CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Waste Strategy 2025

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CONTENTS

DEFINITIONS

TERM	DEFINITIONS
Airspace	Means the volume of space on a landfill site, calculated in cubic metres (m3).
Backyard dwelling	Means a backyard residential unit. The backyard residential unit is a structure constructed of any material, intended or used for human habitation, on the same residential property as a main dwelling. It is built according to approved plans (formal) or no approved plans (informal backyard) and is therefore not categorised as an informal settlement.
Buy-back centre	Means a centre where people sell recyclable material they have collected. Recycling companies buy recyclable material from the buy-back centre and pay only for the material they can use.
Circular economy	Means a regenerative system in which resource input and waste, emission and energy leakage are minimised by slowing, closing and narrowing energy and material loops. This is in contrast to a linear economy, which is a 'take, make, dispose' model of production.
City	Means the City of Cape Town, a municipality established by the City of Cape Town Establishment Notice No. 479 of 22 September 2000, issued in terms of the Local Government: Municipal Structures Act, Act 117 of 1998, or any structure or employee of the City acting in terms of delegated authority.
Cleansing	Means the process of cleaning and removing unwanted substances, such as dirt, infectious agents and other impurities, from an object or environment. In the context of waste management, it includes litter picking, the removal of dead animals, street sweeping, the clearing of illegally disposed waste and street cleaning, which involves the use of water and disinfectants. The activities are undertaken by the Cleansing Branch of the City's Urban Waste Management Department.
Disposal	Means the burial, deposit, discharge, abandoning, dumping, placing or release of any waste into or onto any land.
Drop-off facility	Means facilities provided by the City in strategic locations around the City of Cape Town to reduce illegal dumping by making provision for dropping off bulky waste, garden refuse and builders' rubble, and to facilitate waste minimisation through the separation of recyclable materials, garden refuse and clean builders' rubble. These facilities can also be used as temporary transition points for waste (excluding household hazardous waste).
Enable	Means to create an environment that makes it possible for residents and businesses to prosper.
Extended producer responsibility	Means measures that extend producers of products' financial or physical responsibility for certain identified products to the post-consumer stage of the products.
Food waste	Means discarded food (organic fraction) generated from residential, industrial and commercial food processes.
Formal dwelling	A developed residential property where individual erven were approved in terms of town planning legislation.
Garden greens/ garden waste	Means organic waste that emanates from gardening or landscaping activities at residential, business or industrial properties, which includes but is not limited to grass cuttings, leaves, branches and biodegradable material, but excludes food waste and waste products of animal origin.

General waste	Means waste that does not pose an immediate hazard or threat to health or to the environment, and includes: a) domestic waste; b) building and demolition waste; c) business waste; and d) inert waste as per the National Environmental Management: Waste Act (NEMWA), Act 59 of 2008.
Green procurement/ sustainable procurement	Means the approach by which an organisation integrates environmental criteria into all stages of its procurement processes. Green procurement considers the cost of procured goods or services over their whole life.
Hazardous waste	Means any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristics of that waste, have a detrimental impact on health and the environment. It includes healthcare risk waste and the hazardous substances, materials or objects in business waste, residue deposits and residue stockpiles.
Household hazardous waste	Means the collective term for common household chemicals and substances containing toxic ingredients that are no longer useful to the householder. Examples are compact fluorescent tubes, used oils, asbestos cement heaters and flowerpots, old paints, old pesticides, batteries, pool chemicals, etc. It does not include healthcare risk waste, explosives, etc.
Informal settlement	Means an area where informal housing structures have been constructed on land upon which the occupants have no legal claim or occupy illegally, or unplanned settlements and areas where housing is not in compliance with current planning and building regulations.
Landfill	Means a waste disposal site that is used for the controlled deposit of waste onto or into land.
Material recovery facility (MRF)	Means a specialised plant that receives, separates and prepares recyclable materials for marketing to end-user manufacturers.
Mini material recovery facility (mini-MRF)	Means a drop-off facility that has expanded its capacity for storage and sorting of recyclable waste.
Municipal solid waste	Means waste generated from residential and non-industrial commercial sources. It includes predominantly household (domestic) waste, sometimes with the addition of commercial waste collected by a municipality in a given area. It includes both solid and semi-solid wastes and generally excludes industrial hazardous waste.
Organic waste	Means waste of carbon-based material of animal or plant origin. It includes food, wood and garden waste and can be broken down, in a reasonable amount of time, into its base compounds by micro-organisms and other living things and/or by other forms of treatment, regardless of what those compounds may be. This excludes human-made organic chemicals, and infectious, poisonous, healthcare and hazardous organic wastes.
Process waste	Means the residual material, by-products or substances that are produced as a result of an industrial or manufacturing (or recycling) process. These materials are not the primary product being produced and may be hazardous or non-hazardous.
Recovery	Means the controlled extraction of material or the retrieval of energy from waste to produce a product, as per NEMWA.
Recyclable material	Means waste that can be reclaimed for further use and/or converted into raw materials that can be reused to make new products or resources.
Recycle	Means a process where waste is reclaimed for further use. This process involves the separation of waste from a waste stream for further use and the processing of that separated material as a product or raw material, as per NEMWA.

TERM	DEFINITIONS
Refuse transfer station	Means a facility where waste is temporarily stored and ideally sorted before it is transported more economically to other recycling centres or landfills.
Sector plan	Means a plan that provides an assessment of infrastructure needs over a 20-year period. Sector plans are a critical link between the spatial strategies of the MSDF and the land-use forecasts that inform them, as well as the medium- and short-term instruments of the Integrated Development Plan (IDP) and the budget. They provide detailed insight to guide decision-making related to investment in infrastructure.
Service point	Means the specific location at which a solid waste service is rendered, such as the location of the collection of a wheelie bin.
Small-scale rental units (SSRUs)	Means affordable residential units developed by the private sector (micro-developers) to cater for individuals or small families, offering essential living facilities in a high-density area.
Waste	Means, as per NEMWA, any substance, whether or not that substance can be reduced, reused, recycled and recovered: a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of; b) which the generator has no further use of for the purposes of production; c) that must be treated or disposed of; or d) that is identified as a waste by the Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but – (i) a by-product is not considered waste; and (ii) any portion of waste, once reused, recycled and recovered, ceases to be waste.
Waste beneficiation	Means the treatment of waste to improve its physical or chemical properties to use it as a raw material for production processes and extracting economic value.
Waste characterisation	Means a process of analysing waste streams and their composition and quantities (in tonnes) considering seasonality, calorific value and volume.
Waste economy	Means the sector of the economy that involves the management, processing, recycling and disposal of waste materials.
Waste management facility	Means a place, infrastructure, structure or containment of any kind wherein, upon or at which a waste management activity takes place. This includes a waste transfer station, container yard, landfill site, incinerator, drop-off site, recycling or composting facility.
Waste minimisation	Means the avoidance of the amount and toxicity of waste that is generated and, in the event where the waste is generated, the reduction of the amount and toxicity of waste that is disposed of.
Waste picker	Means someone who collects reusable and recyclable materials from residential and commercial waste bins, landfill sites and open spaces in order to revalue them and generate an income, as per the National Waste Picker Integration Guideline for South Africa, 2020.

ACRONYMS

ACRONYM	TERM
BBC	Buy-back centre
CCT	City of Cape Town
CSH	Community Services and Health
DEA & DP	Department of Environmental Affairs and Development Planning (provincial)
DFFE	Department of Forestry, Fisheries and Environment (national) – previously the Department of Environmental Affairs (DEA)
EPR	Extended producer responsibility
FPR	Future Planning and Resilience
GHG	Greenhouse gas
IDP	Integrated Development Plan
IPCC	Intergovernmental Panel on Climate Change
IWM	Integrated waste management
IWMP	Integrated Waste Management Plan
MFMA	Municipal Finance Management Act, Act 56 of 2003
MRF	Material recovery facility
MSA	Local Government: Municipal Systems Act, Act 32 of 2000
MSDF	Municipal Spatial Development Framework
MSW	Municipal solid waste
NEMWA	National Environmental Management: Waste Act, Act 59 of 2008
NGO	Non-governmental organisation
NWMS	National Waste Management Strategy
PRO	Producer Responsibility Organisation
PTMS	Property Transaction Management System
RTS	Refuse transfer station
PPM	Portfolio project management
SDG	Sustainable Development Goal
SMME	Small, medium and micro enterprise
SPE	Spatial Planning and Environment
UWM	Urban Waste Management Directorate
WCG	Western Cape Government

EXECUTIVE SUMMARY

The City of Cape Town (the City) faces significant challenges in managing waste due to rapid urbanisation, population growth and increasing consumption patterns. This Waste Strategy aims to address these challenges through a comprehensive approach that aligns with national and provincial waste management goals. The vision for Cape Town is to deliver a clean city for all, where residents and businesses have access to quality, sustainable and affordable waste services.

Cape Town's population is projected to reach 5,8 million by 2040, increasing pressure on waste management systems. The City manages approximately 2,1 million tonnes of waste annually, with a current diversion rate of 31,53%. This Strategy identifies key challenges such as inadequate infrastructure, insufficient services in informal settlements, illegal dumping and the need for integration with the private sector. This Strategy underscores the importance of collaboration between the City, residents and the private sector to achieve the ambitious waste diversion targets and create a sustainable urban environment for all Cape Town residents.

The Strategy is built on three commitment pillars, focused on optimising existing services, minimising waste to landfill, and maximising the basket of service offerings.

1. **Optimising Existing Services:**
   a) Enhancing efficiencies within current services, while ensuring financial and operational sustainability

   b) Improving human resource capacity, data and technology use, and internal coordination

2. **Minimising Waste to Landfill:**
   a) Creating an enabling environment for private sector integration

   b) Implementing targeted education and awareness campaigns

   c) Increasing accessibility of waste minimisation services and developing additional drop-off sites

3. **Maximising the Basket of Service Offerings:**
   a) Expanding services through localisation and partnerships with private sector actors and non-governmental organisations (NGOs)

   b) Developing tailored service standards

The Strategy outlines specific actions under each pillar, with clear roles, responsibilities and time frames. It emphasises the need for data-driven decision-making, technological advancements and effective partnerships to enhance waste management. Monitoring and evaluation mechanisms are established to track progress and ensure accountability.


MORRIS
MATERIAL HANDLING
CRANE SAFE WORKING LOAD
30T

MAYOR'S MESSAGE

> **"Illegal dumping, particularly in waterways and open land, is widespread and contributes to declining environmental and health conditions. This Waste Strategy sets out a practical and necessary response."**

Cape Town is growing – fast. The city's population, the built environment, and the number of informal households are all burgeoning. These shifts are placing extraordinary strain on basic services and nowhere is that pressure more visible than in the waste management system.

Today, over 1,2 million Capetonians live in over 800 informal settlements and back yard dwellings. Over half of new housing expected between now and 2040 is anticipated to be informal or less formal. In these areas, the City's current waste services are not sufficient. Illegal dumping, particularly in waterways and open land, is widespread and contributes to declining environmental and health conditions.

This Waste Strategy sets out a practical and necessary response. It aims to improve how the City delivers waste services, especially in areas where current approaches are no longer fit for purpose. It outlines a clear focus: improve the efficiency of existing services, divert more waste away from landfill, and broaden the types of services available across a wider range of communities and settlement types.

More than an operational vision, this strategy is part of a longer-term effort to build the Cape Town of the future – one that is cleaner, more resilient, and better equipped to manage the demands of a growing and changing city. The work it sets out will not be easy, but it is essential if we are to try and reverse environmental decline and improve the quality of life in the parts of the city most affected by poor waste outcomes.

My thanks to the teams who prepared this strategy. It provides a clear and credible roadmap for the hard but necessary work ahead.

GEORDIN HILL-LEWIS
Executive Mayor

CHAPTER 1: WASTE CONTEXT IN CAPE TOWN

1. INTRODUCTION

Every day, Cape Town generates approximately enough waste to fill an Olympic-sized swimming pool. Like many cities, Cape Town faces a waste crisis on multiple fronts – social, economic and environmental – posing a significant challenge to all actors in the urban environment, particularly in a resource-constrained environment. For city governments, businesses and residents, this crisis has severe repercussions: for key basic service infrastructure as well as public health. For the future of any society, the inadequate handling, disposal and treatment of waste is a rapid enabler of climate instability and environmental deterioration. Waste is generated in a diversity of modes that demand different processing and management methods. The cleansing, collecting, aggregating, recycling, reusing, disposing and treating of waste in urban environments is acknowledged as a complicated business, requiring participation from residents and private sector actors, in conjunction with governmental services.

The dangers of clogged waterways and sewerage systems, stagnant pools of water, boundless mounds of trash and choking green spaces are the results of poor planning for waste management, the poor execution of waste services and poor waste behaviours. Although these threats are global in that all cities face them, Cape Town has a few unique circumstances that add to the complexity of ensuring full engagement with the waste sector by all actors who consume and use goods in this city.

According to the latest census (2022), Cape Town's population is estimated to be 4,77 million, 27,6% higher than the 2011 Census, and with an average annualised population growth rate of 2,42%. According to the City's latest model, demographic projections suggest that 5,8 million people will reside in Cape Town by 2040. This population growth results in increasing environmental pressure as urban expansion often encroaches on natural landscapes and resources.

Accompanying this growth is a parallel rise in informality, as evidenced by expanding informal settlements, complicating the delivery of municipal services and sustainable infrastructure. In 2022, 21,3% of households in Cape Town lived in informal housing.[1] In addition, Cape Town faces the issue of income depreciation, where, despite a higher cost of living, average incomes are not keeping pace with inflation, thus eroding purchasing power and widening income disparities. This makes it challenging to fund municipal services through a user-pays principle, and requires the cross-subsidisation of services. As fewer households are able to pay for services, the cross-subsidisation of services becomes increasingly precarious. Fiscal constraints are further exacerbated by a national economic downturn, marked by year-on-year reductions in grant funding from National Treasury. This puts additional strain on the City's budget, already stretched thin by the need to address infrastructure deficits and provide for a growing population. The Covid-19 pandemic also had a significant negative impact on the economy, which was exacerbated in Cape Town due to the city's large tourism industry. For essential basic service delivery, including waste, the pandemic and its accompanying geopolitical upheaval had significant ramifications for supply chains on key delivery inputs – for example, fuel and maintenance components.

This, combined with fiscal depression, compounds the challenges of developing resilient urban systems that can withstand both economic and environmental stresses in the face of increasing informality and environmental degradation.

Adequate waste disposal or treatment, such as controlled landfills or more stringently operated facilities, is almost exclusively the domain of high- and upper-middle-income countries. Cape Town is one of the few cities in the Global South providing waste services to at least 99% of areas (known informal settlements and formal areas). However, this quantitative data point contradicts the qualitative feedback from community meetings, servicing informal settlements and small-scale rental units (SSRUs), where waste services are found to be inadequate. The City acknowledges that this is unacceptable and is not in line with the City's commitments to sustainability and to being a City of Hope. This Strategy intends to recognise the City's waste shortcomings, and to address this

[1] *Western Cape Government. 2023. Municipal Economic Review and Outlook, 2023–24. Available at: 2023-24 MERO Cape Metro.pdf (westerncape.gov.za)*

head on, so as to realise the vision of a clean city for all of Cape Town's residents. It is within this resource-constrained, increasing demand and operationally complex context that this Strategy is presented. Although the waste landscape in Cape Town is challenging, improving integrated waste management (IWM) also provides opportunities to address related urban challenges, for example, within the circular economy.

Waste management is by its very nature a downstream service, where the waste behaviours of businesses and residents contribute to growing pressures on local governments to deal with waste. Waste is effectively the outcome of a long line of conscious and unconscious decisions that are made by a range of parties. The City's municipal services only occupy so much territory in influencing the landscape of the waste sector. The balance of responsibility resides with residents and actors in the private sector.

Subsequently, this document has been drafted to ensure that a strategic approach to waste management is adopted not only by the City, but also by residents, civil society and the private sector. It considers the key challenges of providing municipal waste services, as well as influencing non-city participants to engage in the waste sector and form partnerships with government to minimise waste production and divert waste from landfill. It proposes a strategic vision and a set of principles intended to guide actions, programmes and projects in the waste space. Furthermore, it critically reflects upon how the City will improve its waste services in order to complement the responses of residents in managing waste in Cape Town.

The purpose of this Strategy is as follows:

1. **Coordination:**
   a) To effectively coordinate the operations and services of the Urban Waste Management (UWM) Directorate, given the staff complement (of approximately 3 300 City personnel) and the budget.

   b) To ensure that capital spending and budgeting are aligned with broader strategic objectives and long-terms goals to improve sustainability.

   c) To guide coordination and partnerships with other City departments, external role-players and service providers.

   c) To ensure the best service composition and adaptability to reduce risk and improve service continuation in various circumstances.

2. **Consolidation:** To consolidate various actions and plans into one guiding document, with responsibilities broken down at a departmental level, to ensure that actions are not overlooked or forgotten.

3. **Common goal:** To create a shared vision for urban waste in Cape Town and to change the way that waste is viewed by the City, residents and businesses by highlighting the opportunities of waste and the positive social and economic benefits of viewing and treating waste differently.

The initial components of the Strategy address the context in which waste services are provided by the City, as well as the challenges and risks imposed upon the urban waste sector. It then introduces the strategic approach, including waste principles and the long long-term vision for the management of waste in Cape Town. The Strategy's implementation arm is premised upon three strategic commitment pillars:

1. Optimising existing services
2. Minimising waste to landfill
3. Maximising the basket of service offerings.

These pillars respond to seven opportunity areas, each with two implementation objectives and corresponding actions. The Strategy concludes by providing an overview of the stakeholders responsible for bringing the Strategy to life.

2. WASTE IN CONTEXT

Global waste context

Across the world, waste management presents a cross-cutting challenge, intersecting with a number of other issues such as public health, environmental sustainability, social justice and economic development. Rapid urbanisation and growing industrialisation have led to a significant increase in waste production, especially in urban areas.

According to the most recent (2020) estimates from the World Bank, global solid-waste generation was estimated to have reached 2,24 billion tonnes annually, and this was expected to increase to 3,88 billion tonnes per year by 2050, under a business-as-usual scenario.[2] Although the sub-Saharan African region contributed just 9% of global waste generation in 2016, the region's waste generation is growing at the fastest rate recorded and is predicted to triple by 2050.

This has serious environmental implications, placing undue pressure on the climate and limited infrastructure, and polluting natural habitats such as oceans, rivers and forests. Increasing waste generation also adds pressure to urban settings, particularly in high-density, informal environments. Food and green waste comprise more than 50 per cent of waste in low- and middle-income countries.

Encouragingly, recyclables make up a substantial fraction of waste streams, ranging from 16% in low-income countries to about 50% in high-income countries. As the income level in countries rises, the quantity of recyclables in the waste stream tends to increase, with paper increasing most significantly. Globally, about 37% of waste is disposed of in some type of landfill, 33% is openly dumped, 19% undergoes materials recovery through recycling and composting, and 11% is treated through modern incineration.

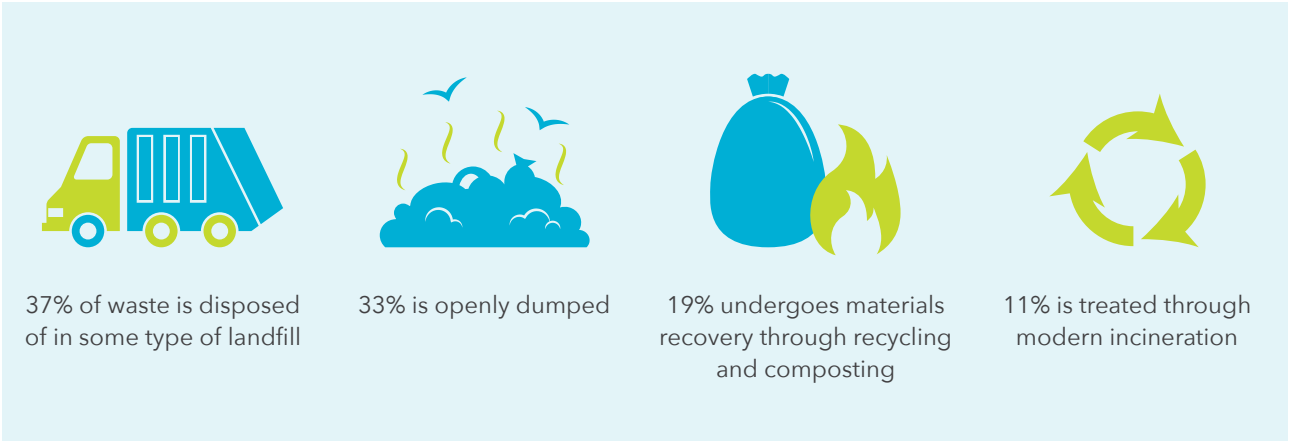

Figure 1: Global waste trends (2016)

[2] *Kaza, S., Yao, L., Bhada-Tata, P. and Van Woerden, F. 2018. What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050. Urban Development Series. Washington, DC: World Bank. DOI: 10.1596/978-1-4648-1329-0*

Globalisation adds another layer of complexity to the waste management equation, with international trade in waste and its by-products often crossing national boundaries. Moreover, the issue of waste management is closely linked with the global challenge of climate change, as waste decomposition, particularly organic waste in landfills, is a significant source of greenhouse gas (GHG) emissions. Waste management, particularly landfill operations, contributes to global GHG emissions, primarily through the release of methane, a potent GHG.

According to the Intergovernmental Panel on Climate Change , the waste sector contributed approximately 5% of global GHG emissions in 2014. This included emissions from solid waste disposal, the biological treatment of solid waste, and wastewater treatment and discharge.[4] Given the predicted global growth of waste, it is safe to assume that this figure is much higher today. According to the City's GHG inventory, the waste sector has historically been responsible for 10%–11% of Cape Town's city-wide GHG emissions. Consequently, some academics argue that at least 12 of the 17 United Nations SDGs will not be reached without effective waste management.[5]

At a city level, among the most pressing challenges to waste management are financial limitations that municipalities face in implementing effective waste management systems. Regulatory frameworks often lack coherence and effectiveness, making it difficult for innovative solutions to gain traction. Public awareness and a willingness to engage in sustainable waste practices like waste avoidance, reuse, recycling and responsible waste disposal remain low in many areas. In addition, the scalability and adaptability of successful waste management models are often limited by social, geographic and legislative factors. Whether waste is adequately managed often reflects global inequalities, and low- to medium-income cities often struggle to provide services in informal settlements, where waste frequently ends up in open dumps. Improper disposal can lead to adverse health outcomes; for example, through water, soil and air contamination. Hazardous waste or unsafe waste treatment practices, such as open burning, can directly harm waste workers (or other people involved in waste burning) and neighbouring communities. Vulnerable groups such as children are at increased risk of adverse health outcomes.[6]

[4] Intergovernmental Panel on Climate Change. 2019. 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Available at: https://www.ipcc.ch/report/2019-refinement-to-the-2006-ipcc-guidelines-for-national-greenhouse-gas-inventories

[5] Rodić, L. and Wilson, D.C. 2017. 'Resolving governance issues to achieve priority sustainable development goals related to solid waste management in developing countries'. Sustainability, 9 (3), p. 404.

[6] World Health Organization. 2022. Guidance on solid waste and health. In Compendium of WHO and other UN guidance on health and environment (pp. 1–12). Available at: Guidance on solid waste and health (who.int)

South African waste context

South Africa's most recent State of Waste Report (2018) from the Department of Environmental Affairs (DEA) (now the Department of Forestry, Fisheries and the Environment [DFFE]) indicates that South Africa managed 108 million tonnes of waste in 2017. Of this, ~55,6 million tonnes was categorised as hazardous waste, and the remaining ~52,1 million tonnes was categorised as general waste. Of the total waste managed, ~50 million tonnes (48%) was ash waste from coal power stations, and the remaining ~57,7 was non-ash waste.[7] It is important to note that these national statistics hide the contextual variation across the country – for example, landfills in Cape Town do not have to manage significant amounts of ash waste.

Despite extensive and progressive regulations, South Africa recovered ~20,4 million tonnes of waste for recycling, resulting in an input recycling rate of only 19%. If ash material is excluded, South Africa recovered a more favourable 34% of non-ash waste for recycling.[8,9] The South African Government has ambitious targets to reduce the amount of waste that ends up in landfills. As a result, the National Waste Management Strategy (NWMS) (2020) calls for the diversion of 40% of waste from landfill within 5 years, 55% within 10 years and at least 70% within 15 years. The NWMS also aims to achieve zero waste to landfill beyond 2035. These targets are accompanied by the national norms and standards for the disposal of waste to landfill, which gradually introduce restrictions on disposing certain waste at landfill.

Nationally, South Africa has relatively high levels of input recycling rates (what goes into a recycling facility) for key materials (paper, certain plastic, glass and metals). However, this only represents a relatively small fraction of the general waste managed in the country[10] and tends to be over-reported compared to what is actually recycled after processing waste is accounted for (output recycling rates). South Africa is one of the world leaders in metal packaging recycling, with over 75% of all metal packaging being recycled. Food tins, tin foil and aluminium beverage cans are among the most common metal items sent for recycling. The majority of recycled metals are sold locally.

In addition to the objectives of the NWMS, the Western Cape Government (WCG) has set a target of 50% diversion of organic waste from landfill by 2022 and a landfill ban on organic waste by 2027. Currently, organic waste contributes more than 50% of the total general waste disposed of in South Africa, with almost one third of all organic waste consisting of food waste.[11]

Drivers of waste generation in South Africa include economic growth and industrialisation, which have led to increased consumption, with a corresponding rise in disposable items and packaging waste. Urbanisation is another major contributor: as people migrate to cities, population density increases along with waste per unit area. Moreover, the urban lifestyle often involves greater consumption of packaged goods. Resource use is often inefficient, characterised by low recycling rates and planned obsolescence in product design. Unfortunately, this contributes significantly towards waste being directed to landfill or illegally dumped. Although progressive waste management policies might exist, ineffective implementation and a lack of incentives for sustainable practices exacerbate the problem. Social factors, including limited public awareness and a lack of coordination with the informal waste collection sector further compound the issue. Lastly, demographic factors such as population growth and tourism contribute to waste generation. Although growing waste may be considered a natural by-product of a growing, successful city, this need not be the case if successfully managed. In light of finite environmental and financial resources, it is imperative that successful waste management prioritises waste diversion and minimisation, with the buy-in of all relevant stakeholders.

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[7] *GreenCape. 2022. Waste Market Intelligence Report. Available at: WASTE_MIR_7_4_22_FINAL-3.pdf (greencape.co.za)*
[8] *Ibid.*
[9] *Department of Environmental Affairs. 2018. South Africa State of Waste: A report on the state of the environment. Final draft report. Department of Environmental Affairs, Pretoria. Available at: https://soer.environment.gov.za/soer/UploadLibraryImages/UploadDocuments/141119143510_state%20of%20Waste%20Report_2018.pdf*
[10] *Department of Environmental Affairs. 2018. South Africa State of Waste: A report on the state of the environment. Final draft report. Department of Environmental Affairs, Pretoria. Available at: https://soer.environment.gov.za/soer/UploadLibraryImages/UploadDocuments/141119143510_state%20of%20Waste%20Report_2018.pdf*
[11] *Department of Environment, Forestry and Fisheries. 2020. National Waste Management Strategy 2020. Available at: https://www.environment.gov.za/sites/default/files/docs/nationalwastemanagementstrategy2020.pdf.*

Cape Town waste context

Waste trends in Cape Town have followed a similar pattern to that of the rest of the country, with rapid urbanisation, population growth and increasing consumption patterns resulting in a steady increase in waste generation over the past six years. The City managed approximately 2,1 million tonnes (excluding the waste generated and managed in the private sector) of waste in the fiscal year 2023/24, of which 31,53% was diverted from landfills through City-led initiatives. The following graph shows the amount of waste managed, disposed of and diverted by the City:

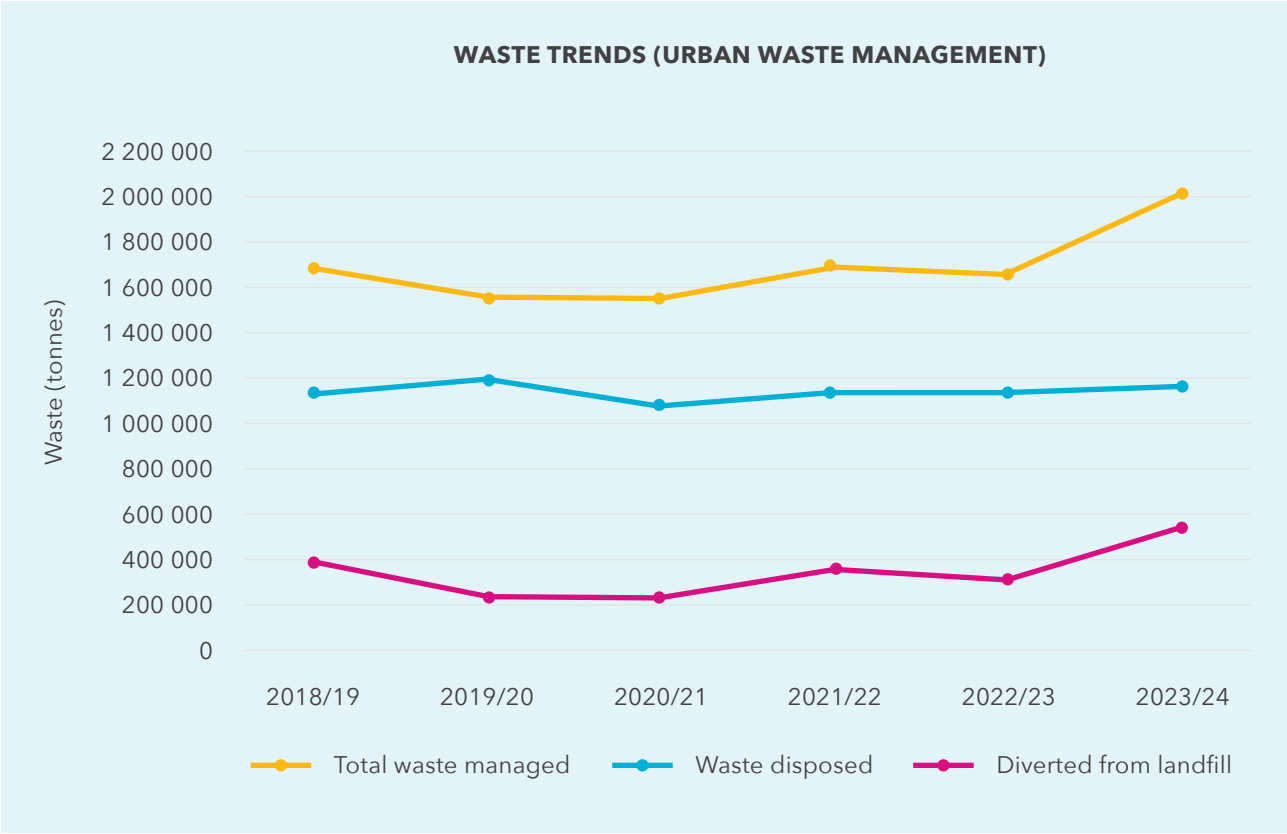


Figure 2: Waste trends, Urban Waste Management

As the graph shows, there has been a gradual increase in incoming waste and waste managed by the City over a 5-year period, as is expected with an increasing population. The 2019–2020 and 2020–2021 periods were an exception to this trend, with a decrease in most waste types coming in to City facilities and managed by UWM. This decrease is most likely attributed to the Covid-19 pandemic and associated lockdowns, which resulted in a disruption in business, construction and building operations, subsequently leading to less waste, and builders' rubble in particular, entering the City's landfills.

The data also show that diversion from landfill through City-led initiatives has followed a similar pattern. This increase is the result of improved reporting of City-managed organic waste diversion programmes, as well as an increase in builders' rubble diversion due to the reuse during construction at Coastal Park.

Inequality remains a significant issue in waste management in Cape Town. Owing to their topographical layout and extreme density, informal settlements often lack access to formal waste management services and are used by outside

entities to dump client waste, resulting in illegal dumping and associated environmental and public health risks.

According to the latest census results (2022), 90,2% of Capetonian households have their refuse removed by the City at least once a week, lower than in previous years. However, this quantitative data point contradicts the qualitative feedback from community meetings and servicing informal settlements and SSRUs, where waste services are found to be inadequate. The City acknowledges that this is unacceptable and is not in line with the City's commitments to sustainability and being a City of Hope. This Strategy intends to recognise the City's shortcomings, and to address this head on, so as to realise the vision of a clean city for all of Cape Town's residents.

Waste services in informal areas is a challenge to the City. Even though 100% of residents (in formal and known informal settlements) in Cape Town have access to municipal waste management services, the evolution of new, unplanned informal settlements and backyarder dwellings, including SSRUs, is a challenge to the current operating model of the waste utility.

The City generates revenue for waste management through three streams:

1. Rates
2. Tariffs
3. Gate fees (municipal landfill disposal)

Although there is a clear need to divert waste from landfill (as one of the core pillars of this Strategy), this has repercussions for the revenue model for the City. For example, reducing waste to landfill reduces gate fee revenue. Consequently, the City must identify additional revenue streams that do not rely on landfill disposal gate fees. Decreasing revenue streams also affects the City's ability to cross-subsidise waste services (e.g. cleansing).

Illegal dumping makes up 42% of waste collected by the Cleansing Branch (within an array of Waste Services), a substantial majority, compared to just 28% of waste collected through its core services. In 2023/24, illegal dumping totalled approximately 15 000 tonnes of waste collected per month. Combatting illegal dumping has proven challenging.

Despite efforts to remove waste from illegal dumping hotspots and to turn these spaces into useable community facilities (such as gardens or parks), most areas remain hotspots. Illegal dumping also affects the delivery of other basic services, such as waste and sanitation systems. Waste is the cause of 70% of sewer overflows, which then creates unsanitary sewer overflows that pollute the environment and create health problems in communities.

Across directorates, the City spends about R500 million annually on clearing dumped waste and littering, significantly more expensive than it would cost to collect waste from households. This figure does not include the 'downstream' costs of illegal dumping and litter; for example, a recent sewer main line cost over R8 million to clear, which was largely blocked by rags, stones, builders' rubble and foreign objects dumped into the sewer.

In addition, although the informal waste sector – comprised largely of waste pickers – plays a crucial role in waste management, it often operates under unsanitary conditions.

The following infographic is a snapshot of waste, based on the services delivered by the City of Cape Town:

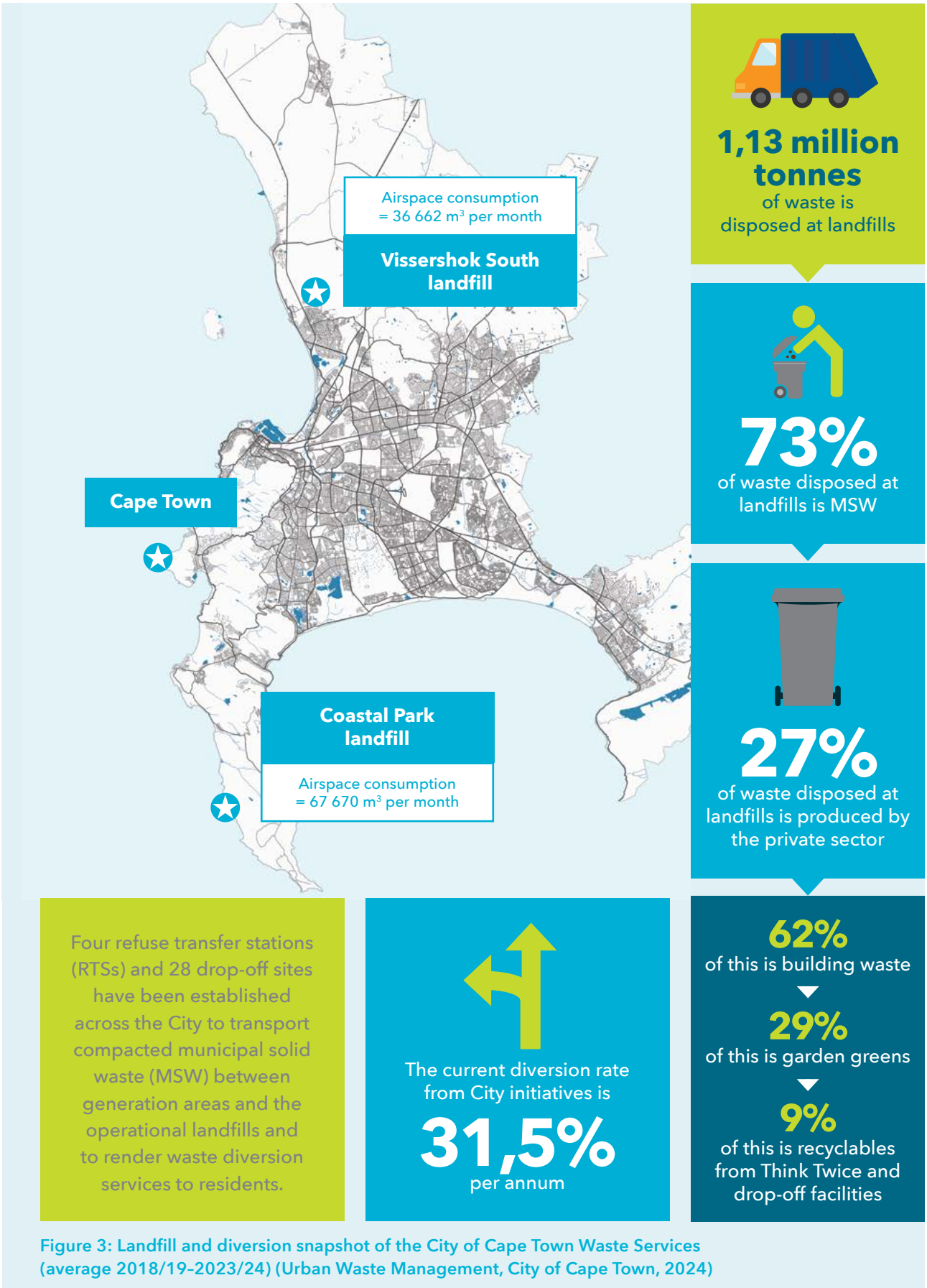


Figure 3: Landfill and diversion snapshot of the City of Cape Town Waste Services (average 2018/19–2023/24) (Urban Waste Management, City of Cape Town, 2024)

The current waste diversion rate from the City's initiatives is 31,53% per annum. Of the waste diverted, an average of 62% is from building waste, 29% is from garden greens and 7% is paper and packaging waste recycled via the Think Twice Campaign,[12] with 2% coming from recyclables from drop-off facilities.

This suggests that recyclable material represents a tiny proportion of the City's waste ecosystem, and is largely under-represented for a city of Cape Town's size. However, Cape Town has a relatively strong recycling economy compared to other parts of South Africa, and therefore attracts waste streams from outside its boundaries. Although some of this waste is diverted, the process waste from recycling (which can be substantial; e.g. for plastics, 30–40%) ultimately ends up in Cape Town's landfills.

Table 1: Waste streams 2017/2018–2023/2024 (Urban Waste Management, 2024)

WASTE STREAMS	TOTAL 2017/18	TOTAL 2018/19	TOTAL 2019/20	TOTAL 2020/21	TOTAL 2021/22	TOTAL 2022/23	TOTAL 2023/24
Builders' rubble	63%	65%	64%	57%	61%	64%	61%
Garden greens	31%	28%	23%	25%	29%	30%	35%
Recyclables Think Twice	4%	5%	11%	15%	8%	4%	4%
Recyclables drop-off	1%	2%	2%	3%	3%	2%	1%

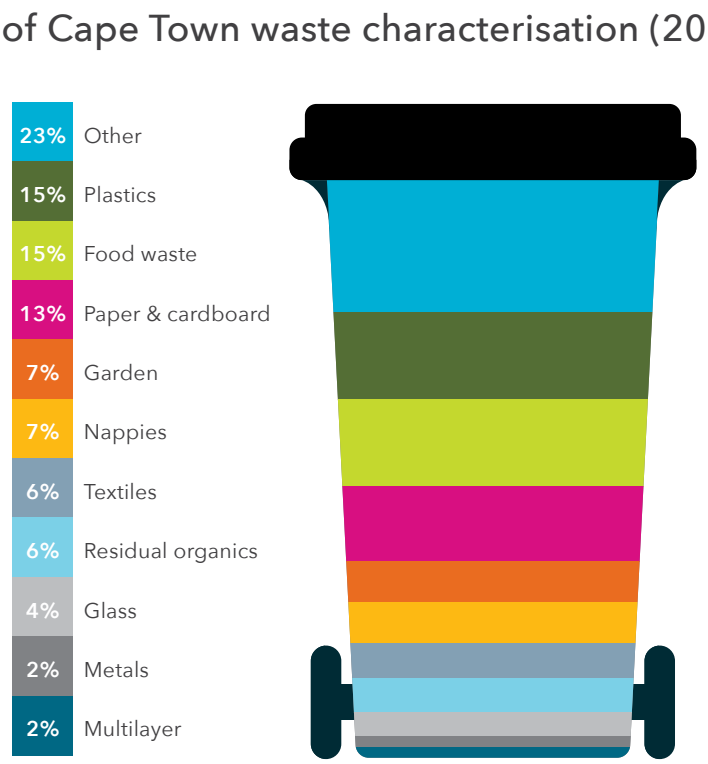


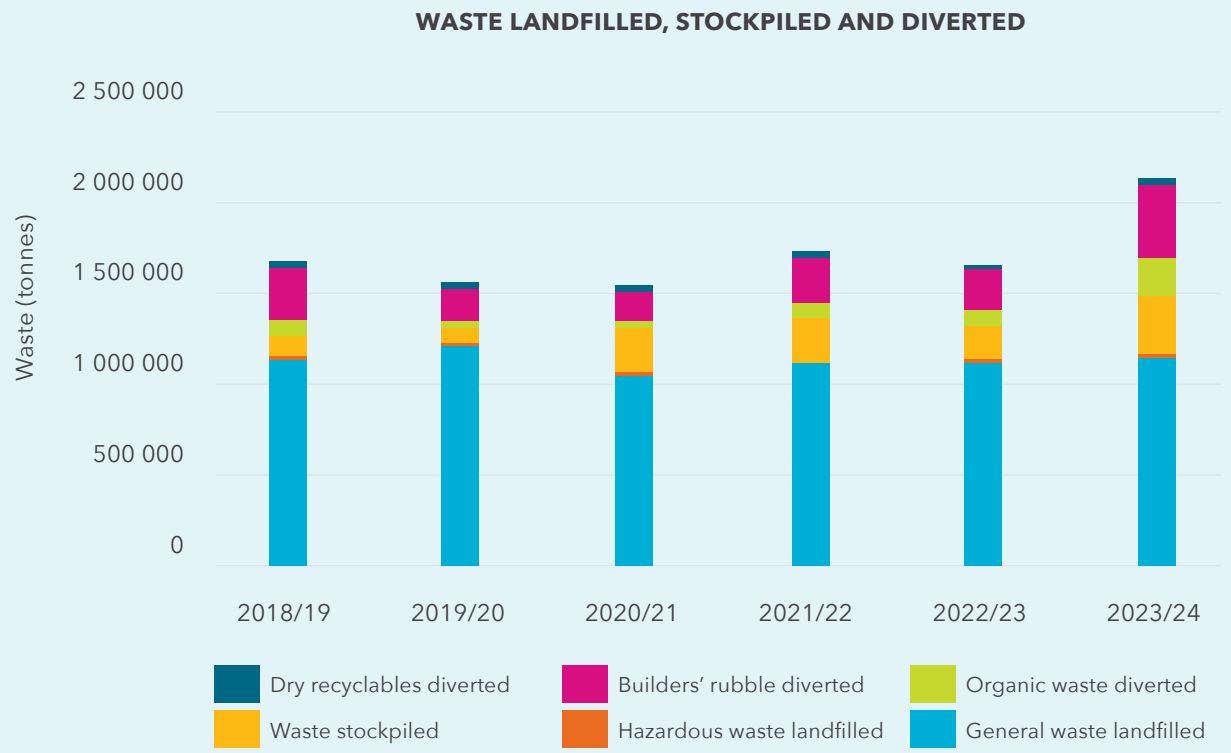
Figure 4: Waste characterisation graph, 2018

[12] *The City and its service providers currently service 177 070 households, between 20% and 25% of the city's formal residential areas with a door-to-door collection service known as the 'Think Twice Separation at Source Programme' for recyclable waste. The recyclables collected by the service providers are sorted at the City's Kraaifontein Materials Recovery Facility, the Woodstock Mini-MRF or at private material recovery facilities, before being made available to the recycling sector for further processing.*

Although there are several diversion options for builders' rubble, such as pavements, sidewalks, parking lots and daily cover on landfill sites, builders' rubble remains a significant contributor to the mass of waste produced and this affects waste logistics, such as the transportation of waste. The dumping of low-quality and contaminated builders' rubble, mixed with other construction and demolition waste, in less-formal areas in the city remains a challenge.

The City attempts to divert waste from landfill due to the limited landfill airspace, legislative requirements of national government and increasing levels of environmental pollution associated with landfills.

The City has been progressively growing its programmes to divert the various waste streams it handles from landfill to waste beneficiation. Figure 5 details the performance of these City waste diversion programmes over the financial years ranging from 2018/19 to 2023/24. It details the total tonnages of waste disposed of in the city's landfills, and the tonnages of organic waste, builders' rubble and recyclables (paper and packaging waste) diverted from landfill per annum for the period.



	2018/19	2020/21	2021/22	2022/23	2023/24	2024/25
Percentage waste diversion	22,8%	15,5%	14,1%	19,9%	19,17%	31,53%

Figure 5: Tonnes of waste disposed, stockpiled (waste awaiting diversion) and diverted from landfill to beneficiation and annual percentage waste diversion by City of Cape Town programmes

Figure 6 projects the City's waste diversion performance trend over the past 10 years, comparing it to the 2025 and 2030 NWMS targets. Although significant progress has been made, a comprehensive strategy shift is required for Cape Town to meet or exceed the targets set by the NWMS.

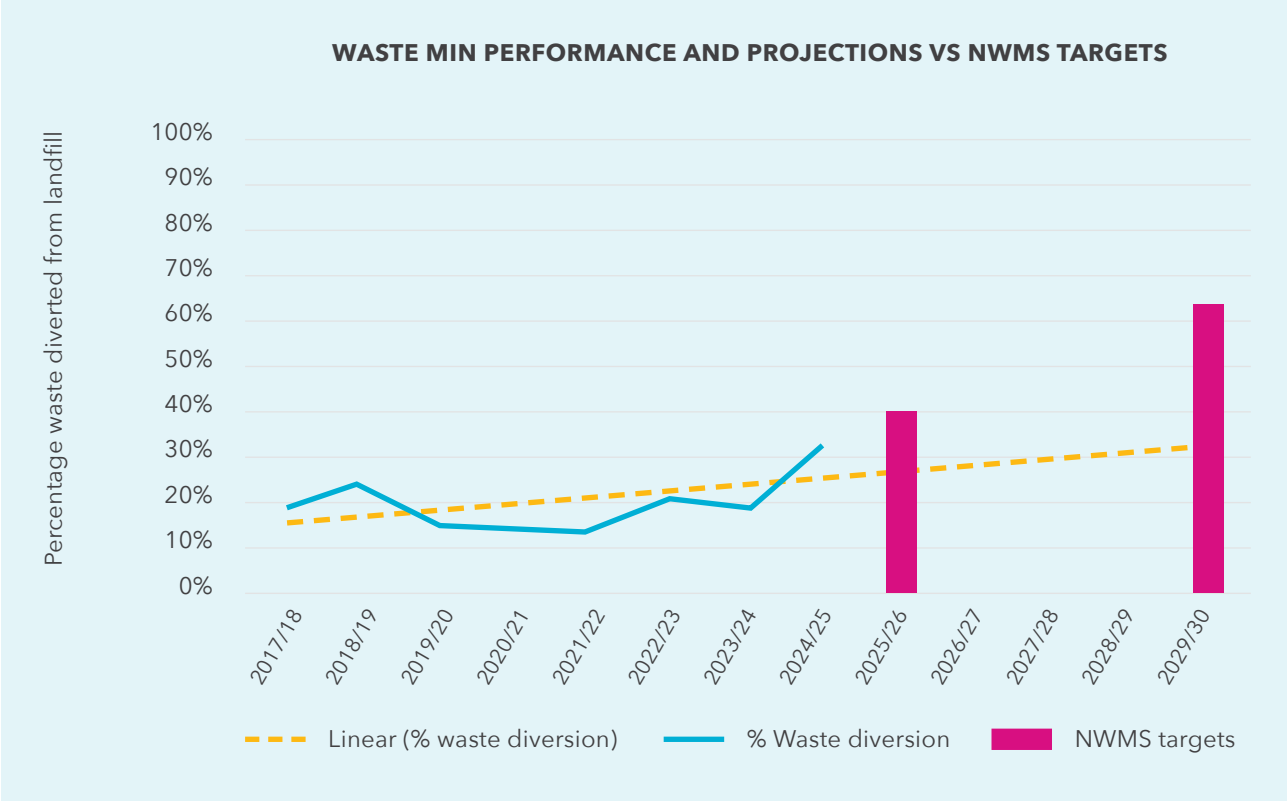


Figure 6: City waste diversion performance vs NWMS targets

The City's 2023/24 waste diversion rate stands at 31,53%, indicating that the NWMS targets – of 40% landfill diversion by 2025 – are ambitious. Reaching these targets will require close and dedicated collaboration by all stakeholders, both public and private. The increased roll-out of waste minimisation services will require additional budget and staff in this branch over time.

It is difficult to compare this diversion rate to other metros, as their rates are unknown and limited data are available from the private sector. The diversion of waste from landfill is the primary function of municipalities; however, other actors contribute significantly. Typically, the private sector diverts a higher percentage of waste handled, as it focuses on less-contaminated waste, such as uncontaminated industrial offcuts and pre-consumer recyclables. **In contrast, municipal governments are responsible for contaminated residential waste, as well as dumped waste, which has the highest levels of contamination. In addition, as waste pickers have typically removed valuable materials from municipal waste, it tends to be of a poorer quality. As a result, municipalities typically have lower diversion rates than the private sector.**

The City has ongoing efforts to improve the diversion rate through community engagement programmes, waste diversion initiatives and the reallocation of financial responsibility for waste to producers of the products that consumers use and then dispose of (as per the Extended Producer Responsibility [EPR] Regulations). Currently, the City charges the consumer and generator of waste for waste services, and the introduction of EPR allows the charges to be borne by the producer of the products. The City has also been developing partnerships with the private sector to increase the separation of waste at source, for beneficiation or recycling. Although these initiatives are promising, the progressive national and provincial targets for landfill diversion will contribute to increasing landfill nationally, and have broader negative socio-economic and environmental implications. For example, not meeting the WCG organic waste diversion targets is significant for the City as this is included in the City's landfill site licence conditions for Coastal Park.

Other stakeholders in the waste value chain:

Buy-back centres (BBCs): BBCs play a crucial role in aggregating waste beneficiation. A 2019/20 survey of 70 BBCs found that BBCs **diverted approximately 17 400 tonnes recyclables per month** from landfill (**more than five times** the tonnage diverted through the City's kerbside recycling programme).

Informal waste pickers: In South Africa, currently an estimated 62 000 people collect recyclables on an informal basis as waste pickers, also known as reclaimers (SoWR, 2018).

Collectors – SMMEs: In addition to BBCs and informal waste pickers, approximately 100 SMMEs play an important role in the waste value chain, selling recyclables to BBCs. These companies vary from relatively informal operations to organised collectives and associations, as well as formalised kerbside collection services for businesses and residents.

Processors: These are private recycling companies that process or recycle waste into products.

Producer Responsibility Organisations (PROs): PROs serve as intermediaries between producers and the government, overseeing and funding the collection, recycling and disposal of certain product categories post-consumer use. Their primary aim is to ensure that producers meet their environmental and waste management responsibilities.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Role of local government

As a municipality, the City is primarily responsible for delivering the following services:

Figure 7: Primary waste services, Cape Town

Delivering waste services across the spectrum of (in) formality requires differentiated operational service offerings, based on the housing typology.

Housing typology: Informal settlement

Waste services offered: Cleansing

Housing typology: Additional dwelling – informal (ADI): This refers to any informal additional 'backyard' dwelling. The core defining elements of an informal additional dwelling is a structure that is constructed of any material and is intended or used for human habitation on the same residential registered property as a main dwelling, with no approved plans. For ease of reference, the additional dwelling – informal will be referred to as an ADI. Although the word backyard implies that it is at the 'back' of the property, the additional dwelling can be anywhere on the property.

Waste services offered: Collections (currently limited to backyard dwellings on a formal dwelling [main] or on a Council Rental Unit property).

Housing typology: Formal dwelling

Waste services offered: Collections, although this varies depending on the type of formal dwelling.

It should be noted that the City offers an optional waste collection service for commercial entities.

Figure 8: Waste services for different housing typologies

There are multiple stakeholders in the waste management sector, and its effective functioning is dependent on a number of interrelated factors. The three main sets of actors in the business are:

1. Waste generators ('customers', including the City itself)
2. Waste services providers (the City and service providers)
3. The responsible authority for waste management (the City)

The City is a direct actor in waste management, and the effectiveness and efficiency with which it fulfils these functions plays a significant role in the overall effectiveness of waste management in Cape Town. The City has significant control over regulatory tools and economic factors while also asserting its influence over socio-psychological factors through education and community participation initiatives. As a result, the City is an enabler as well as an advocate within the system. The City's regulatory functions (the implementation and enforcement of the City's by-laws) in conjunction with its ability to offer economic incentives means that the City can determine the consequences and penalties for not adhering to various legislative and regulatory directives, including those for illegal dumping and littering.

ROLES AND FUNCTIONS OF THE CITY

REGULATOR

a) Develop and enforce waste management by-laws and policies
b) Approve IWM plans
c) Waste-related activities undertaken by the private sector
d) Appoint and regulate service providers (incl. waste beneficiation service providers)

SERVICE PROVIDER/MANAGEMENT

a) Collections
b) Cleansing
c) Waste diversion
d) Transfer and disposal of waste
e) Management of landfill sites

CUSTOMER (PROCURER OF GOODS & SERVICES)

a) Deployment of tenders and contracts
b) Supply chain management and green procurement
c) General purchase and disposal of goods

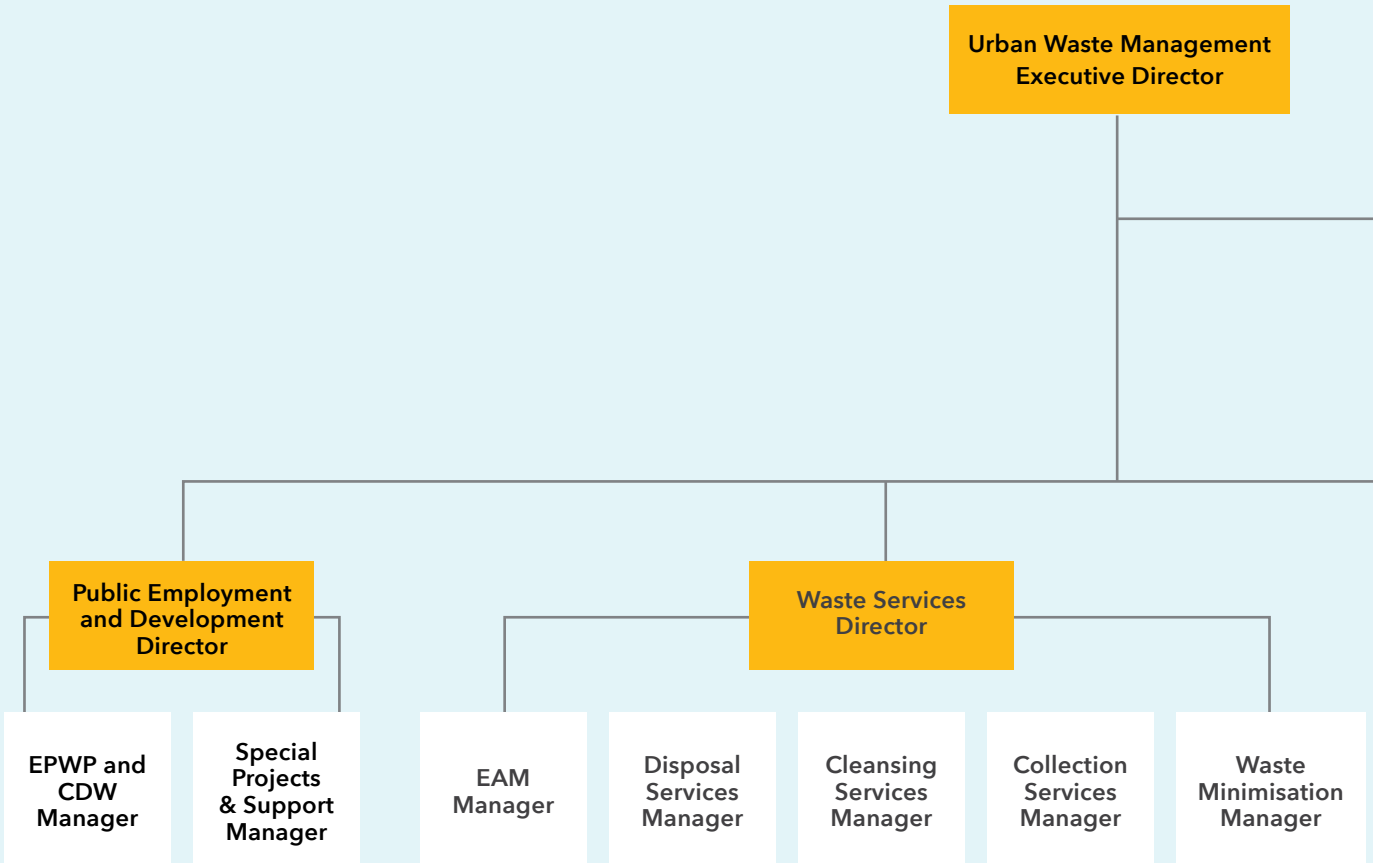


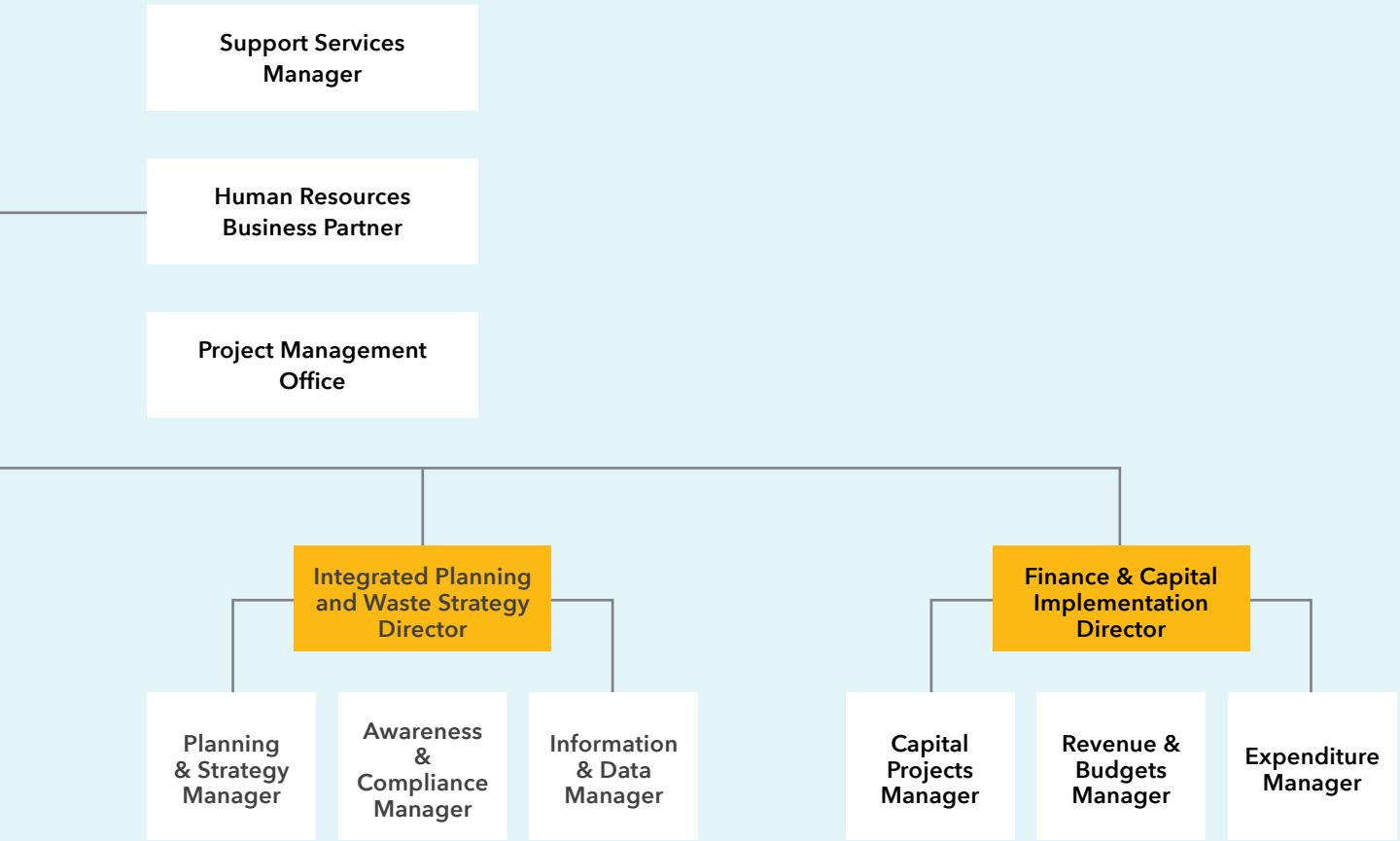
Figure 9: UWM organogram, 2024

ENABLER

a) Partnerships with private sector, communities and other organisations
b) Enable economic opportunities in the waste sector
c) Provide access to information and municipal waste streams
d) Provide funding

ADVOCATE

a) Education and community participation initiatives
b) Advocate national, provincial and local government for regulatory reform and amendments



3. CHALLENGES

There are a number of challenges that the City and its residents encounter when dealing with waste. These issues are also represented in chapter 3 in relation to the action items of the Strategy. They can be grouped into the following categories:

Service provision

General:

Increasing informality, rapid urbanisation and population growth are factors that have increased the demand for waste services. Currently, waste services in the city are distributed unequally, leading to disparities in service quality and access to programmes such as the City's Think Twice initiative. The spatial layout of certain neighbourhoods and informal settlements poses challenges for providing efficient waste collection and cleansing services. In addition, volatility and interference by communities prevent the provision of waste services. This includes denying City officials access to perform services in communities, protest action, communities seeking jobs, gangsterism, attacks on staff, extortion and a lack of internal agreements with other line departments on general urban management. Funding for waste services remains a persistent issue, particularly in light of the rising costs of service delivery (e.g. the cost of fuel, maintenance, etc.). Additional law enforcement is required to safeguard the delivery of waste services. Financial sustainability, capacity and resourcing need to be re-evaluated in terms of service provision. A summary of the key challenges in each waste service branch is as follows:

1. **Collections:**
   - There is increasing demand for waste collection services, as service points increase with increased land development and formalisation of areas. This requires reviewing refuse collection beats for greater optimisation to ensure financial sustainability.
   - Currently, recycling and separation-at-source availability and access are inadequate to meet demand and waste diversion targets.
   - Offering refuse collection services to backyard/SSRU tenants is a significant challenge, as currently there is no funding model for privately owned properties. Council rental units receive refuse collection services, and can apply for additional refuse bins.
   - The densification and growth of the city result in narrow roads and parked vehicles, which make turning circles difficult and inhibits access for standard collection vehicles. This makes fleet management challenging as smaller vehicles are required (e.g. rear-end loaders and light delivery vehicles). There are also human resource implications as additional drivers and crew members are required to manage inaccessible areas.

2. **Disposal:**
   - Waste haulage from RTSs to landfill is currently carried out by road, which is significantly more expensive and creates additional logistical bottlenecks compared to rail haulage. Accessing rail haulage requires a functional Transnet line.
   - At the current diversion rate, Coastal Park will reach its landfill capacity by 2027 and

Vissershok by 2036. This means that if the City does not drastically increase diversion rates or invest in increasing the lifespan of landfills, it will not have a place to send waste. Additional cell development has been completed for Coastal Park; however, landfilling cannot take place until approval to commence activities has been received from the commenting authority, i.e. the national Department of Water and Sanitation. The development of the Vissershok South site is in progress, with two new piggyback cells currently under construction. However, as with Coastal Park, once the cells have been constructed, authorisation from the national Department of Water and Sanitation will be required prior to landfilling activities commencing, which could result in delays.

3. **Cleansing:**
    - Residents' and businesses' poor waste behaviours and inadequate access to waste services result in littering, dumping and grime build-up in public spaces.
    - The demand for cleansing services is interrelated with other public space challenges, such as people living on the street.
    - Cleansing vehicles face similar challenges to Collections when having to navigate narrow roads and parked vehicles.
    - In some instances, litter in mountainous regions with restricted access can be problematic as it requires staff with specific expertise (e.g. abseiling experience).

4. **Waste Minimisation:**
    - The accessibility of current drop-off facilities are insufficient, resulting in prohibitive transport costs and limited access for residents and businesses.
    - Site-specific waste intakes: Residents and SMMEs make use of these facilities to drop off recyclables, garden green waste and building waste. Contractors are appointed by the City to sort waste delivered to the facilities. However, not all drop-off facilities accept all the above waste types, and this can sometimes result in illegal dumping when residents and SMMEs are turned away.
    - There is insufficient land availability for developing additional drop-off facilities, due to limited suitable land available and resistance from local communities who perceive drop-off facilities in their neighbourhoods as a nuisance (also known as the "not in my backyard" effect). Drop-off facilities provide convenience to residents but they are also perceived as undesirable by residents.
    - Price volatility for recyclables is largely influenced by international recycling markets and results in unpredictable revenue across the broader recycling business.

Inadequate infrastructure

1. **Regional waste infrastructure:** Despite facing similar waste management challenges, historically there has been no viable option for the City to collaborate with neighbouring municipalities to provide regional infrastructure or services. This is largely based on a previous study on regionalisation that only supported a dry recyclables collaboration with BBCs, and recommended against the City leading a regional diversion process due to the significant associated costs. A potential income-generating opportunity exists for the City to develop a regional waste facility that would also be accessible to other municipalities at a cost. Another viable opportunity is for more cost-effective diversion to be developed between the City and BBCs for the processing of dry recyclables. In addition, this proposed cooperation in the waste economy has the potential to result in significant job creation.

2. **Insufficient processing facilities:** Although the City is responsible for waste diversion, the processing of waste is a shared function between the City and private recycling companies. According to NEMWA, waste ceases to be waste once it has been reused, recycled or recovered. At present, there are not enough waste beneficiation facilities across Cape Town. This impedes the City's ability to meet diversion targets as waste is not efficiently processed and much of the responsibility still resides with the City.

3. **Facility, plant and equipment upgrading and maintenance:** Waste facilities need constant maintenance and upgrading to meet demand. The Vissershok Landfill site is the only landfill site with substantial airspace available to accommodate waste for the next 13 years. It is important that this facility is upgraded and maintained. Furthermore, it is crucial that an additional landfill site is found to replace Coastal Park once the facility reaches the end of its lifespan. Of concern is that, in the past, persistent infrastructure breakdowns have resulted in all four of the City's RTSs missing operational targets.

4. **Lack of access to rail for solid waste transportation:** Rail is ideal for transporting solid waste to and from the City's four RTSs. The lack of rail management in Cape Town prevents facilities from meeting their designed capacities and has major cost (R190 vs R90 per tonne) and carbon emission implications for the City. In particular, the unavailability of the Dunoon/Montague Gardens rail line, due to unlawful land occupations near Dunoon, continues to hamper waste transit significantly.

5. **Illegal dumping** not only poses health and environmental hazards but also leads to considerable damage when litter clogs stormwater and wastewater drains, disrupting the City's main wastewater system. These issues lead to considerable repair costs, which ultimately fall on the City and its ratepayers.

Servicing informal settlements, backyard dwellings & small scale rental units

1. The growth and unpredictable spread of informal settlements makes it difficult to keep up with the provision of waste services. In addition, informal settlements spill into landfill site buffer areas, and require careful management. The City acknowledges that, given the scale of the challenge of waste in informal settlements, it is not currently providing adequate services to provide excellent waste services to the residents of informal settlements in Cape Town.

2. A lack of storage space in the home, theft and misuse as well as difficult terrain in some cases means that black wheelie bins are not suitable in informal settlements. As a result, households in informal settlements are provided with blue refuse bags. Residents place these bags in the street for collection at a designated point and the bags are often torn open, resulting in litter and illegal dumping. In addition, the collection of refuse bags requires that the City and its service providers make use of different trucks for informal and formal settlements, adding to the cost and complexity of fleet management.

3. Currently, services in informal settlements are funded through the cross-subsidisation of formal settlement service delivery. This is not in line with the user-pays principle in the City's tariff structure, and City revenue is limited by a finite number of residents paying for formal settlement services, presenting a challenge for funding the extension of services to informal areas and SSRUs.

4. In most cases, landlords are not procuring additional bins for their backyard/SSRU tenants. This situation is contributing to the illegal dumping of waste in these areas. Where tenants are furnished with bins, a lack of storage space or potential theft or misuse of bins is an issue. At present, the cost for procuring additional bins for backyarder dwellings and SSRUs is borne by the City rather than by the end user. The City needs to reconsider its collection service for tenants in formal and lesser formal areas.

5. Backyard dwellings and SSRUs present a unique challenge to service provision, as the current administrative and financial systems are not designed for informal, high-density environments. Infrastructure and service delivery operational planning similarly struggle to account for the backyard dwelling environment. In addition, given the flexible nature of backyarding, it is very difficult to ascertain the number of backyard dwellers living on a property. This 'moving target' limits municipalities' ability to plan for services.[13]

6. Along with the other utilities (water and sanitation, energy) in the City, UWM rolled out waste services to backyarder dwellings in City-owned community rental units in 2018. Currently, the City does not directly deliver waste services to backyarder dwellers on private properties, although backyarder dwellers may receive services indirectly through the main property owner (Collections), by making use of the blue bag service in informal settlements or dumping illegally (Cleansing). Simply requiring main property owners to apply for additional bins is disincentivised as many properties that have backyard dwellings currently receive a rates rebate of up to 100% (based on having a property worth less than R500 000 or having applied for indigence status based on a salary of less than R7 500 per month), which they lose if they apply for an additional bin.

7. A pilot study in Dunoon in 2018 tested if providing additional wheelie bins to backyard/SSRU tenants would be used and collect additional waste. Surprisingly, only approximately 30% of waste produced by backyard/SSRU tenants was collected in the bins provided. However, there have been promising results with providing bins and collection services to SSRUs, where limited space and affordability can also be an issue. This points to the challenges of providing waste services to backyarder dwellings.

8. The lack of waste services for backyard/SSRU tenants is thought to be the leading cause of illegal dumping. This follows a 2017/2018 programme that mapped illegal dumping hotspots across the city. Based on this mapping, high-density areas and areas with backyarding were found to have more illegal dumping hotspots.

[13] *Isandla Institute. 2023. Of Skips and Scapegoats: Managing waste for the growing backyard housing sector. Available at: https://isandla.org.za/en/resources*

Private sector integration

1. **Integrating informal waste pickers into the recycling value chain:** The City's role in the waste economy is to ensure that different waste streams are available to the private sector as well as informal waste pickers by amending regulatory instruments (e.g. the City's Integrated Waste Management By-law, 2009) and enabling separation at source for high-quality recyclables so that they can reach the processors.

   The waste management system is designed so that the private sector, via BBCs, transacts with the informal sector, which mostly comprises waste pickers and SMMEs providing collection services. Waste collected by the private sector, both within the City bounds and as recyclables from neighbouring municipalities, is disposed of at a municipal landfill or a private landfill, or it is processed at a private sector facility. The processing of recyclables results in process waste, which is then disposed of in municipal or private landfills. Thereafter, the beneficiated streams are injected back into the system for reuse or resale. Although this is the intended design of the system, the City's system is disconnected from the informal sector, resulting in disjointed initiatives and benefits. In other developing world contexts, cities have incorporated waste pickers and SMMEs into their municipal service delivery model, to varying degrees.

2. **Management of different recyclable waste streams:** Waste beneficiation for economic development requires changes in the City's regulatory instruments (e.g. Municipal Planning By-law, 2015 and Integrated Waste Management By-law, 2009). This process should involve both formal and informal sectors and, importantly, evaluate market viability for different waste streams.

3. **Waste as a wasted resource – embedded energy:** South Africa's ongoing energy shortage has prompted a search for the diversification of energy sources, a move that aligns with the City's Energy Strategy. One such source is 'waste to energy', which supports the circular economy by converting landfill waste into power. Landfill gas flaring is currently in operation at two landfill sites: Coastal Park and Bellville South. The plans for gas yield analysis at the new landfill gas flare at Vissershok are underway, following the completion of a 6-month trial. Challenges in this space are largely technical, as there are numerous requirements for sign-off to feed energy into the grid, as well as limited equipment providers and highly specialised expertise required.

   Other waste-to-energy options for the alternative processing of waste are anaerobic digestion (a process through which bacteria breaks down organic matter), direct incineration and the burning of refuse-derived fuel (RDF). Currently, the City does not have anaerobic digestion or direct incineration facilities. Previous efforts to develop the Industrial Development Corporation (IDC)-led, New Horizons anaerobic digestion plant in Athlone were hamstrung by outdated waste characterisation data, challenges with textile sorting and a lack of coordination. RDF was identified as a potential avenue in 2011, and a proposal developed for the cement sector to use RDF in their process. However, this has never materialised, but is being assessed again in the Regional Waste Management Facility Feasibility Assessment currently being carried out, along with other waste management technologies and their feasibility for City implementation.

   Despite these challenges, there is potential for the exploration of waste-to-energy projects, with the dual aims of 1) providing energy security for waste facilities while 2) minimising waste to landfill. In the long term, there may be potential to generate sufficient energy to sell to the grid, further contributing to the Waste Strategy's principles of affordability and sustainability.

   As a result of the project activities registered with the United Nations Framework Convention on Climate Change (UNFCCC) at three waste facilities (Vissershok, Coastal Park and Bellville), Certified emission reduction (CER) credits (also known as carbon credits) offer a potential revenue stream for the City. In June 2024, 240 000 tonnes of credits from landfill gas flaring at waste facilities between 2018 and 2020 were successfully sold, generating approximately R36 million including VAT. Council approved the sale of the CER credits in 2021, and this offers the potential to auction credits on an annual basis. Further revenue through the sale of electricity to the Energy Directorate to reduce purchases from Eskom will be yielded in the case of the Coastal Park LFG-to-energy project. However, the mechanism for the sale of electricity potentially generated at the future planned Vissershok Landfill site gas-to-energy project is still to be determined as the electricity supply for this latter site (e.g. power purchase agreement or wheeling to the City, etc.).


CITY OF CAPE TOWN
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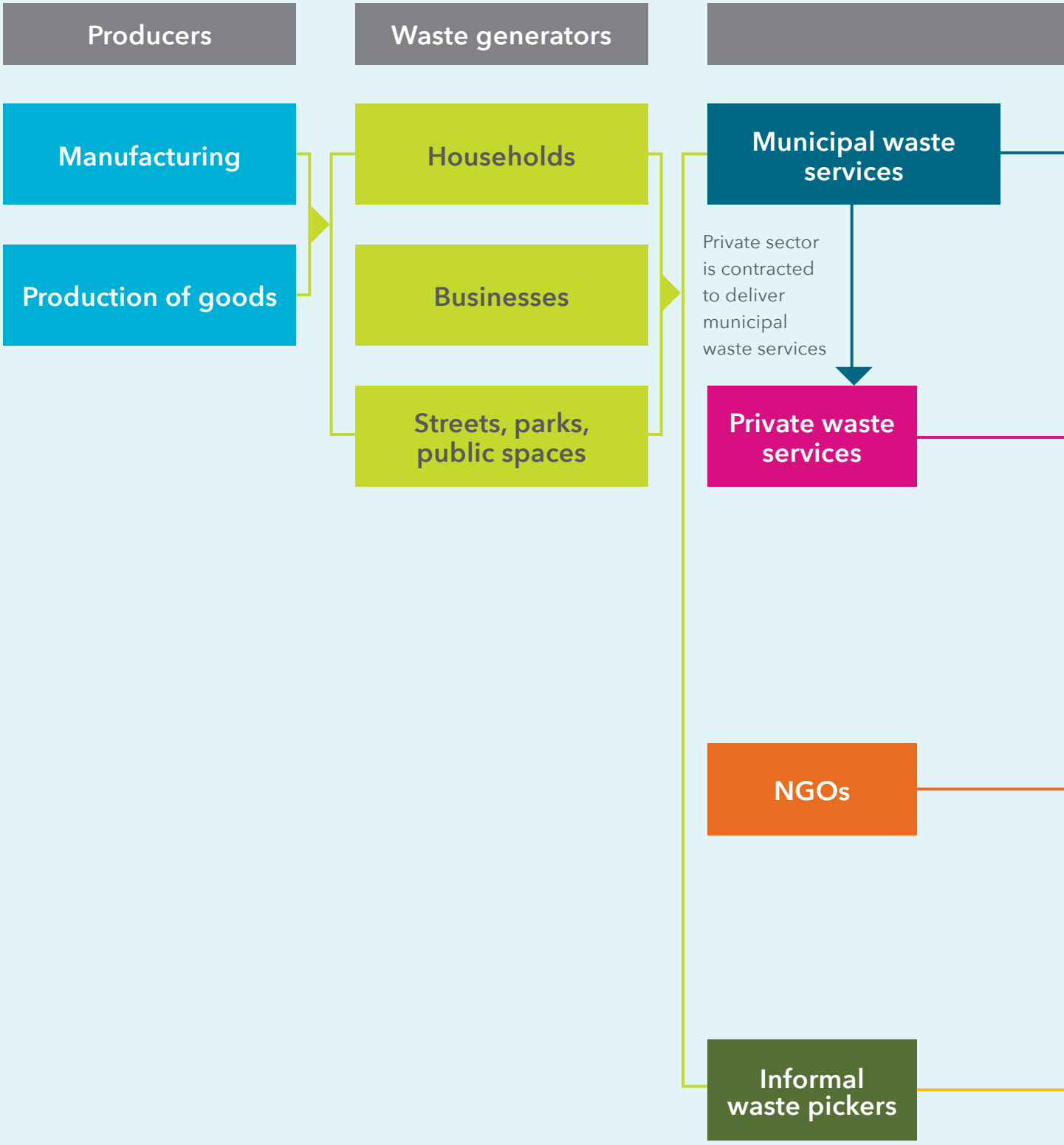
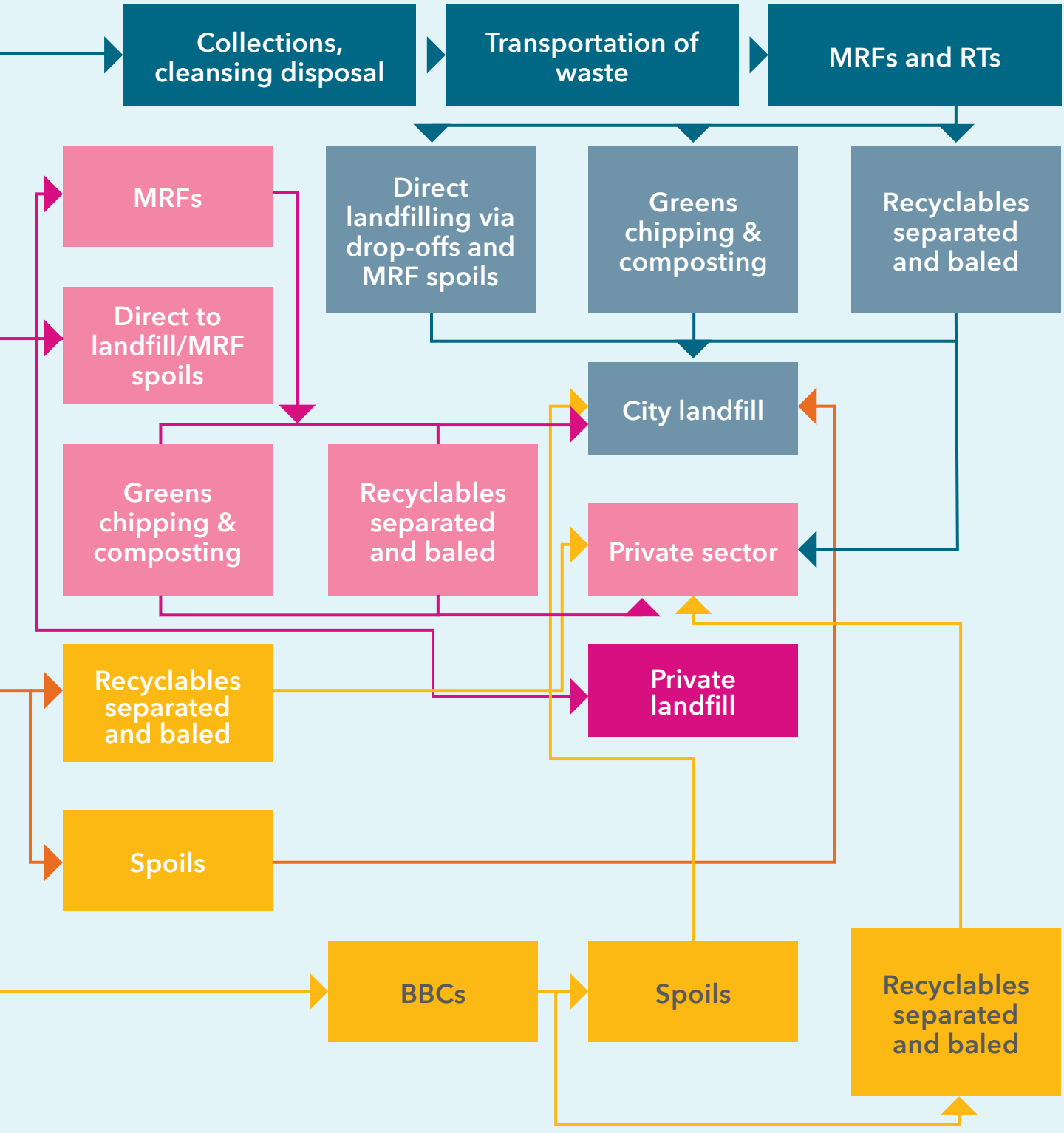
DO NOT
LITTER
CHIPS

Figure 10: Waste beneficiation linkages among municipalities, private business, communities, [14] households and the informal sector in the Greater Cape Town region



[14] *De Wit, M., Van Zyl, H., Van Rooyen, E. and Maluleke, M. 2021. Resource Economics Study of Waste Management in the Greater Cape Town Region. Final technical report for the City of Cape Town.*

Waste management and beneficiation (CCT)




It begins with
DO NOT
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Data and technology

1. At present, the City's approach to waste data collection and management is outdated. For example, the technology at weighbridges is outdated, and this results in inaccurate measurements of particular waste streams; for example, builders' rubble. This impedes the City's ability to formulate an accurate waste profile and accurately assess waste trends. This limited understanding makes it difficult to assess opportunities for enhancing circularity and diverting waste from landfill.

2. Newer data technology has not been tested or costed. In order to build a service model that is responsive to trends in the waste sector and accurately capture Cape Town's waste profile, the City must be more effective in collecting, collating and disseminating relevant waste data. This is in line with the City's broader Data Strategy, which aims to institutionalise a culture of evidence-based decision-making and leveraging the full value of data so as to improve its strategic planning, overcome urban development challenges and address the complex issues facing Cape Town.

3. In addition, limited data sharing between the private sector and different spheres of government results in data gaps, which makes service planning challenging.

Partnerships

1. The City has a partial understanding of informal private sector operations in the waste space, as only accredited BBCs currently report on their operations. The total number of informal actors is unknown, as is the resultant quantum of waste processed by these role-players. Accordingly, developing incentives for waste services and building appropriate service partnerships is limited by a lack of data, which limits long-term planning.

2. In addition, existing administrative systems in supply chain management (SCM) and legal services are not conducive to partnering.

3. In addition to increased access to services, a large factor in the success of public awareness and educational programmes, and the sustainability of ongoing behavioural changes is the buy-in and support of various key stakeholders and community champions. For instance, collaboration with communities, the private sector and NGOs could help to address the challenge of 'not in my backyard' perceptions, which limits the provision of infrastructure for waste beneficiation. Partnerships with the private sector in recycling and separation at source would improve the quality of recycled material for further use, and alleviate the management of problematic waste streams (such as tyres and absorbent hygiene products).

Education, awareness and advocacy

1. Cape Town suffers from a culture of poor waste behaviours. A number of the core issues relating to managing waste are associated with the way in which residents view and treat waste in the general environment and public spaces. Littering, illegal dumping and recycling are often behaviour based. Although there are existing partnerships with schools to improve waste behaviours and diversion, schools sometimes lack the appropriate waste receptacles to adequately facilitate this.

2. At present, a lack of collaboration exists with other spheres of government. Effectively reaching the waste minimisation targets requires input from a number of key government stakeholders, as does clarity on incentives for private sector participation in the waste sector, EPR and the use of rail for hauling waste. In order to support the broad reach of this Strategy, the City requires a dedicated waste advocacy agenda to address these issues.

3. **Legislation and waste diversion:** Since the promulgation of NEMWA in 2008, national government has introduced various directives and policies to enable implementation of the Act. Subsequently, the provincial department (DEA&DP) also introduced legislation and directives to respond to the national objectives. The NWMS (2020) aims to divert 40% of waste from landfill within five years, 55% within 10 years and at least 70% within 15 years. The strategy also aims to achieve zero waste to landfill beyond 2035. The WCG has adopted 50% and 100% diversion of organic waste by 2022 and 2027, respectively. This requirement is significant for the City as it is included in the City's landfill site licence conditions. At the core of this new legislation is a move towards a circular economy, climate change initiatives and sustainability. Although these are to some extent represented

the City's Climate Change Policy and Action Plan, they have not yet been included in a strategic waste context.

4. **Funding diversion targets:** As outlined above, the current waste diversion targets are extremely ambitious and difficult to achieve. Expanding diversion from recycling (Think Twice) means increasing costs for the City due to increased programme roll-out. Although there is room to improve the management and promotion of this service in areas where it is already operating, increased programme roll-out will have implications on the financial sustainability of waste operations, and will increase reliance on residents' tariffs. One avenue to fund waste diversion is the introduction of EPR laws at a national level, which mandate that product creators are responsible for their product's end-of-life management. The EPR regulations are mandatory for all producers and importers of packaging. However, determining the optimal combination of measures to achieve the goal of 100% diversion is complex. This complexity is due to the absence of clear guidelines for municipalities in the EPR framework, leaving them uncertain about their specific functions in reaching the diversion targets.

5. **City's waste diversion measures:** In its quest to support waste diversion, the City has developed regulatory instruments, i.e. the Integrated Waste Management Policy and the Integrated Waste Management By-law. Guided by these instruments, the City has also implemented different programmes for waste diversion and service standards for waste collection and cleansing. Of the organic waste handled by the City, 41,9% is diverted, including sewerage sludge. Excluding sludge, organic waste diverted is 26% of organic waste handled.[16] However, these initiatives are in some instances hampered by the tedious environmental authorisation processes and requirements to comply with other legislation such as land-use management. For example, organic waste-processing facilities struggle to gain accreditation as the agricultural use permits they need require rezoning.

[16] This is based on 2021/22 UWM data records.


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4. RISKS TO WASTE MODEL

The operating environment for a waste service is subject to a number of exogenous risks that stand to directly influence the City's ability to deliver a quality waste service. These considerations may not be within the ambit of the UWM Directorate to affect, but they are important dynamics that determine the manner in which UWM must plan for its contribution to the waste sector.

These risks are as follows:

Table 2: Risks that influence the Urban Waste Management Operating Model

RISK	DESCRIPTION
Growth in informal settlements 	The City's 2040 Land Use Model predicts an increase in informality of 1:1, where for every formal home developed, an informal counterpart will be built. Increasing informality directly affects the City's waste service in that it distorts the financial sustainability of the utility operating model. Increasing non-payment for waste services requires that the City cross-subsidise operations that relate to collection, disposal and cleansing.
Growth in number of actors in waste services 	Increasing the number of actors involved in delivering waste services increases the risk of a lack of coordination, duplication and service action. The presence of additional actors stand to positively influence the City's objective to divert waste from landfill and requires working in partnership. However, how actors should be integrated into the waste system is uncertain and, therefore, is subject to abuse and requires effective contract management.
Growth in homeless-ness in public spaces 	Increasing homelessness places additional demands on the cleansing service offered by UWM. This service is funded via the rates account and does not adhere to the user-pays principle. Given the wide-ranging demands on the City's rates-funded services, this is unsustainable for the waste utility operating model.
Uptake of reduce, reuse and recycle 	The extent to which residents and the private sector champion the principles of reduce, reuse and recycle has an impact on the service model required. Greater uptake and the operating model have to manage greater volumes of recycling as part of waste diversion and fewer disposal and cleansing efforts. A lower uptake and UWM must assume full responsibility to drive and fund waste diversion, while still delivering collections, cleansing and disposal services. Added to this is the fluctuating market for recyclables, dependent on international market forces. The recycling value chain (sorting, baling, cleaning, chipping, etc.) is long and expensive, and if the price for the commodity takes a downturn, this has a ripple effect on all players. Increased recycling, both within and from beyond the City, also contributes to increased landfill, albeit less than not recycling, in the form of process waste.

RISK	DESCRIPTION
Incentives and dis-incentives for private sector participation 	Should changes to the legislative regime enable private sector participation in the waste sector, the City's service delivery model would be adjusted. It is not the City's intention to compete with the private sector but rather to view all actors as providing a supplementary service that supports sustainability and resilience in the waste economy.
Security of City staff and contractors 	Increasing attacks on City staff and contractors have undermined the City's ability to provide an equitable basic service across the metro. Heightened violence directly influences the waste service and the manner in which the City is able to reach customers.
Changes to the revenue model and rising costs of overheads 	Should changes to the revenue model occur, such as a reduction in the grant funding regime, or if the utility is subject to rampant inflationary pressure or is unable to retrieve costs from the majority of its customer base, the City would need to review the manner in which the waste service is dispatched. Inflation and international price volatility, often linked to geopolitical instability, can have a significant impact on supply chains and the costs of fuel, parts and components. In addition, the City's role in the waste system would demand scrutiny, arguably shifting from service provider to customer and enabler.
Environmental externalities 	Environmental and human health carry costs in other ways, such as reduced productivity, unhealthy ecosystems, an increased burden on health systems and additional societal costs. Although implementing this Strategy will have significant costs, over the long term the risks of not acting far outweigh the immediate and ongoing costs.

5. A CIRCULAR APPROACH

Globally, there has been a number of approaches to reducing, processing and managing waste. These approaches attempt to change the way in which waste is viewed, treated and processed, as well as reimagining the manner in which goods are produced and disposed of. The most popular prominent perspective on the waste sector is the circular economy.

Circular economy

Globally, countries and cities are working towards enhancing circularity in production and waste systems to reduce the amount of waste produced, enhance sustainability and extract value from waste. A circular economy is more efficient, more resilient and more competitive than the traditional linear economy. It redefines economic growth by moving away from a take-make-waste industrial model to one that decouples economic activity from the environment. A circular economy does the following:

1. Designs out waste and pollution
2. Regenerates ecosystems
3. Keeps products, their components and the materials they are made from at their highest use or value for as long as possible

The following image[17] illustrates the circular economy. The City's mandate is captured in **collection, sorting, landfilling** and **recovering** (landfill gas).

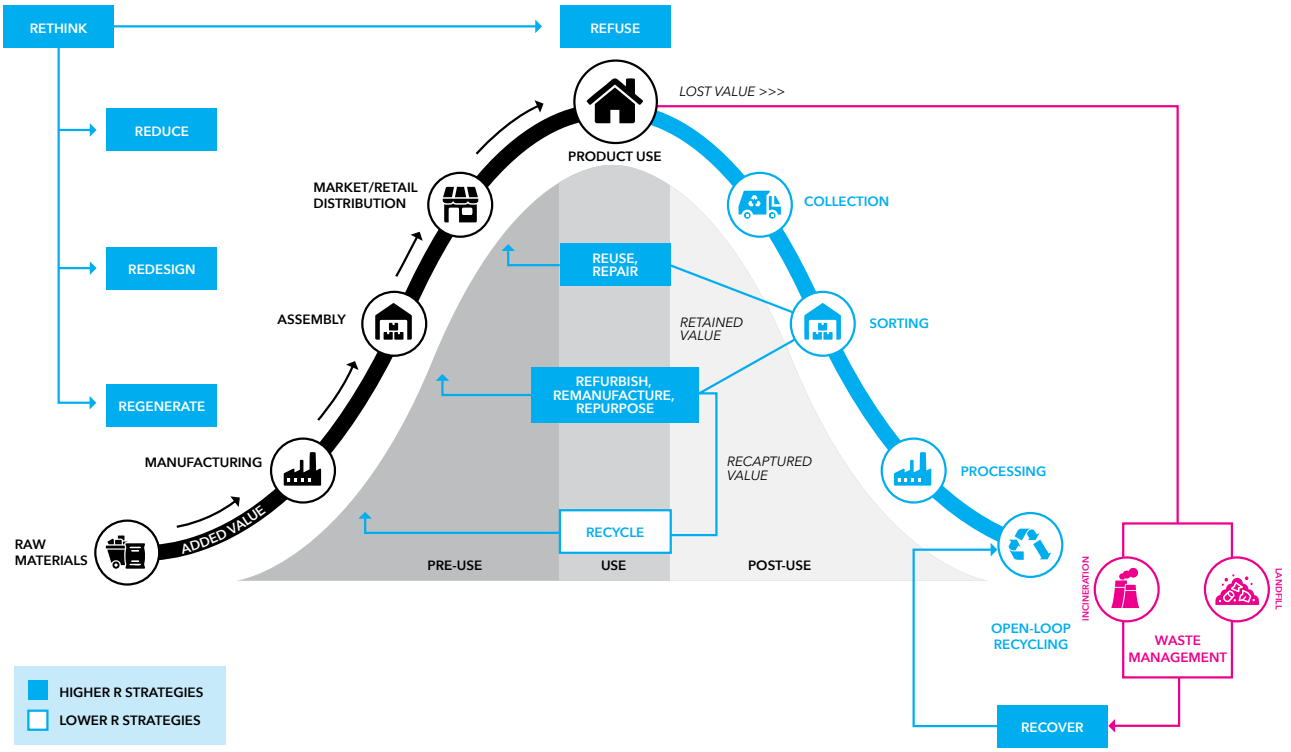

Figure 11: The circular economy

[17] *Note: The Value Hill graphic is an adaptation of the Value Hill Model to include the 9R Framework. Buren, N., Demmers, M., Heijden, R. and Witlox, F. 2016. Towards a Circular Economy: The Role of Dutch Logistics Industries and Governments; Circle Economy. 2016. Master Circular Business with the Value Hill; Kirchherr, J., Reike, D. and Hekkert, M. 2017. Conceptualizing the Circular Economy: An Analysis of 114 Definitions; Potting, J., Hekkert, M., Worrell, E. and Hanemaaijer, A. 2017. Circular Economy: Measuring Innovation in the Product Chain. Available at: Your journey to a sustainable value chain starts here (metabolic.nl)*

At present, a large proportion of manufacturing and consumption remains linear, both globally and in Cape Town. Moving towards a circular economy does not only reduce waste production, but also extracts more value from reused products, enhancing sustainability and lessening the burden on natural resources.

Recognising that the circular economy is a shared responsibility across directorates, the City has started to map possible circular economy interventions in Cape Town. However, the circular economy encompasses more than just waste management and involves an overall rethink about the whole product or service economic offering, including product design, use and disposal, and a concrete commitment from partner organisations. This requires aggressive incentives and disincentives to motivate businesses to change their business models, and a coordination in strategic planning and service delivery in the City. This approach is in line with the NWMS (2020) target of achieving zero waste to landfill beyond 2035, founded on a circular economy approach where waste is viewed as a resource. This suggests that this is a shared mandate beyond UWM, and that a whole-City approach is required.

The City has embraced the concept of the circular economy in some of its key policies, planning and investments. These include:

1. The City's Environmental Strategy (2017) includes a long-term desired outcome that 'waste generation is minimised, recycling services are widely available, large-scale composting of household organic and garden waste is in place, waste diversion is optimised, and the waste economy is thriving.'

2. The City's Inclusive Economic Growth Strategy (IEGS) (2021) further promotes a green economy and the creation of green jobs. In particular, the IEGS includes 'Fostering Cohesion between Natural Environment and Inclusive Economic Growth' as a strategic focus area.

3. The City's Resilience Strategy (2019), goal 3.1 is to 'foster green economic growth', including sustainable procurement, eco-industrial parks and a study to understand circular economy opportunities.

4. The City's Green Procurement Action Plan (2020), under the City's Environmental Strategy, includes the circular economy as one of its four guiding principles, as well as in its action plans.

5. The City's Climate Change Strategy and Action Plan (2021) identifies waste and the circular economy as one of its 10 strategic focus areas and one of three key sectors in achieving the City's GHG emission reduction targets.

The circular economy approach is not just about reducing waste going to landfill, but also has a number of other knock-on effects, such as:

6. Keeping products, components and materials cycling in an economy, thus localising business and jobs

7. Strengthening resilience during times of supply chain crisis

8. Facilitating climate change mitigation – increasing circularity requires less embedded energy of products and components, and results in less GHG emissions from organics in landfills

9. Reducing raw resource intensity of the economy, especially finite or imported resources

CHAPTER 2: STRATEGIC APPROACH TO WASTE

6. LEGISLATIVE REQUIREMENTS AND AREAS FOR ADVOCACY

Legislative overview: local government mandate

Waste management in South Africa is guided by legislation and the NWMS.[18] In terms of section 156 of the Constitution, municipalities have the 'executive authority and right to administer… refuse removal, refuse dumps and solid waste disposal' in their area of jurisdiction, subject to legislation and regulation by national and provincial government.

Under this mandate, the City is both the service authority and the provider.[19] As a result, the City's responsibilities cover:

1. the development of policies and drafting of by-laws;
2. setting tariffs;
3. making arrangements for the financing of investments in services; and
4. decision-making on how services are provided.

The City is also responsible for regulating the provision of services in terms of the City's by-laws and other mechanisms. The service provider, which could be the municipality itself or an external provider, is the entity that undertakes the actual service provision function (providing the service).

[18] *The City has developed an Integrated Waste Management Policy and by-laws in line with NEMWA and NWMS. Legislation, government policy, national strategies and protocols, and the City's institutional and regulatory framework have a direct bearing on the sustainable, affordable and equitable provision of waste services in Cape Town.*
[19] *The Municipal Systems Act, Act 32 of 2000*

Table 3: Overview of relevant legislation and regulations for waste management in South Africa

LEGISLATION/ REGULATION	AIMS
The Constitution of the Republic of South Africa, 1996	Bill of Rights and Schedule 5B, and MSA provisions requiring local government to ensure the provision of waste management services.
National Waste Management Strategy (NWMS) 2020	Implements the objectives of NEMWA.
National Environmental Management: Waste Act, Act 59 of 2008 (NEMWA)	1. To reform the law regulating waste management so as to protect health and the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development 2. To provide for institutional arrangements and planning matters 3. To provide for national norms and standards for regulating the management of waste by all spheres of government 4. To provide for specific waste management measures 5. To provide for the licensing and control of waste management activities 6. To provide for the remediation of contaminated land 7. To provide for the national Waste Information System 8. To provide for compliance and enforcement 9. To provide for matters connected therewith
National Environmental Management: Waste Act, Act 59 of 2008: National pricing strategy for waste management	1. Mainstream the 'polluter pays' principle. 2. Reduce the generation of waste. 3. Increase the diversion of waste away from landfill towards avoidance, minimisation, recycling and recovery. 4. Support the growth of a southern African (regional) secondary resources economy from waste. 5. Reduce the environmental impact of waste.
National Domestic Waste Collection Standards (2008)	The standards prescribe measures for waste collection, separation at source, receptacles, the collection of recyclables, drop-off facilities for recyclables, vehicles and complaint handling mechanisms.
National Policy for the Provision of Basic Refuse Removal Services to Indigent Households (2010)	The Policy is intended to establish uniformity in the provision of waste collection services across the country while still ensuring sustainability and appropriateness to the local context.
Extended Producer Responsibility (EPR) Regulations and notices (2020)	Producers' responsibility for their product is extended to the post-consumer stage of a product's life cycle. Currently, the products include paper and packaging, electrical and electronic equipment, lighting, lubricant oil, portable batteries and pesticides.

Areas for advocacy

Like all other municipalities in South Africa, the City has certain legislative competencies, responsibilities and powers when it comes to waste service delivery. Some of these fall exclusively in the domain of local government, whereas others are shared with other spheres of government and actors in the waste sector. Certain elements fall in the City's area of concern, where the City currently has limited opportunity to influence the decisions, resource allocations and service quality of other entities. In this regard, the City first opts for collaboration and partnership. However, in the interest of residents, the City also holds other spheres of government and entities accountable to deliver on their legislated and constitutional responsibilities by advocating for changes in legislation where required. Effective advocacy efforts require coordination between the relevant stakeholders; for example, political and administrative officials at a local, provincial and national level. The following areas have been identified by the City for advocacy:

Organic waste targets

The WCG's organic waste targets of 100% diversion by 2027 are not achievable. Although the City will do its utmost to increase organic waste diversion and work towards incrementally achieving targets of 50%, the City will need to address non-compliance of the target with the provincial DEA&DP.

Additional infrastructure authorisations

To establish additional infrastructure in line with national legislation, authorisations from national authorities delay implementation. This includes hazardous waste drop-off facilities. Currently there are only two drop-off facilities available to residents, which is impractical for the majority of the population.

Projects on landfill sites and landfill extensions

The City has projects in the pipeline for both Coastal Park and Vissershok to address the current backlogs, as detailed in the Infrastructure Report (2023). The majority of these landfill projects are at the design and development stage, but have not been able to move beyond this stage due to significant delays experienced with the authorisation of current landfill projects.

Delays in approvals in legislated time frames hamper the planning and implementation of airspace development, and provides an opportunity for the City to play an advocacy role in both provincial and national government.

Management of problematic waste

The management of certain problematic waste types, such as absorbent hygiene products, car tyres and textiles, are not currently accounted for or effectively supported in national regulations. As a result, municipalities do not provide disposal services for these types of waste, which have minimal value in the private sector. Residents typically dispose of these types of waste in a way that results in greater costs later down the line (e.g. illegal dumping). While this is being progressively introduced into regulations, the City should continue to hold the national Department of Forestry, Fisheries and Environment (DFFE) accountable.

Regulating organic waste solutions

Currently, much of the organic waste produced is fed to livestock. At face value, this seems to be a sustainable solution, but there are significant issues associated with feeding food waste to livestock, most notably zoonotic diseases (infectious diseases that can be transmitted between animals and humans). It is the responsibility of the national Department of Agriculture, Land Reform and Rural Development (DALRRD) to enforce feeding-registered feed in the form of organic waste to livestock, as laid out in the Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, Act 36 of 1947. DALRRD does not enforce regulations for informal livestock farmers, creating an unfair competitive barrier for other organic waste solutions that have to adhere to these regulations. In addition, meeting these regulatory requirements requires registering feed and fertiliser with DALRRD, which is an extremely inefficient process, making it difficult for organic waste solutions to operate viably. The City should engage with DALRRD to both enforce its regulations and make it easier to adhere to regulations for other organic waste solutions.


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7. STRATEGIC ALIGNMENT AND ECOSYSTEM

Strategic Alignment

Alignment with the United Nation's Sustainable Development Goals (SDGs)

	SUSTAINABLE DEVELOPMENT GOALS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Waste strategy						■					■	■		■			

Figure 12: SDG indicator alignment relative to the UN and the CCT definition of waste

Table 4: SDG indicator alignment by target, indicator and rationale

	TARGET	INDICATOR	RATIONALE	STATUS
 **Ensure availability and sustainable management of water and sanitation for all**	By 2030, improve water quality by reducing pollution, eliminating dumping and minimising the release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.	Proportion of domestic and industrial wastewater flows safely treated	The indicator measures the proportion of the population using safely managed drinking water services and is defined as the proportion of the population using an improved drinking water source that is accessible on the premises, available when needed and free from faecal and priority chemical contamination.	Indirect link
	By 2030, expand international cooperation and capacity building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.	Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan	The indicator measures the amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan and is defined as the proportion of total water- and sanitation-related official development assistance (ODA) disbursements that are included in the government budget.	Indirect link
 **Make cities and human settlements inclusive, safe, resilient and sustainable**	By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality, and municipal and other waste management.	Proportion of municipal solid waste (MSW) collected and managed in controlled facilities out of total MSW generated by cities	The indicator measures the performance progress of a city's MSW management. It aims to determine the proportion of MSW regularly collected and treated in a city.	Direct link

	TARGET	INDICATOR	RATIONALE	STATUS
	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.	Food loss index	Indicator 12.3.1a aims to measure the efficient food systems on the supply side and consumption side and ensure they contribute to food security while ensuring the sustainability of natural resources.	Direct link
	By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.	Food waste index	The indicator aims to measure the total amount of food that is wasted (in tonnes). It helps to identify where food is wasted, therefore providing governments, citizens and the private sector with information that will help to reduce food waste.	Direct link
 **Ensure sustainable consumption and production patterns**	By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment.	The number of parties to international multilateral environmental agreements (MEAs) on hazardous waste and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement.	The indicator refers to the number of parties (countries that have ratified, accepted, approved or accessed) MEAs.	Direct link
	By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment.	Hazardous waste generated per capita. Proportion of hazardous waste treated, by type of treatment	The indicator aims to determine the hazardous waste generated by type (including e-waste as a sub-indicator) and the proportion of hazardous waste treated.	Direct link
	By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.	National recycling rate, tonnes of material recycled	The indicator provides insight into the amount of waste that is being diverted from landfills or incineration facilities and instead recycled into new products or materials.	Direct link

	TARGET	INDICATOR	RATIONALE	STATUS
Conserve and sustainably use the oceans, seas and marine resources for sustainable development	By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution.	Plastic debris density	The indicator aims to reduce the impacts of pollution through the prevention and reduction of marine pollution of all kinds, in particular from land-based activities, including marine debris.	Direct link

Alignment with the City's Integrated Development Plan (IDP)

The graphic that follows shows the IDP strategic plan, comprising priorities and foundations that all support the vision of creating a City of Hope. This strategy directly aligns with the following IDP objectives:

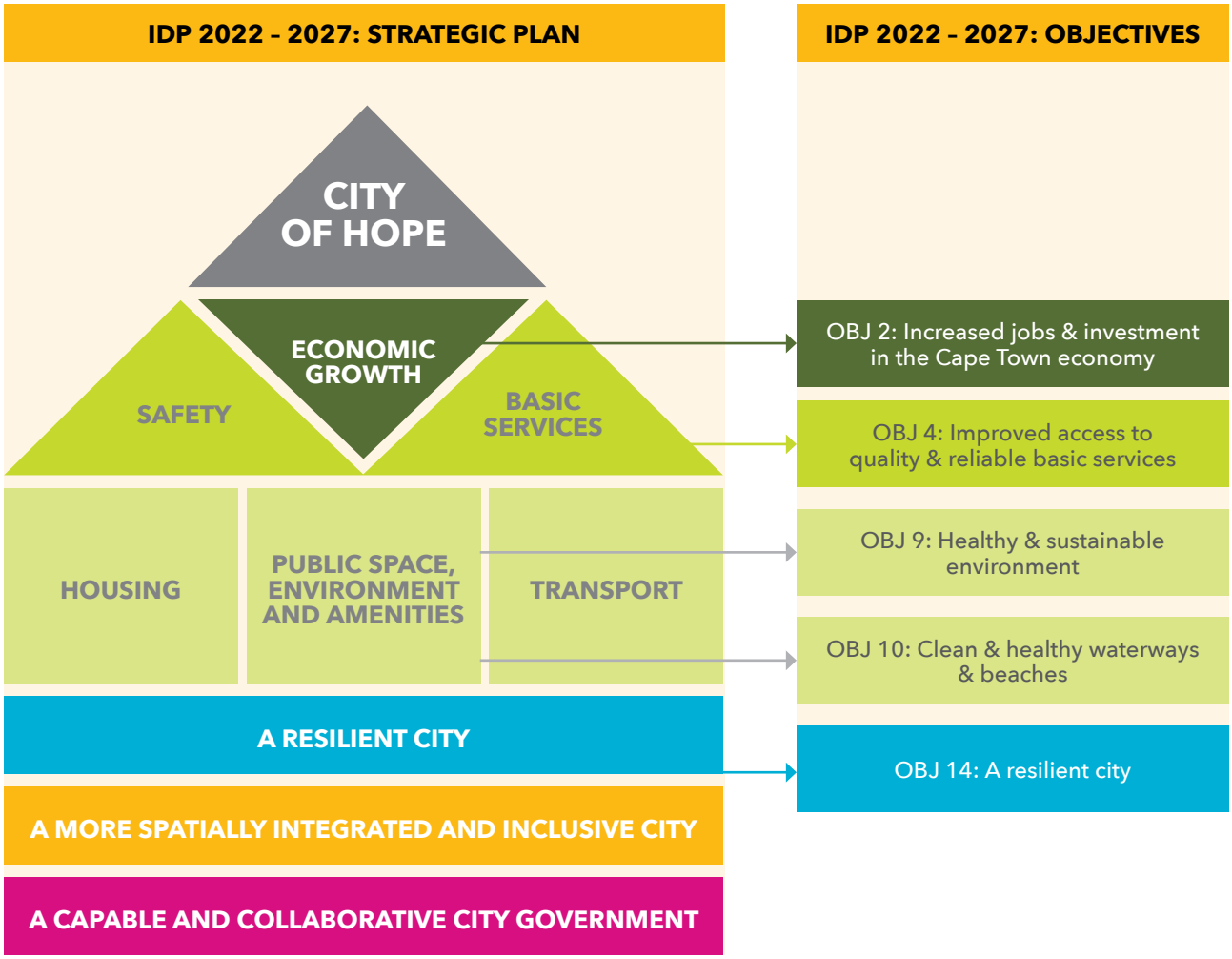

Figure 13: Waste Strategy alignment with IDP

Strategy and policy ecosystem

As outlined, waste management is guided by national legislation and other national and provincial documents. In addition to this, the City has developed a number of guiding documents for the management of waste in its jurisdiction. These include:

1. **The Waste Strategy** – sets out the long-term vision and provides strategic direction for the manner in which waste is viewed and managed in Cape Town. It not only looks at the responsibilities and services provided by local government and the private sector, but also highlights and articulates the important role that residents play in achieving the City's strategic goals.

2. **The Integrated Waste Management Policy** – sets out the policy positions, parameters and processes that the City takes, which includes waste management and minimisation, waste disposal and the provision of financial resources and assets provided by the City. It ensures alignment between the City's operations and regulations with national and provincial legislation and strategies. It also sets the parameters and principles for by-law enforcement regarding waste management in the City. Its primary goal is to develop an IWM system for the waste management services delivered by the City.

3. **The Integrated Waste Management By-law, 2009** – the Integrated Waste Management By-law is the enforcement arm of the policy. It provides regulations for the management of waste in the City and outlines penalties for non-adherence.

4. **The Waste Sector Plan** – also known as the Integrated Waste Management Plan (IWMP), the Waste Sector Plan provides short- to medium-term interventions based on strategic direction. It enables the realisation of strategic priorities through ensuring alignment with infrastructure provision, a corresponding capital pipeline and operational budget projections.

CHAPTER 3: IMPLEMENTING THE STRATEGY

8. STRATEGY APPROACH AND COMMITMENTS

The following image describes the structure of the strategic approach in this Strategy. It is a synthesis of the challenges in this system and the responsive principles developed by the City to achieve the outlined vision of a resilient waste sector capable of enabling an effective, efficient and sustainable waste management service, to achieve a clean city for all.

VISION
The vision for waste management in Cape Town is to deliver a clean city for all, where residents and businesses have access to quality, sustainable and affordable waste services.

PRINCIPLES
Quality: Excellent waste services are delivered
Sustainability: Waste sevices are managed in a way that ensures environmental and financial sustainability of the City and service providers.
Affordability: Residents' ability to pay without compromising other needs.

COMMITMENTS
The three commitments are intended to work together to prevent the problems of inefficiencies in the current service offering, too much waste being generated and landfilled, and a one-size-fits-all approach to delivering services.

ENABLERS
The ability to succeed in these commitments will depend on the actions by many people and corresponding changes made in how the utility operates.

Vision
The vision for waste management in Cape Town is to deliver a clean city for all, where residents and businesses have access to quality, sustainable and affordable waste services. This vision is informed by the principles, and achieved through the delivery of the actions outlined in the commitment pillars.

Principles
The commitments and actions are guided by the principles of the Strategy, and alignment between the two is shown in the table that follows.

Table 5: Commitment alignment with principles

COMMITMENTS	PRINCIPLES
1. Optimise existing services: Improving efficiencies in the existing service offering	• Quality • Sustainability
2. Minimise waste to landfill: Making waste reduction easy and part of the culture of Cape Town	• Sustainability
3. Maximise basket of service offerings Expanding services through tailoring, localisation and partnering	• Affordability

These three principles have been carefully chosen to highlight some of the tensions faced when making decisions in the waste sector. The intention is that these principles will be weighed against one another in a way that is adaptive and context agnostic, meaning that it will continue to be applied in any waste-related scenario that the City may face. For example, delivering quality services might make services unaffordable for residents and businesses, or compromise the financial sustainability of the City's waste services. In contrast, focusing only on affordability might overlook the longer-term environmental and financial sustainability of the waste services. As a result, they have been used as a guide in developing the strategic commitments and actions as well as navigating and guiding decision-making in the future.

Commitments
The three commitments are intended to work together to prevent the problems of inefficiencies in the current service offering, too much waste being generated and landfilled, and a one-size-fits-all approach to delivering services. Given the financial and environmental constraints that the City faces, and the increasing demand for waste services, the Strategy is designed to work within the constraints to respond to, divert and tailor waste services. Consequently, the pillars are as follows on the next page.

1. **Optimise existing services**
   Optimising existing services speaks to improving efficiencies in the existing service offering. Consisting of 22 actions, these include areas such as:

   - Human resource capacity
   - Data and technology
   - Support departments such as legal, finance and fleet management
   - Internal coordination within the city
   - Advocacy
   - Existing landfill management

Example: Application of principles to key action item

Develop a plan for an additional landfill site
Developing a plan for an additional landfill site prioritises quality, sustainability (financial) and affordability. It does this by ensuring that the current service model can continue to deliver quality services, is affordable to residents and businesses, and does not dramatically increase the costs of delivering the service in a way that is financially unsustainable for the City and its service providers. However, this action is in tension with the environmental element of sustainability, and this needs to be understood as a short-to medium-term solution, with a focus on increasing diversion to minimise the need for future landfill additions.

2. **Minimise waste to landfill**
   Minimising waste to landfill speaks to making waste reduction easy and part of the culture of Cape Town. Noting the increased roll-out of waste minimisation services, this will require additional budget and staff in this branch over time. This commitment consists of 33 actions, and includes areas such as:

   - Implementing waste minimisation and circular economy interventions
   - Evidence-based, targeted education and awareness communication campaigns
   - Additional drop-off facility sites
   - Increased accessibility of waste minimisation services
   - Internal coordination within the City to integrate circularity

Example: Application of principles to key action item

Approving and implementing the Waste Picker Integration Plan
Approving and implementing the Waste Picker Integration Plan prioritises all three principles: quality, sustainability and affordability. Integrating informal waste pickers allows for excellent waste minimisation services to be delivered to residents and businesses, in a cost-effective (to the City, its service providers, and residents and businesses using the service) and environmentally friendly way. Although this may already be the case, approving and implementing this plan solidifies the crucial role that waste pickers play in the waste value chain, and establishes a way for safe working conditions and compensation.

3. **Maximise basket of service offerings**
   Maximising the basket of service offerings speaks to expanding services through tailoring, localisation and partnering, with the intention of drawing in additional actors to support this. Consisting of 19 actions, these include areas such as:

   - Developing service standards tailored to the local context
   - Building partnerships with the private sector (informal and formal), other municipalities and NGOs
   - Integrating informal waste pickers

Example: Application of principles to key action item

Extending services to backyard/SSRU tenants on non-City land
Extending services to backyard/SSRU tenants on non-City land directly prioritises quality and indirectly supports sustainability (environmental). It sits in tension with sustainability (financial) and affordability. It does this by ensuring that all residents in Cape Town have access to excellent waste services in a way that ensures sustainable environmental management (e.g. the prevention of overflowing existing bins/bags

and illegal dumping). The challenge with this action is funding the extension of services. This requires balancing the financial sustainability of the City and its service providers, and affordability for the users.

Structure of the commitments

Each of the three commitment pillars consists of actions in the short-, medium- and long term. Each action is accompanied by a short section indicating the role, responsibility and term:

1. Role: This indicates the role played by UWM in achieving this action. These are:

    - Drive: Directly responsible for delivering or initiating
    - Enable: Creating an environment that makes it possible for residents and businesses to prosper
    - Partner: Entering into an arrangement with non-City stakeholders to work towards a common goal
    - Review: Researching, analysing and evaluating to make decisions based on evidence and data
    - Collaborate: Coordinating with internal City stakeholders to work towards a common goal
    - Regulate: Creating, maintaining, relaxing or even removing parameters for economic activity, such as licensing requirements or zoning restrictions
    - Innovate: Making changes in something established (e.g. a system, process or service), especially by introducing new methods, ideas or products
    - Advocate: Advocacy seeks to influence the decisions, policies and practices of powerful decision-makers to address areas beyond the City's control

2. Responsibility: This indicates the department responsible for achieving the action

3. Term: This indicates the time frame for delivering this action.
    - Short: 1–2 years
    - Medium: 3–8 years
    - Long: 8–10 years

The Waste Strategy takes a long-term view of managing changes in the waste sector in Cape Town over the next 10 years. The changes occurring in the different parts of the waste landscape will start to have an impact on the waste ecosystem as a whole, with the City's direct intervention in this transformation being achieved over three time frames. Making use of a consistent set of principles over time, as described in the Principles section above, ensures that short-term priorities are implemented in such a way as to achieve, and not undermine, longer-term objectives. For example, the City is increasing its waste minimisation efforts to reduce waste to landfill, so as to manage the short-term need to extend existing landfill capacity. Over time, this will serve as a significant investment towards increased circularity and environmental sustainability in the waste sector in Cape Town. As a result, the following goals are aligned with the three time frames:

- Short term (by 2026): Excellent waste services delivered.
- Medium term (by 2032): Reforms implemented to maintain a modernised and financially sustainable waste utility.
- Long term (by 2035): Transform the waste sector to be as circular as possible.

Two objectives have been developed to respond to each of the opportunity areas, identified in Challenges for Waste Services in Chapter 1. The actions are concrete steps that the City can take to realise these objectives. These opportunity areas and objectives cut across the three commitment pillars and are captured on the next page:

Table 6: Opportunity area, objective and action alignment reference table

OPPORTUNITY AREAS	OBJECTIVES	OPTIMISING EXISTING SERVICES	MINIMISING WASTE TO LANDFILL	MAXIMISING BASKET OF SERVICE OFFERINGS
Data and technology	Adequately plan for the anticipated future population growth and waste needs of Cape Town.	1.1, 1.3, 1.5, 1.6	2.1	3.1
	Appropriately use technological advancements in processing and managing waste to deliver services efficiently.	1.2, 1.4	2.2	
Private sector integration	Integrate informal waste pickers into the waste value chain.		2.9	
	Enable economic opportunities in the waste sector.		2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.10, 2.11	
Education, awareness and advocacy	Change waste behaviours (resident and commercial) to reduce waste produced and illegal dumping.	1.7	2.12, 2.14, 2.15, 2.16, 2.17	
	Engage communities to take ownership of waste initiatives.		2.13, 2.18	3.2
Informal settlements and backyarder dwellers	Extend services to backyard dwellers on non-City land.			3.3
	Prevent illegal dumping.	1.8, 1.9		3.4, 3.5
Infrastructure	Extend life of current landfill sites through increased waste minimisation.		2.19, 2.20, 2.21	3.6, 3.7
	Scope additional landfill capacity and increase the accessibility of waste services.	1.10, 1.11		3.8
Partnerships	Coordinate basic service delivery in the City.		2.24, 2,26, 2.28, 2.29, 2.30, 2.31	
	Share responsibilities and simplify the process to work with non-City actors in the waste value chain.	1.12, 1.13, 1.14	2.22, 2.23, 2.25, 2.27, 2.28	3.9, 3.10, 3.11, 3.12
Service provision	Ensure financial and operational sustainability while ensuring the affordability of services.	1.15, 1.16, 1.17, 1.18, 1.19, 1.20, 1.21, 1.22	2.32, 2.33	3.15, 3.17, 3.18
	Develop services that respond to different communities' needs.			3.14, 3.16

Enablers

To enable the achievement of the three commitment pillars, two enablers have been identified. These recognise the fact that support is required to realise the Waste Strategy and are as follows:

- **Operate a future-fit utility business:** Develop the business of waste in the City to be a viable trading service and a going concern, as well as a utility that is self-sustaining, independent and capable of growth.
- **Action by residents, businesses and partners:** Waste is a shared responsibility, and managing waste in Cape Town requires action from multiple stakeholders.

Following the approval of this Strategy, its implementation will be guided by a detailed implementation plan, accompanied by ongoing monitoring and evaluations. The following action tables are intended to set the Strategy up for successful implementation:

Optimise existing services

Table 7: Optimise Existing Services commitments and actions

OPPORTUNITY AREA	ACTIONS		
Data and technology	1.1	Undertake an analysis to inform the enhancement of systems and tools that monitor services, including the use of demand-driven services in difficult-to-access areas.[20]	**Role:** Review **Responsible:** Integrated Planning – Information & Data Management **Term:** Short
Data and technology	1.2	Review existing software systems to increase data gathering and current system efficiency capacity, including mobile applications and devices to support in-field capturing by operational staff, and its spatialisation.	**Role:** Review **Responsible:** Integrated Planning – Information & Data Management **Term:** Short
Data and technology	1.3	Incorporate more frequent and more detailed waste characterisation studies (previous study is from 2018) in the Waste Sector Plan, to update analysis on the composition of waste, to track progress and inform updates on climate action and waste plans, and to share appropriately in the industry.	**Role:** Review **Responsible:** Integrated Planning – Information & Data Management **Term:** Short
Data and technology	1.4	Integrate the standalone weighbridge system into the City's financial accounting system to ensure compliance with the MFMA.	**Role:** Drive **Responsible:** Integrated Planning – Information & Data Management **Term:** Short
Data and technology	1.5	Develop automatic data flow for landfill capacity monitoring.	**Role:** Drive **Responsible:** Integrated Planning – Information & Data Management **Term:** Short
Data and technology	1.6	Quantify the total (direct and indirect) cost of waste and the root cause of blockages in other critical City service infrastructure – e.g. stormwater drains, rivers, etc. Track illegal dumping hotspot locations and direct costs of clearing illegal dumping to inform budget prioritisation and cross-departmental collaboration, as well as targeted communication campaigns and community engagement.	**Role:** Partner **Responsible:** FPR – Economic Analysis; Water & Sanitation; Integrated Planning – Information & Data Management **Term:** Short

[20] *See example of use of app in Freetown, Sierra Leone. Asare, J. and Bailey-Morley, A. 2024. Freetown Waste Transformers: A study of private sector innovation in the waste management sector in Africa. ODI case study. London: ODI Global. Available at: www.odi.org/en/publications/freetown-waste-transformers-a-study-of-private-sector-innovation-in-the-waste-management-sector-in-africa*

OPPORTUNITY AREA	ACTIONS	
Education, awareness and advocacy	1.7 Use the City's advocacy function to take up legislative issues imposed by other spheres of government that impede its strategic goals. • Landfill extension approvals • EPR • Management of problematic waste not currently fully regulated; for example, car tyres, textiles, nappies/ diapers	**Role:** Collaborate **Responsible:** Integrated Planning – Planning & Strategy; Waste Services; Legal Services **Term:** Short
Informal settlements and backyard dwellings	1.8 Via the establishment of appropriate forums, the City will integrate the service plans for areas of informality across its utility providers. The extent of the waste service commitment to these plans will be determined by the waste utility operating model. This will be further integrated into the long-term pipeline for informal settlement upgrading. All informal settlement-based activities will look to utilise a single data source to ensure a standardised understanding across all line directorates and plan to deliver services at the same time as sister departments so that the impact of the collective service offering is greater upon the community. This should be accompanied by appropriate dependency tagging on SAP PPM for monitoring (stage gates).	**Role:** Collaborate **Responsible:** Integrated Planning; Waste Services – Cleansing **Term:** Medium
Informal settlements and backyard dwellings	1.9 UWM will interrogate the strategies and plans of departments that have an influence on the waste service (Safety & Security, Street People, and Human Settlements) and where waste influences other directorates (Water & Sanitation, Environment, Health) and ensure that appropriate linkages are drawn between the service departments. Where necessary, UWM will establish coordination meetings with other departments to adopt a holistic approach to the waste system.	**Role:** Collaborate **Responsible:** Integrated Planning; Waste Services **Term:** Short
Infrastructure	1.10 Between 2037 and 2040, maintain and expand the Vissershok Landfill site to the north so as to extend Vissershok airspace availability.	**Role:** Drive **Responsible:** Waste Services – Disposal; Finance & Capital Implementation **Term:** Short
Infrastructure	1.11 **Develop a plan for an additional landfill site (via the Waste Sector Plan) to increase landfill capacity. This will be accompanied by the development of the waste utility operating model to guide the cost and opportunity for the City to divert waste from landfill. Development of a long-term land acquisition and reservation pipeline should be attached to the sector plan.**	**Role:** Drive **Responsible:** Waste Services – Disposal; Finance & Capital Implementation **Term:** Short
Partnerships	1.12 Review the City's IWM By-law to make it easier for the private sector and NGOs to get involved in the processing of waste along the value chain. This review will also look at making more waste types and streams available to more stakeholders in the waste sector.	**Role:** Review **Responsible:** Integrated Planning; Strategic Policy (FPR); Legal Services **Term:** Short
Partnerships	1.13 Review waste financial model to make it easier for the private sector to access beneficiated waste, including waste-to-energy generation projects.	**Role:** Review **Responsible:** Finance & Capital Implementation; Revenue and Budgets **Term:** Short


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OPPORTUNITY AREA	ACTIONS	
Partnerships	1.14 Pursue knowledge exchanges with other cities.	**Role:** Partner **Responsible:** Integrated Planning; Waste Services **Term:** Short
Service provision	1.15 **Develop a waste utility operating model which, initially, will take into account the following considerations:** **a) Options for delivering a quality service across areas of formality and informality** **b) Appropriate resourcing methods to ensure the sustainability of the waste service and resilience in the face of the key risks outlined in Chapter 1 of this Strategy** **c) A comparison between the existent financial and operating model for the waste utility and the future utility, taking into account levers that influence landfill diversion** **d) An assessment of the sustainability of the operating model as it relates to tariff and rates-funded services**	**Role:** Review **Responsible:** Finance & Capital Implementation; Revenue and Budgets; Integrated Planning **Term:** Short
Service provision	1.16 Using the findings from the waste utility operating model, develop a complete reset to delivering services across the informality spectrum, to ensure regular financially sustainable services and clean neighbourhoods for all residents in Cape Town. This reset should consider increasing the frequency and volume of services, changing the delivery model, etc., with the aim of easing the burden of illegal dumping on infrastructure.	**Role:** Drive **Responsible:** Waste Services – Engineering & Asset Management **Term:** Medium
Service provision	1.17 Fleet management will conduct a quantification of the current fleet backlog and needs assessment with each of the Waste Services branches to identify the composition and needs of the operational teams, so as to best align with the optimal vehicles (right sizing). This will allow for the alignment of the organisational structure with asset allocation and allow for shared assets, where appropriate.	**Role:** Drive **Responsible:** Waste Services – Engineering & Asset Management **Term:** Medium
Service provision	1.18 Integrated planning and alignment of planning cycles between the service departments and implementing branches will be scheduled as part of the directorate's planning cycle. This should include ongoing feedback and analysis to account for changing needs.	**Role:** Review **Responsible:** Integrated Planning; Waste Services **Term:** Short
Service provision	1.19 As current budgets only allow for the replacement of existing vehicles, should waste services be expanded, Fleet Management will work with operational branches to re-prioritise existing funding, and keep uneconomical assets on the road and benchmark plant vehicles suitable for a 'second life'. Additional contracts to hire vehicles from the private sector will be avoided at all costs.	**Role:** Drive **Responsible:** Waste Services – Engineering & Asset Management **Term:** Short
Service provision	1.20 To accommodate an increasing fleet size, the capital budget will be aligned with the economic life cycle management of the fleet. This will be supported by best practice, using an economic life cycle approach.	**Role:** Drive **Responsible:** Waste Services – Engineering & Asset Management; Finance & Capital Implementation **Term:** Short

OPPORTUNITY AREA	ACTIONS		
Service provision	1.21	Confirm the workforce skills plan for the waste utility, identifying those areas where additional skills and capacity are needed in order to be adaptable to the increasing demands associated with the service.	**Role:** Review **Responsible:** Waste Services; HR Business Partner **Term:** Short
Service provision	1.22	Work with Safety & Security and communities to develop plans to ensure the safety of City staff and service providers delivering municipal waste services.	**Role:** Collaborate **Responsible:** Waste Services; Safety & Security **Term:** Short

Minimise waste to landfill

Table 8: Minimise Waste to Landfill commitments and actions

OPPORTUNITY AREA	ACTIONS		
Data and technology	2.1	Undertake an assessment of the key drivers of private and City waste generation, as well as costing, over a 20-year horizon in order to develop appropriate interventions targeted at decreasing waste demand.	**Role:** Drive **Responsible:** Integrated Planning – Planning & Strategy **Term:** Short
Data and technology	2.2	Based on identified dumping and littering hotspots, work with community partners to enumerate waste service needs for backyard dwellings and informal settlements, so as to directly address illegal dumping in hotspot areas.	**Role:** Partner **Responsible:** Waste Services – Cleansing; Public Empowerment & Development **Term:** Short
Private sector integration	2.3	Identify economically feasible beneficiation waste types, and expand the waste types accepted, at and beneficiated from, drop-off facilities. Communicate the waste minimisation service offering to relevant stakeholders, including residents and businesses.	**Role:** Drive **Responsible:** Waste Services – Waste Minimisation; Environment **Term:** Short
Private sector integration	**2.4**	**Engage with the Directorate: Spatial Planning & Environment – Development Management, at an executive level, to proactively review land-use regulations to enable better integration of BBCs and organic waste companies into the waste value chain.**	**Role:** Enable **Responsible:** Integrated Planning – Planning & Strategy; Waste Services – Waste Minimisation **Term:** Short
Private sector integration	**2.5**	**Enable and facilitate accreditation for BBCs in a proposed intervention area, ensuring that the accreditation process is as streamlined and user-friendly as possible.**	**Role:** Enable **Responsible:** Integrated Planning – Planning & Strategy; Waste Services – Waste Minimisation **Term:** Short
Private sector integration	2.6	Develop programmes with intermediaries contracted to the City (ideally private sector or NGO partners) to provide compliance support to assist informal BBCs to improve their practice (e.g. zoning, environmental management, health and safety) to meet legislative requirements, improve data collection and improve the support to local communities' livelihoods.	**Role:** Enable **Responsible:** Integrated Planning – Planning and Strategy **Supported by:** Waste Services – Waste Minimisation; Environmental Health, Planning and others; Public Empowerment & Development

OPPORTUNITY AREA	ACTIONS		
Private sector integration	**2.7**	**Approve and implement the draft Waste Picker Integration Plan, in alignment with the NWMS, to outline the mechanisms for the integration of informal waste pickers (directly or indirectly) into the waste service.**	**Role:** Enable **Responsible:** Integrated Planning – Planning & Strategy; Waste Services – Waste Minimisation **Term:** Medium
Private sector integration	2.8	Work with local recycling-related associations to accelerate the involvement of small businesses into municipal waste minimisation services; for example, through innovative procurement or alternative business models.	**Role:** Partner **Responsible:** Waste Services – Waste Minimisation; Project Management Office **Term:** Medium
Private sector integration	2.9	When developing City infrastructure and operations in areas, current operations (informal and formal) must be considered as part of the service menu. Where possible, a survey of the waste management and recycling value chain in a given area should be undertaken to understand the level of service and capacity of the existing system (volumes handled, livelihoods supported – formal and informal). This will assist the City in planning its service offering in the existing localised system and enable non-City waste service offerings appropriately.	**Role:** Review **Responsible:** Future Planning and Resilience; Planning and Strategy **Term:** Medium
Private sector integration	2.10	Include an administrative capacity training component in City programmes accelerating SMME involvement, providing business support and equipping them to be responsive to City tenders and reporting requirements.	**Role:** Partner **Responsible:** Enterprise & Investment; Public Empowerment & Development **Term:** Medium
Private sector integration	2.11	Ensure compliance for large-scale waste generators (e.g. hospitality industry) through the submission and implementation of IWM plans.	**Role:** Regulate **Responsible:** Integrated Planning – Planning & Strategy **Term:** Short
Education, awareness and advocacy	2.12	Package circular interventions as a 'Circular Cape Town' strategic awareness campaign or, similarly, as part of a City-wide circular economy strategy (see action 2.26).	**Role:** Drive **Responsible:** Integrated Planning – Awareness & Compliance **Term:** Medium
Education, awareness and advocacy	2.13	Develop an evidence-based communications plan, with specific messaging and themes (to be detailed in the implementation plan), to improve waste behaviours in Cape Town and to communicate the urgency of minimising waste to landfill as well as the health impacts associated with improper waste management at the household level. To ensure the successful uptake of services following an education and awareness campaign, proactively improving the ease of access and frequency of services is essential (e.g. through satellite services at hotspots). This should consist of targeted campaigns addressing misconceptions and should be rigorously evaluated to assess the impact. This should be supported by strategic identification and engagement with relevant target audiences (e.g. the youth).	**Role:** Drive **Responsible:** Integrated Planning – Awareness & Compliance; Corporate Services – Communications and Citizen Interface **Term:** Short

OPPORTUNITY AREA	ACTIONS	
Education, awareness and advocacy	2.14 Develop education and awareness campaigns specifically designed to combat the adverse effects of illegal dumping and littering for implementation among residents of informal settlements and backyard dwellings. These campaigns will aim to inform residents of the diversity of waste services available in their local area, and will be accompanied by the continued enforcement of the IWM By-law.	**Role:** Drive **Responsible:** Integrated Planning – Awareness & Compliance; Waste Services – Cleansing, Public Empowerment & Development; Corporate Services – Communications and Citizen Interface **Term:** Short
Education, awareness and advocacy	2.15 Leverage the City's position as a leader in procurement to demonstrate its commitment to reducing and progressively eliminating various single-use or non-recyclable products; for example, in City service delivery (e.g. refuse bags) and on City-owned properties (regulated through departmental IWMPs), or for City events (regulated by the event permit process). Other possibilities are linked to procurement through the City's SCM Policy (in line with the Green Procurement Action Plan); for example, in park furniture and roads. This should be supported by the development of guidelines/cross-cutting tenders, including construction tenders, for departments to procure alternative products or conditions to include circular economy elements and could be reported on as part of international funding requirements.	**Role:** Enable and regulate **Responsible:** Integrated Waste Policy – Planning and Strategy; Waste Services – Waste Minimisation; Spatial Planning & Environment – Environmental Management; Economic Growth – Facilities Management **Term:** Medium
Education, awareness and advocacy	2.16 Communicate a call for companies to sign onto voluntary pacts or agreements to reduce waste produced; for example, SA Plastics Pact or the Food Loss and Waste Initiative. Present this to companies through existing platforms such as the Energy Water Waste Forum. Recognise companies that reduce their waste and accompany this with an awareness campaign for consumers to hold waste producers accountable.	**Role:** Enable **Responsible:** Integrated Planning – Awareness and Compliance; Waste Services – Waste Minimisation **Term:** Short
Education, awareness and advocacy	2.17 Work with existing internal collaboration platforms to continue to coordinate information sharing on transversal campaigns; for example, pollution, and to work with other utility directorates to address the impact of waste in water and sanitation systems.	**Role:** Collaborate **Responsible:** Integrated Planning – Awareness & Compliance **Term:** Short
Education, awareness and advocacy	2.18 Host a roadshow of engagements to capacitate subcouncils and link with City Improvement Districts /communities/ ratepayer associations to take ownership of waste initiatives in their area, and empower local 'champions' to activate public spaces and illegal dumping hotspots.	**Role:** Partner **Responsible:** Integrated Planning – Awareness & Compliance **Term:** Short
Infrastructure	2.19 Review cleansing services in informal settlements to minimise inefficiencies in storage capacity.	**Role:** Drive **Responsible:** Waste Services – Cleansing and Collections **Term:** Short
Infrastructure	2.20 Build additional strategic infrastructure (i.e. MRFs) to further enable separation at source in Cape Town.	**Role:** Drive **Responsible:** Waste Services – Finance & Capital Implementation **Term:** Medium


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OPPORTUNITY AREA	ACTIONS	
Infrastructure	**2.21 Develop an organic waste implementation plan to reduce organic waste disposal to landfill through improved waste separation at source (including the expansion of successful trials in low-income areas), and treatment and utilisation through the upgrade of organic waste beneficiation or processing facilities such as the Bellville compost facility and others. This plan will include the roll-out of home composting bins, school partnerships and the trialling of programmes to supply processing facilities and community organic gardens and farms with organics.**	**Role:** Drive **Responsible:** Integrated Planning Supported by: Waste Service: Disposal and Waste Minimisation **Term:** Short
Partnerships	2.22 In order to support the circular materials aspect of the City's multi-pronged approach to enhancing circularity, the City's Urban Waste Directorate will pilot a selection of the recommended interventions in GreenCape's Circular City Waste Scan (2023), including material flow analysis, with trusted partners, and stay abreast of emerging waste streams and their integration into waste services.	**Role:** Drive **Responsible:** Waste Services – Waste Minimisation Supported by: Integrated Planning; Public Empowerment & Development **Term:** Medium
Partnerships	2.23 Continue to build relationships with Producer Responsibility Organisations (PROs) to enable the EPR regulations through the appropriate alternative business models, procurement or contractual agreements between the City and the PROs. This should include the investigation of developing a Western Cape regional agreement with PROs.	**Role:** Drive **Responsible:** Integrated Planning Compliance and Awareness; Waste Services – Waste Minimisation, Collections, Disposal **Term:** Medium
Partnerships	2.24 Improve accountability and shared responsibility for waste management and waste minimisation with the City's properties and staff. This includes realising the Green Procurement Action Plan, with a particular focus on construction materials (steel, concrete, asphalt), as well as minimising waste and packaging used by major vendors and reusing building rubble, ensuring thorough waste management plans are in place in other directorates etc.	**Role:** Regulate/Enable **Responsible:** All directorates, Integrated Planning – Planning and Strategy; Waste Services – Waste Minimisation **Term:** Short
Partnerships	2.25 In line with the City's Climate Change Action Plan, investigate options for the recovery of textile and fabric waste.	**Role:** Innovate **Responsible:** Integrated Planning **Supported by:** Waste Services – Disposal; Waste Minimisation **Term:** Medium
Partnerships	2.26 Test approaches to fund and support community-led initiatives; for example, supporting with bags and removal, park equipment, etc.	**Role:** Innovate **Responsible:** Integrated Planning – Awareness & Compliance; Waste Services – Cleansing; Recreation and Parks **Term:** Short
Partnerships	2.27 Strengthen existing communication platforms for resident/ community initiatives.	**Role:** Innovate **Responsible:** Integrated Planning – Awareness & Compliance **Term:** Short
Partnerships	2.28 Strengthen existing communication platforms for resident/ community initiatives.	**Role:** Innovate **Responsible:** Integrated Planning – Awareness & Compliance **Term:** Short

OPPORTUNITY AREA	ACTIONS	
Partnerships	2.29 Explore waste-to-energy private sector partnerships, including electricity generation from waste to energy at landfills and biogas generation from organic waste and wastewater.	**Role:** Partner **Responsible:** Waste Services – Disposal, Energy – Sustainable Energy Markets; Water & Sanitation – Waste Water Treatment **Term:** Short
Partnerships	2.30 In line with the City's Energy Strategy (1.1c, ii), explore and, where feasible, develop utility-scale power generation projects on City-owned land to increase Cape Town's renewable energy and dispatchable energy supply. Accordingly, collaborate with the Directorate: Energy colleagues to ensure energy independence/security at waste facilities.	**Role:** Collaborate **Responsible:** Waste Services – Disposal; Energy – Sustainable Energy Markets **Term:** Short
Partnerships	2.31 Develop a decision-making framework/ assessment methodology for waste-to-energy projects, as well as a position paper on waste to energy.	**Role:** Collaborate **Responsible:** Integrated Planning **Supported by:** Waste Services – Disposal; Energy – Sustainable Energy Markets; Water & Sanitation **Term:** Medium
Service provision	**2.32 Develop a timeline, and research and investigate alternative revenue and business model options to inform the most appropriate type of waste minimisation tariff or other revenue generation model to finance the City's waste minimisation service.**	**Role:** Drive **Responsible:** Finance & Capital Implementation – Revenue & Budgets; Integrated Planning; Waste Services **Term:** Medium
Service provision	2.33 Using a targeted approach, progressively increase the coverage of separation-at-source services in the City, though formal door-to-door collections, drop-off facilities, swop shops or other appropriate methodology.	**Role:** Drive **Responsible:** Waste Services – Collections **Term:** Short

Maximise basket of service offerings

Table 9: Maximise Basket of Service Offerings commitments and actions

OPPORTUNITY AREA	ACTIONS	
Data and technology	3.1 Engage with the Western Cape Provincial Government to strengthen access to private sector data (e.g. exploring integration with Integrated Pollutant and Waste Information System) in order to understand the extent of waste processing taking place in Cape Town.	**Role:** Drive **Responsible:** Integrated Planning – Information & Data Management **Term:** Short
Education, awareness and advocacy	3.2 Design and implement evidence-based communication campaigns to deal with the 'not in my backyard' issue as it affects the City and private sector's ability to provide waste management/recycling facilities closer to informal and semi-formal areas. This should be accompanied by the development and maintenance of drop-off facility environmental health and safety standards. These facilities should be designed to be aesthetic and focused on community integration.	**Role:** Drive **Responsible:** Integrated Planning – Awareness and Compliance; Corporate Services – Communications and Citizen Interface **Term:** Short

OPPORTUNITY AREA	ACTIONS		
Informal settlements and backyarder dwellings	3.3	**The City will implement waste services to backyard tenants, SSRU tenants and micro-development tenants on City and non-City-owned land to accommodate the number of people living on the property. Initial pilot areas will be developed to test the delivery model. These services will be funded through varying degrees of tariffs, and will be in line with the user-pays principle, with a limit to free services offered.**	**Role:** Drive **Responsible:** Waste Services – Cleansing, Collections; Integrated Planning **Term:** Medium
Informal settlements and backyarder dwellings	3.4	Ensure that services in informal settlements are costed in such a way that financial modelling will support a long-term service offering that does not jeopardise the overall waste service in the metro. In this regard, the City will undertake a review of the operating model for waste services across the metro and engage with other municipalities facing similar challenges (e.g. Drakenstein).	**Role:** Review **Responsible:** Finance & Capital Implementation – Revenue & Budgets; Waste Services; Integrated Planning **Term:** Short
Informal settlements and backyard dwellings	3.5	Improve the monitoring of illegal dumping hotspots and encourage community-led monitoring systems.	**Role:** Innovate **Responsible:** Waste Services – Cleansing; Integrated Planning – By-law Enforcement; Safety & Security – Law Enforcement **Term:** Short
Infrastructure	3.6	Scope and develop eight additional drop-off facilities in terms of the capital budget for drop-off expansion, in line with Green Procurement Guidelines. This should be accompanied by a land register with associated Property Transaction Management System numbers tagged on SAP PPM.	**Role:** Drive **Responsible:** Waste Services – Waste Minimisation **Term:** Long
Infrastructure	3.7	Working with directorates in the City, UWM will develop a map of potential drop-off sites. The sites will take into consideration the amended operating model and will be approved by the ED: UWM.	**Role:** Review **Responsible:** Waste Services – Disposal and Waste Minimisation; Integrated Planning – Information & Data Management **Term:** Medium
Infrastructure	3.8	Identify and complete a feasibility assessment and purchase a new site for the development of a regional landfill, following land acquisition delays due to litigation. Ensure design plans are in line with Green Procurement Guidelines.	**Role:** Drive **Responsible:** Waste Services – Disposal and Waste Minimisation; Integrated Planning – Planning and Strategy **Term:** Short
Partnerships	3.9	Engage and work with private sector actors, including accredited service providers, to clarify their waste-processing plans and the implications for the waste service in Cape Town, to allow for data-driven planning and enabling of the private sector.	**Role:** Partner **Responsible:** Integrated Waste Policy – Planning and Strategy; Waste Services – Waste Minimisation **Term:** Short
Partnerships	3.10	Create a framework for establishing partnerships, piloting projects and providing resources to build and strengthen partnerships in the waste ecosystem.	**Role:** Enable **Responsible:** Integrated Waste Policy – Awareness and Compliance (Events/Partnerships); Future Planning & Resilience – Technical Partnerships Unit (FPR); Risk and Resilience **Term:** Short

OPPORTUNITY AREA	ACTIONS	
Partnerships	3.11 Map non-governmental actors (including NGO, CBO and private actors) in the waste sector in Cape Town to provide an area-based overview of existing partnerships and potential partnerships to pursue.	**Role:** Review **Responsible:** Integrated Planning–Awareness and Compliance (Events/Partnerships) **Term:** Short
Partnerships	3.12 Continue to work with existing waste industry/collector forums to ensure coordination across different actors in the sector.	**Role:** Partner **Responsible:** Waste Services – Collections; Integrated Planning – Awareness and Compliance (Events and Partnerships); Planning and Strategy **Term:** Medium
Service provision	**3.13 Conduct an assessment of the current waste service delivery standards (including the quality of service) in informal and formal settlements across the metro, and review the differentiated service offerings (collection, cleansing and disposal).**	**Role:** Review **Responsible:** Waste Services; Integrated Planning **Term:** Short
Service provision	**3.14 Based on actions 1.15 and 3.13, develop service standards to fit different contexts and different areas, ensuring that a minimum defined service standard is upheld and achieved. The service standards will be collaboratively developed in partnership with the sector, and progressively realised over a 5-year period, which will be piloted in selected areas.**	**Role:** Drive **Responsible:** Waste Services; Integrated Planning **Term:** Short
Service provision	3.15 The City will research, trial and selectively implement the beneficiation of organic food waste at drop-off facilities, where economically feasible.	**Role:** Innovate **Responsible:** Waste Services – Waste Minimisation; Public Empowerment & Development; Integrated Planning – Research and Innovation **Term:** Medium
Service provision	3.16 Explore waste collection models in informal settlements, such as approved containers for informal settlement service delivery, on a trial basis at selected pilot sites.	**Role:** Innovate **Responsible:** Waste Services – Cleansing; Public Empowerment & Development; Integrated Planning – Research and Innovation **Term:** Medium
Service provision	3.17 The City will investigate ways to diversify its revenue stream for waste services.	**Role:** Drive **Responsible:** Finance & Capital Implementation **Term:** Short
Service provision	3.18 Increase options for the disposal of household hazardous waste.	**Role: Drive** **Responsible: Waste Services – Disposal** **Term: Medium**


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9. ROLES AND RESPONSIBILITIES

STAKEHOLDER[21]	INTERESTS
INTERNAL	
Urban Waste Management (UWM)	Deliver waste management services, including refuse collection, landfill management, waste minimisation and cleansing. Data provision for service planning.
Water and Sanitation Services (W&S)	Deliver wastewater management, waste disposal and stormwater management services.
Sustainable Energy Markets (Energy)	Waste to energy, disposal (sustainability), climate change mitigation.
Urban Planning and Design (SPE)	Develop precinct and spatial plans, including waste services as an activity. Activate public spaces through place-making.
Urban Regeneration – Mayoral Urban Regeneration Programme (SPE)	Provide precinct management, including waste, recycling projects, informal waste picker programmes and area cleaning.
City Improvement District (SPE)	Regulate and manage City Improvement Districts, including top-up waste services.
Informal Settlements (HS)	Informal settlement planning and coordination of services in settlements that have not been upgraded or have re-densified, in collaboration with other service departments.
Health (CSH)	Provide public and environmental health services and business licensing.
Environmental Management (SPE)	Drive circular economy efforts in Cape Town.
Economic Growth (EG)	Economic Development & Investment: Drive circular economy efforts in Cape Town, supporting economic growth and development (e.g. funding GreenCape) and supporting socio-economic challenges of waste pickers.
Social Development (CSH)	Support the socio-economic challenges of waste pickers.
Future Planning & Resilience (FPR)	Drive circular economy and climate change response efforts in Cape Town.
EXTERNAL	
Informal waste pickers	Provide waste picking services.
Recycling value chain role-players	Waste beneficiation and value creation, and providing recycling services (e.g. BBCs, sorting businesses, middle men, etc.).
Waste-to-energy companies	Convert MSW to energy.
National and provincial departments	Manage regional landfills and monitoring and supporting minimum standards.
Academia	Understand problems in the sector, highlighting innovations.
Civil society organisations	Education and awareness campaigns, changing behaviours.
Residents/Communities	Receive services, keeping environment clean, enjoying a clean environment, advocacy, consumer pressure.
Contracted service providers	Deliver waste services and goods (e.g. home composters, wheelie bins).

[21] *Directorate and department names are correct at the time of drafting, and are subject to change.*

10. MONITORING AND EVALUATION

The UWM Directorate will develop a monitoring, evaluation and learning framework to ensure that the City is able to track the progress of the implementation of this Strategy and to make updates or changes as required. The monitoring and evaluation process will include regular progress assessments. The process will also include a focus on identifying areas for continued learning and ensuring that the results of learning processes are provided to stakeholders to support more effective future action. Where learning opportunities are identified, the City will work with partner organisations to promote learning from and with partners, and disseminate the results of learning processes.

An implementation plan will be developed and will include regular reporting to relevant City portfolio committees, and integration with the City's Service Delivery and Budget Implementation Plan process, where necessary and appropriate. This Strategy will be reviewed and updated every 5 years at a minimum, and may be reviewed and updated more frequently if deemed necessary. The City acknowledges that waste management is a fast-moving and developing field, and therefore regular review is necessary to ensure that the Strategy remains up to date.

Although the implementation plan will provide more detail, the following elements are suggested to provide evidence of success:

1. An increase in the waste diversion rate (including data from the City and the private sector)
2. A decrease in illegal dumping
3. A decrease in the landfill rate
4. An increase in the diversity of revenue streams for waste services in Cape Town; for example, PROs, waste minimisation tariff introduction
5. An increase in research and the uptake of innovative solutions for piloting across the directorate
6. An increase in the delivery of waste services to backyard dwellings on non-City land
7. An increase in coordination with other utility services to deliver services in informal settlements
8. An updated waste utility operating model
9. A decrease in incidences of violence against City staff and service providers delivering municipal waste services
10. An increase in community partnerships and initiatives
11. The use of data to inform budget prioritisation and cross-departmental collaboration
12. An increase in diversity and the number of actors in waste services that the City can legally engage with; for example, BBCs, SMME associations, waste picker associations, etc.
13. An increase in engagement with communication campaigns
14. An increase in the use of rigorous evaluations to inform behaviour change interventions
15. An increase in the testing of new innovative approaches; for example, to fund and support community-led initiatives and satellite drop-off sites, piloting 'pay as you throw' schemes, the beneficiation of additional waste streams, 130-litre wheelie bins for informal settlement service delivery
16. The adoption of service standards for different contexts and areas
17. An increase in accreditations or accreditation percentage
18. An increase in private IWMPs approved
19. An increase in coverage (regarding the number of households/service points) for separation-at-source services (split into recyclable and organics)
20. An increase in the number of free home composters distributed
21. Increased cost efficiency – tonnes managed per rand
22. An annual change in the gross domestic product (GDP) compared to change in total municipal waste landfilled
23. An annual change in population growth compared to change in total municipal waste landfilled


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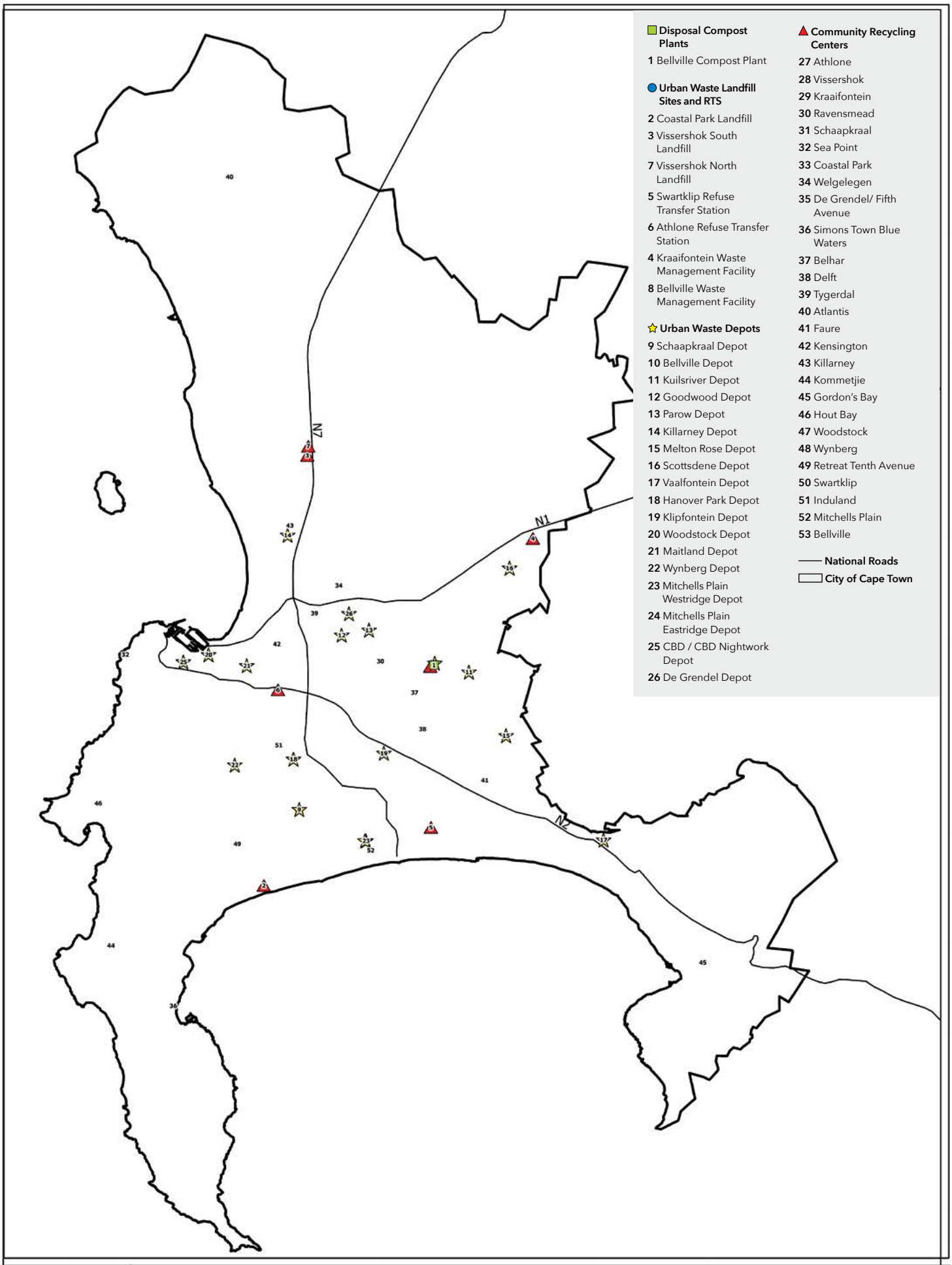
ANNEXURE A: MAPPING



Disposal Compost Plants

1 Bellville Compost Plant

Urban Waste Landfill Sites and RTS

2 Coastal Park Landfill
3 Vissershok South Landfill
7 Vissershok North Landfill
5 Swartklip Refuse Transfer Station
6 Athlone Refuse Transfer Station
4 Kraaifontein Waste Management Facility
8 Bellville Waste Management Facility

Urban Waste Depots

9 Schaapkraal Depot
10 Bellville Depot
11 Kuilsriver Depot
12 Goodwood Depot
13 Parow Depot
14 Killarney Depot
15 Melton Rose Depot
16 Scottsdene Depot
17 Vaalfontein Depot
18 Hanover Park Depot
19 Klipfontein Depot
20 Woodstock Depot
21 Maitland Depot
22 Wynberg Depot
23 Mitchells Plain Westridge Depot
24 Mitchells Plain Eastridge Depot
25 CBD / CBD Nightwork Depot
26 De Grendel Depot

Community Recycling Centers

27 Athlone
28 Vissershok
29 Kraaifontein
30 Ravensmead
31 Schaapkraal
32 Sea Point
33 Coastal Park
34 Welgelegen
35 De Grendel/ Fifth Avenue
36 Simons Town Blue Waters
37 Belhar
38 Delft
39 Tygerdal
40 Atlantis
41 Faure
42 Kensington
43 Killarney
44 Kommetjie
45 Gordon's Bay
46 Hout Bay
47 Woodstock
48 Wynberg
49 Retreat Tenth Avenue
50 Swartklip
51 Induland
52 Mitchells Plain
53 Bellville

National Roads
City of Cape Town

North Arrow

Scale 0 5 10 Meters

Department: URBAN WASTE MANAGEMENT	Created by: Sibongile Lize	Logo: CITY OF CAPE TOWN ISIXEKO SASEKAPA STAD KAAPSTAD
Title: *WASTE MANAGEMENT FACILITIES*	Date: 2025/06/10	
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