**

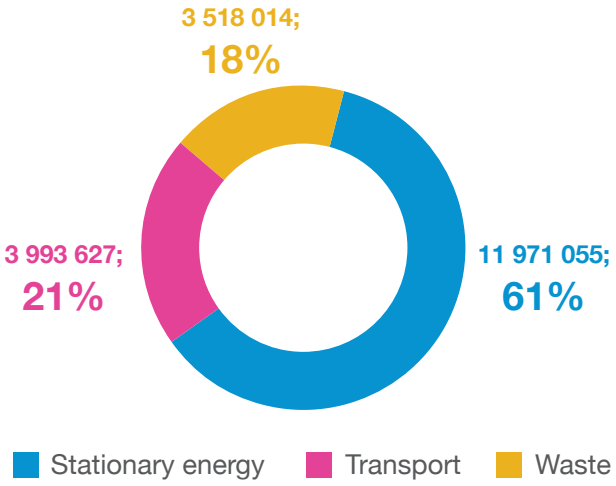
Climate change is a complex challenge that cannot be tackled in isolation. Through the many co-benefits of the climate actions identified, the CAP will help to address the numerous developmental and socio-economic issues faced by the City. It will create a circle through which improved prosperity and well-being lead to enhanced climate resilience, and enhanced climate resilience leads to greater prosperity and well-being for all residents.

Evidence base: GHGEI

The GHGEI revealed that in the year 2015/16, the Tshwane's GHG emissions amounted to 19.5 MtCO2e, or 6.4 tCO2e per capita. As the diagram to the right shows, the largest contributors to Tshwane's emissions are the stationary energy sector (especially buildings, manufacturing industries and construction), the transport sector and the waste management sector. Mitigation actions will focus on these sectors.

It should be noted, however, that the City does not have full authority over some of the main causes of emissions, including energy production, which in South Africa is still heavily reliant on fossil fuels. To achieve a transition to a renewable energy-based economy, the City will have to collaborate closely with the provincial and national government. The recent changes in energy regulations present significant opportunities for a transition to renewable energy. In addition, actions relevant to other sectors, such as promoting a shift to electric vehicles to reduce transport emissions, require broad public support, effective incentives, and the removal of barriers and perverse incentives.

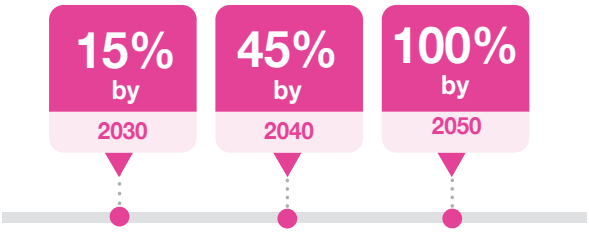
Figure 1: GHG emissions (Mt CO2e) by sector - 2015/16



Emissions-reduction pathways

The City has developed three potential emissions-reduction scenarios based on business as usual (BAU), existing and planned climate actions (E&P) and ambitious climate action (see text box). The ambitious scenario, will achieve a 76% reduction in GHG emissions by 2050. It is envisaged that in the coming decades, technical innovations and the alleviation of institutional and financial barriers will make the elimination of the remaining 24% of emissions feasible.

Therefore, based on the defined emissions pathways and opportunities that will exist over the next decade, the City has set the following reduction targets:



Business as Usual (BAU) Scenario
Based on existing energy consumption and technologies, but with increasing emissions due to ineffective governance, and economic and population growth.

2050 emissions:
32.6 $MtCO_2e$ • 6.2 tCO2e/capita
67% increase from 2015 to 2050

Existing and Planned (E&P) Scenario
Includes existing or planned city, provincial and national mitigation actions, as well as market trends.

2050 emissions:
15.6 $MtCO_2e$ • 2.9 tCO2e/capita
10% reduction by 2030; 20% reduction by 2050

Ambitious Scenario
Builds on the E&P scenario but includes additional actions that are ambitious but achievable.

2050 emissions:
6.3 $MtCO_2e$ • 1.2 tCO2e/capita
34% reduction by 2030; 76% reduction by 2050

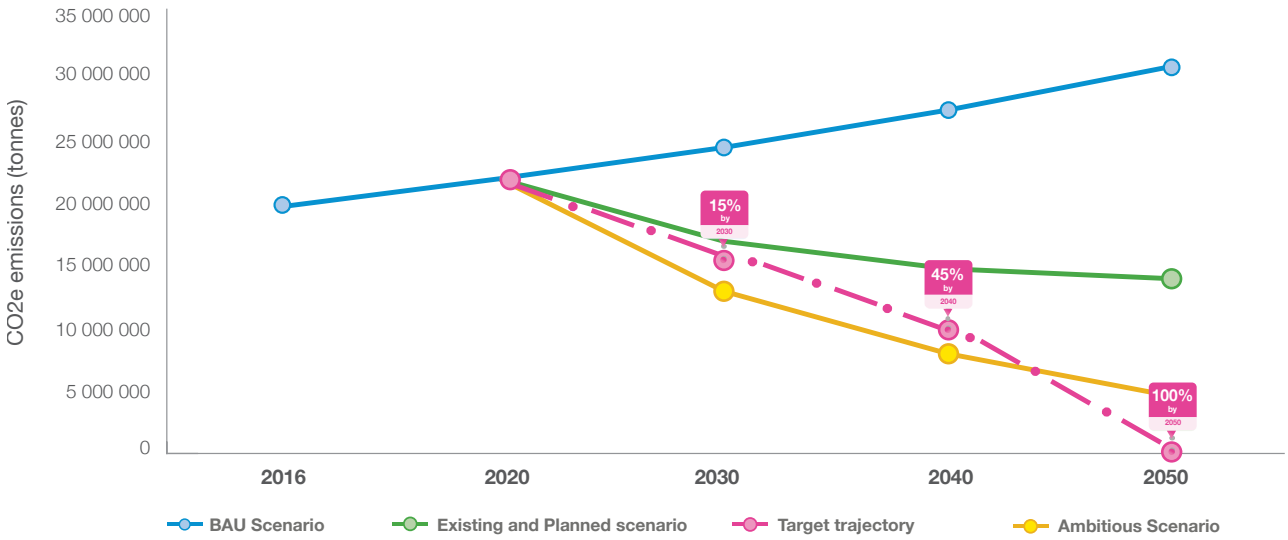
These targets are illustrated in the figure below. The 2030 target is relatively modest, but more ambitious than the existing and planned scenario. This will allow the City to make progress on its path towards net-zero carbon emissions, but will still allow time to put in place required systems, solid governance structures and programmes, and set the City up for successful implementation of climate action in the decades to come.

The CAP will be revised every five years to take advantage of new opportunities and enabling environments to achieve a net-zero carbon future by 2050 (see text box).

Why net-zero carbon?

Net-zero carbon means reducing total emissions and balancing the carbon emitted with carbon that is absorbed by the atmosphere and environment. This results in a net effect of zero carbon emissions, also known as net-zero carbon' emissions. According to the IPCC Special Report: Global Warming of 1.5 °C, the world has already warmed an average of 1 °C since pre-industrial levels. The report found that exceeding global average temperature levels over 1.5 °C will have significant and catastrophic impacts on many sectors, nations and states. Limiting global average temperatures will require rapid and systemic transitions in cities, requiring a 45% decline in global anthropogenic emissions by 2030 and net-zero carbon emissions by 2050. Even if this is achieved, the impacts of climate change will still occur, requiring adaptation in cities, but the severity of extreme events can be limited.

Figure 2: Emissions-reduction pathways and City of Tshwane targets



Climate Risk and Vulnerability Assessment

Southern Africa is expected to experience faster warming than other regions, with temperature increases between 5 °C to 7 °C above pre-industrial levels expected by 2100. In Tshwane, temperatures have already risen by 1.8 °C since 1960. The City's climate is projected to get progressively hotter and drier, with up to 49 additional extremely hot ddays with a maximum temperature of more than 35°C) per year expected by 2050. The city is already experiencing climate impacts, such as more frequent and severe extreme climate events, particularly floods, fires and heat waves/extremely hot days.

Based on current and forecasted (2050) flood, fire and heat hazards, the City has identified climate risk zones. Climate risk zones are defined as areas with a combination of (1) a high likelihood of climate hazards occurring and (2) the presence of communities, infrastructure and other assets with low resilience that are therefore likely to suffer significant damage from these climate hazards. The extent of climate risk zones is expected to grow significantly until 2050.

The significant projected growth of climate risk zones is due to (1) climate change resulting in more frequent and intense extreme climate events, (2) population growth in vulnerable areas, resulting in more people exposed to these events, (3) urban expansion decreasing natural buffer capacity against extreme climate events, and (4) inadequate maintenance of infrastructure (for example, badly maintained storm water systems leading to increased severity of flooding).

Tshwane's poor communities, such as those living in 221 confirmed informal settlements, are particularly vulnerable to climate change. Such communities tend to (1) be socio-economically vulnerable (and therefore unable to absorb shocks such as loss of livelihood due to extreme climate events), (2) lack access to adequate services, (3) live in dwellings that provide little protection from extreme climate events and (4) be located in high-risk areas (such as areas below flood lines). Due to projected population growth, housing backlogs and low economic growth rates in Tshwane, poor communities and informal settlements are expected to continue growing. Building the resilience of these vulnerable communities is one of the core aims of this CAP.

To address the risks and vulnerabilities identified above, the climate adaptation actions presented in this CAP aim to build resilience and reduce exposure to climate hazards. The CAP aims to build resilience by ensuring communities, the economy and the natural environment are able to cope with or bounce back after extreme climate events. It also aims to reduce the exposure of vulnerable communities to such events by developing climate-resilient communities, ensuring adequate housing and limiting development in high-risk areas.

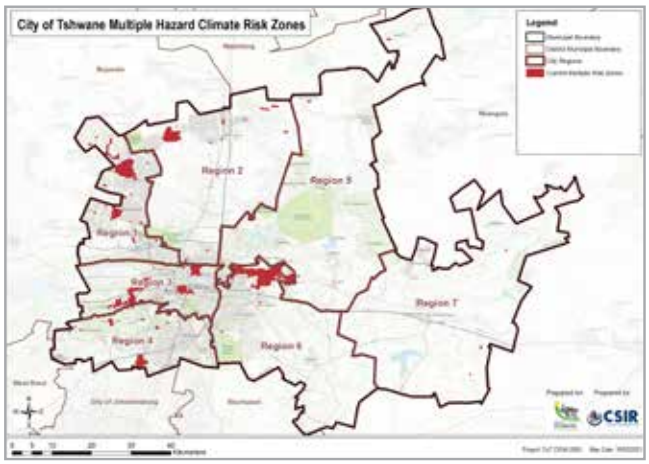


Figure 3: Current climate risk zones

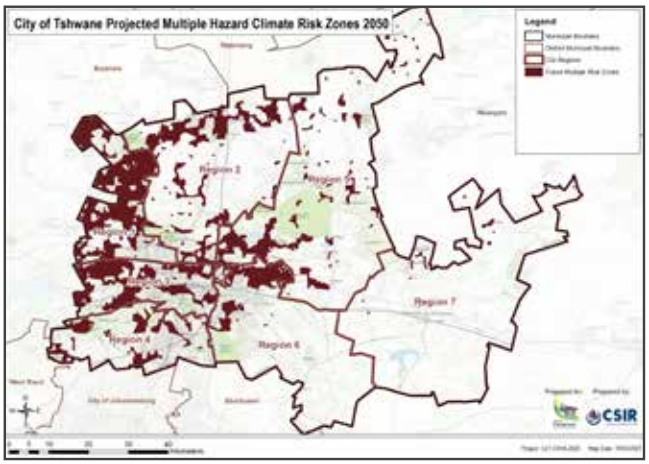


Figure 4: Future climate risk zones (2050)

CAP evidence

The GHGEI and the Climate Risk and Vulnerability Assessment provide insights into the areas that require interventions to reduce emissions and/or improve resilience in Tshwane.

AGRICULTURE: More frequent very hot days, heat waves and high fire-danger days are likely to reduce crop yields and increase livestock mortality, while more frequent extreme weather events such as flooding and intense thunderstorms will have detrimental impacts on agricultural infrastructure. Climate-smart agriculture is key to achieving food security and improving the resilience of vulnerable communities in Tshwane. Small-scale agriculture and food gardens, which also provide pandemic recovery solutions, can contribute to food security and sovereignty, and should be encouraged and supported to improve livelihoods and ensure household resilience.

WASTE: The waste sector is the third-largest emitter of GHG emissions. The City has low rates of waste diversion and recycling and, as a result, the majority of waste is disposed of in landfills. The City must employ innovative strategies to improve waste management in all sectors based on the waste hierarchy to divert waste away from landfill and reduce littering, soil pollution and GHG emissions. For example, a circular waste economy provides opportunities to reduce emissions while also addressing social challenges.

BIODIVERSITY: Ecosystems in Tshwane are exposed to extreme events (such as flooding and hailstorms) and increasing temperatures. Many of the ecosystems are highly vulnerable, due to land erosion, urban expansion, urban encroachment and alien invasive species. This ecosystem vulnerability contributes to the formation of climate risk zones and can reduce climate resilience. Conservation and protection of biodiversity must be prioritised as part of a broader effort to invest in ecological infrastructure as a first line of defence against climate hazards, particularly flooding and heat mitigation.

INDUSTRY: The nature of Tshwane's economy, as well as the industrial operational processes in the city, result in a high emitting industrial sector. The City needs to implement a high share of measures to reduce emissions, mainly through efforts to improve energy efficiency in the manufacturing industry and construction sectors. Investing in energy efficiency reduces emissions and costs, creates jobs and provides new business opportunities. The City must also drive ongoing improvements in operational efficiency, to ensure optimal use of electricity for economic efficiency and to ensure people's well-being. In addition, industry should improve natural resource efficiency, such as water efficiency, and reduce water pollution.

BUILDINGS AND INFRASTRUCTURE: Buildings and infrastructure are both negatively affected by the most significant climate hazards threatening Tshwane (heat, flooding and fire). They also contribute to climate change (through GHG emissions in construction, operation and maintenance), heat stress (through the Urban Heat Island effect), and poor health (through air quality and pollution). The cascading impacts of climate hazards on all forms of infrastructure threaten to reduce productivity while causing rising business costs and loss of livelihoods. The development of net-zero carbon, resilient infrastructure can contribute to the overall resilience of Tshwane and enhance the city's risk profile. In addition, buildings can promote healthier people by promoting good air quality practices, both internally through ventilation systems and externally through emissions.

PEOPLE: Climate hazards including fires, floods, droughts, extreme temperatures and convective storms, will continue affecting people, causing loss of lives and livelihoods in Tshwane. The risks people and communities face are also influenced by their socio-economic vulnerability and there is a correlation between the historical impact of apartheid spatial planning and the level of exposure of vulnerable communities. As climate change worsens and projected urban development settlement patterns perpetuate these vulnerabilities, the City anticipates the worsening of existing vulnerability. Failure to implement climate actions directed at these climate risk zones will condemn these areas to heightened loss of life and livelihoods.

TRANSPORT: Due to Tshwane covering a vast area, commuters travel extensively, mostly by private car or road-based public transport (such as bus or taxi), contributing to the transport sector's large share of the total GHG emissions. In addition, emissions from vehicles contribute to poor air quality. Added to this, in most regions transport systems are vulnerable to climate hazards. Flooding and storms disrupt traffic and damage infrastructure. Heat stress causes expansion of roads and railways and reduces their lifespan. In transport facilities and terminals, high indoor temperatures result in heat stress and related health impacts. Building resilience in the transport sector requires the development of climate-resilient infrastructure, the promotion of the use of public transport for longer distances and non-motorised transport for shorter distances, and the promotion of cleaner vehicles to reduce air pollution.

WATER: As South Africa is a water-scarce country, the City must take great care to safeguard its water supply, which is overwhelmingly dependent on imported water. All regions of Tshwane are home to major dams and extensive river courses that feed into the city's water supply. Climate change is projected to put this water supply system at risk of droughts and floods. Droughts, which will be a consequence of a projected hotter and drier future climate, pose a threat to food sovereignty and the agricultural sector. Floods will also increase, causing destruction and erosion of low-lying bridges and roads, property damage, and loss of life and livelihoods. The impacts of flooding are worsened by the mushrooming of informal settlements in flood plains, illegal developments, and inadequately maintained stormwater infrastructure.

ENERGY: A reliable supply of energy is an essential precondition for sustained economic growth and development. The City's energy infrastructure is already under extreme pressure due to its growing population. Meanwhile, due to the carbon-intensive nature of Tshwane's electricity supply, the energy system contributes significantly to the city's carbon footprint. The projected increases in temperature will naturally result in increasing energy demand, particularly in more affluent residential areas and industrial zones. Furthermore, energy security is affected by the impacts of flooding, heat and extreme weather events which cause damage to the already frail and aged network infrastructure, leading to vast outages. Adopting a climate-resilience approach to enhancing energy security while simultaneously containing and minimising the energy-related carbon footprint of Tshwane will result in a decarbonised energy supply system that maximises renewable energy opportunities and creates new green jobs.

CAP strategic priorities

The ultimate vision of the CAP is ***to ensure that Tshwane is a net-zero carbon and climate-resilient city by 2050.***

The City of Tshwane defined a set of climate actions based on the three pillars of this CAP:

Net-zero carbon

Climate resilience

Co-benefits of climate action

Therefore, while the identified climate actions are intended to promote net-zero carbon emissions, build climate resilience, and create an enabling environment for implementing climate action, they also provide significant co-benefits.

The actions in the CAP also aim to do the following:

- Improve health and well-being
- Provide environmental benefits
- Promote economic growth, development and job creation
- Promote sustainable and innovative public service delivery
- Promote inclusivity and equity
- Aid COVID-19 pandemic recovery or relief
- Be aligned with the Sustainable Development Goals (SDGs)

The CAP includes a total of ten outcomes (under ten themes), with 36 programmes and 52 actions, which together will deliver a net-zero carbon and climate-resilient city by 2050. The ten outcomes and programmes are presented below.

The CAP is aligned with the priorities, timelines, management processes, and monitoring and evaluation structures in the City to allow for smooth mainstreaming, monitoring and implementation by all departments.

The ten themes of the CAP:

A summary of the ten outcomes of the CAP:

PEOPLE and COMMUNITIES

Outcome 1: Safe, healthy, prosperous and climate-resilient communities

Goal	To promote the safety and health of communities in the face of climate change and extreme climate events.	
Programmes	1: Investigate and identify ways to reduce climate-related disaster risk 2: Promote public health and safety in the face of climate change and extreme climate events 3: Increase local food production to improve food security 4: Involve communities in, raise awareness of and conduct training on climate change	
2025 target	**2030 target**	**2050 target**
0 lives lost due to extreme climate events	**50%** reduction in climate-related displacement	**100%** reduction in climate-related displacement
5 annual community climate change awareness campaigns	**25%** of communal spaces perform climate-resilience functions, such as providing cooling, shelter and energy	**100%** of communal spaces perform climate-resilience functions, such as providing cooling, shelter and energy

Images: Community farming project to promote resilient livelihoods

URBAN PLANNING

Outcome 2: Climate-smart urban planning and design

Goal	To promote climate-smart spatial planning and development, land use management, growth and development control, as well as innovative designs for climate-resilient urban spaces.
Programmes	1: Climate-smart spatial planning for climate-resilient growth and development 2: Innovative urban and township design and development 3: Ensure climate-smart urban areas by developing, amending and enforcing regulations, and monitoring implementation

2025 target	2030 target	2050 target
100% of plans and strategies consider current and future climate risks, and inventories of natural infrastructure	**100%** of urban, township and settlement plans and strategies include innovative climate-smart urban design principles and green infrastructure (led by the City)	**100%** of developments include innovative climate-smart urban design principles and green infrastructure **100%** compliance with development policies and regulation

Image: Menlyn Maine – A Green Precinct

GREEN TRANSPORT

Outcome 3: Resilient, efficient and climate-smart transport and transit-oriented development

Goal	To promote the increased uptake of public transport and a transition to a resilient transport network, cleaner mobility and transit-oriented development
Programmes	1: Ensure that the transport network is resilient to climate shocks 2: Promote the citywide use of non-motorised transport (NMT) 3: Promote efficient and affordable public transport in Tshwane 4: "Green" the City's fleet and drive a Citywide shift towards net-zero carbon transport

2025 target	2030 target	2050 target
100% of transport plans, frameworks and strategies consider current and future climate risks (for the entire network and all users)	**30%** of City-owned buses and the entire fleet are electric **50%** of trips are made by public transport or NMT	**100%** of City-owned buses and the entire fleet are electric **70%** of trips are made by public transport or NMT

Image: The City's electric vehicle fleet

RESILIENT INFRASTRUCTURE

Outcome 4: Climate-proof infrastructure

Goal	To reduce climate impacts and protect infrastructure from extreme climate events by maintaining, retrofitting, replacing and adapting infrastructure.	
Programmes	1: Identify climate risk zones and hotspots that affect vulnerable City infrastructure and assets 2: Update and implement a long-term infrastructure and asset maintenance programme 3: Design, retrofit or replace infrastructure to ensure climate-resilient infrastructure	
2025 target	**2030 target**	**2050 target**
A report identifying and prioritising assets and infrastructure located in climate risk zones **100%** of infrastructure maintenance plans include climate risks and responses	**100%** compliance of all infrastructure and asset maintenance programmes **10%** reduction in repair costs incurred due to extreme climate events	**50%** reduction in repair costs incurred due to extreme climate events

***Image:** Grey and green infrastructure at Freedom Park*

GREEN BUILDINGS

Outcome 5: Net-zero carbon, efficient and climate-resilient buildings and public facilities

Goal	To design, build and retrofit buildings to ensure that they are net-zero carbon, resource-efficient and able to withstand extreme climate events.
Programmes	1: Ensure that all existing and new buildings are energy efficient and climate resilient 2: Ensure energy-efficient, net-zero carbon and climate-resilient City-owned buildings and municipal facilities 3: Update, implement and monitor the enforcement of the Green Buildings By-law

2025 target	2030 target	2050 target
Green buildings incentive plan/strategy developed and implemented Policy and b-law for existing buildings developed and implemented	**100%** of City-owned buildings are net-zero carbon and resource efficient (as stipulated in Green Buildings By-law) **100%** of all new buildings are net-zero carbon and resource efficient (as stipulated in Green Buildings By-law)	**100%** of all existing buildings are net-zero carbon and resource efficient (as stipulated in Green Buildings By-law)

Image: Tshwane House – A five-star rated green building

NATURAL RESOURCES

Outcome 6: Climate-resilient ecological infrastructure and protected natural resources

Goal	To protect natural resources and enhance the natural ability of ecosystems to buffer climate change impacts.
Programmes	1: Integrate critical biodiversity areas and ecological support areas into the spatial framework 2: Conserve, protect and restore natural open spaces, ecosystems and natural resources 3: Enhance natural resources by improving the quality of air, soil and water resources 4: Enforce compliance with guidelines and regulations for biodiversity and natural resources

2025 target	2030 target	2050 target
100% of spatial frameworks and plans incorporate green spaces, and critical biodiversity and ecological support areas	**100%** compliance with national air quality standards and World Health Organization guidelines	**100%** of brownfields rehabilitated (and options for renewable energy and carbon offset projects explored)
All air quality monitoring stations have required equipment and systems (in all seven regions)	**All** resources (ecosystems and water) currently exhibiting poor quality are improved to adequate quality levels (compared to 2020 baselines)	**All** resources (ecosystems and water) currently exhibiting poor quality are improved to good/excellent quality levels (compared to 2020 baselines)

Image: School learners crossing the Hartbeesspruit during a Wetland Discovery Walk

WATER

Outcome 7: Access to clean and sufficient water, with water security and water efficiency

Goal	To ensure water security for all users and uses in the face of climate change, while reducing water demand, use, pollution and waste.	
Programmes	1: Access to clean and sufficient water, with water security and water efficiency 2: Protect and conserve water 3: Diversify the water supply mix 4: Amend, enforce and monitor water policies and guidelines	
2025 target	**2030 target**	**2050 target**
One Water Approach/ Water Sensitive Urban Design (WSUD) is part of the City's Integrated Urban Water Strategy **10%** annual reduction of water losses (non-revenue water) from previous year	**10%** reduction in freshwater consumption and/or increase in water reuse (per capita) (compared to 2020 baselines) **100%** compliance with water and resource-efficiency criteria for City-owned buildings as set out in the Green Buildings By-law	**25%** reduction in freshwater consumption and/or increase in water reuse (per capita) (compared to 2020 baselines) **100%** compliance with water and resource-efficiency criteria for all non-City buildings as set out in the Green Buildings By-law

Image: Apies River Rehabilitation and Storm Water Project

ENERGY

Outcome 8: An energy-smart and secure city with sustainable access to clean, efficient and affordable energy for all

Goal	To ensure energy security for all users and uses in Tshwane in the face of climate change, while promoting energy efficiency and a transition to renewable energy
Programmes	1: Implement energy conservation and demand-side response measures 2: Plan for renewable energy implementation in Tshwane 3: Procure renewable energy from independent power producers 4: Diversify the energy mix and promote the uptake of clean and small-scale renewable energy

2025 target	2030 target	2050 target
Develop an ambitious **Energy & Electricity Master Plan** for the City	**10%** or **200 MW** of the City's electricity is sourced from renewable energy	**A minimum of 80%** of the City's electricity is sourced from renewable energy

Image: Solar photovoltaic plant at the Tshwane Leadership and Management Academy

WASTE

Outcome 9: A zero-waste capital city that promotes a circular economy

Goal	To promote circular economy initiatives, waste segregation and recycling, to manage natural resources effectively and reduce impacts on the environment
Programmes	1: Promote climate-smart waste management through innovative waste minimisation, separation, recycling and transportation 2: Drive a shift towards a circular economy 3: Ensure the proper closure and rehabilitation of current near-capacity landfill sites

2025 target	2030 target	2050 target
Develop and implement a **Waste Circular Economy Strategy** **25%** of food and organic waste diverted from landfill	**25%** of waste diverted from landfill **10%** of waste transported using electric vehicles **50%** of waste water facilities use use combined heat and power (CHP) or energy generated from on-site biogas	**100%** of waste diverted from landfill **100%** of waste transported using electric vehicles **100%** of landfills are rehabilitated and repurposed

Image: *Waste recycling at Atteridgeville EcoPark*

ENABLING ENVIRONMENT

Outcome 10: Climate change is mainstreamed and institutionalised in the City

Goal	To establish enabling mechanisms that promote good governance, and ensure climate mainstreaming and the implementation of climate change actions in the City
Programmes	1: Create an enabling institutional environment 2: Promote cross-sectoral collaboration to advance mainstreaming 3: Raise awareness among and conduct training for officials, politicians and residents 4: Establish a well-resourced climate action research, graduate training and communication programme

2025 target	2030 target	2050 target
100% of departmental heads' key performance indicators and job descriptions reflect climate action **The Climate Fund** is established, operationalised and resourced Establish the **Climate Change Committee**	Sign **five** climate action research memorandums of understanding annually with research institutions and/or think tanks (covering different sectors) **A minimum of ten** graduates trained annually on climate change-related thematic areas	Clean audit and transparent procurement for **100%** of sustainability and climate-related projects and programmes (annually) Graduates trained in **100%** of departments with climate action focal points

Image: public sign pledges to save the environment during a Tshwane Green Outreach Campaign

Enabling mechanisms

Successful implementation of the CAP will require good governance, broad public support, strong partnerships, innovative financing mechanisms and a sound knowledge base.

Governance: CAP implementation will be driven by the City Sustainability Unit (CSU) and departmental Climate Action Focal Points. It will be governed by a series of committees including City officials at the highest level. The responsibility to implement individual actions will be assigned to departments.

Outreach: The Tshwane Green Outreach Programme will help to build support for CAP implementation among Tshwane residents and will encourage active citizenry and local climate action by community-based organisations and local businesses.

Partnerships: The City will partner with external stakeholders to access expertise and financing for accelerated CAP implementation. It will continue to coordinate its climate change agenda with the provincial and national government through the Vertical Integration Working Group and foster closer cross-departmental collaborations within the City itself.

Financing: The City will seek to access external financing for CAP implementation by establishing a Tshwane Climate Fund. By maximising co-benefits, exploring new income opportunities and innovative financing mechanisms (such as green bonds and shared energy savings contracts), and investing in sound project preparation and structuring, the City will be able to meet its funding needs. The City will also enforce the application of its Sustainable Public Procurement Strategy and tap into the innovative potential of the local private sector by encouraging the development of green businesses and industry.

Knowledge: The City will collaborate with local research institutions and establish research networks to fill knowledge gaps and continue expanding the evidence base for the CAP. It will seek to develop the knowledge of existing personnel through training and attract outside expertise to facilitate sound decision-making. Regular revisions of the CAP will be based on the latest scientific evidence, new technical innovations and the results of the CAP's extensive monitoring and evaluation processes.

The City cannot, on its own, make significant strides in addressing climate change challenges. Communication is critical to ensure successful climate action. The City acknowledges the good deeds and actions taken towards either protecting nature or nurturing our own health and well-being, but there is much more to be done.

Active citizenry and successful collaboration to promote transformative, best practice and practical climate action will act as a catalyst to embrace a climate-friendly trajectory and collectively commit to safeguard our people and planet for now and the future.

City of Tshwane

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A net-zero carbon and climate-resilient city by 2050