

GAUTENG WASTE INDABA 2026

From Service Pressure to System Transformation Johannesburg's Waste Management Transition

Building a reliable, integrated and increasingly circular waste management system for Johannesburg.

CITY OF JOHANNESBURG
DR FLOYD BRINK



Johannesburg is a city that is managing two waste realities at the same time. On the one hand, we have the immediate responsibility to ensure that waste is collected reliably and that our communities live in a clean and healthy environment.

On the other hand, we are confronting the longer-term challenge of landfill dependence, limited disposal capacity, illegal dumping and the need to recover much more value from the waste we generate.”

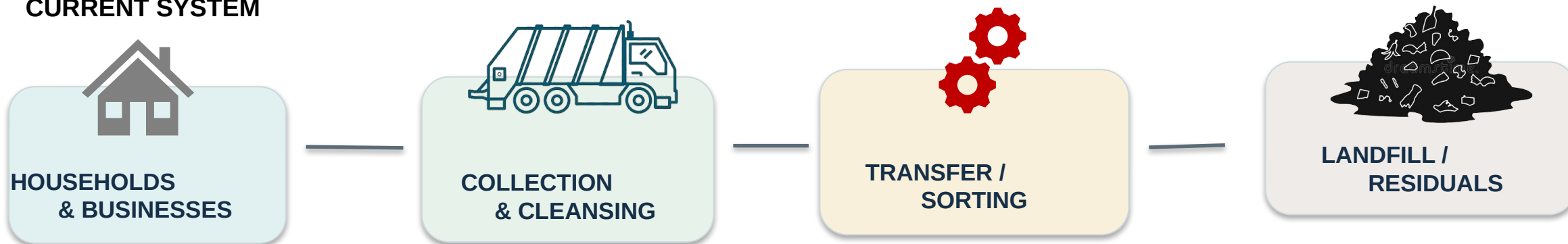
“Our message today is therefore not that Johannesburg has solved these challenges. Rather, it is that we have reached a point where the traditional waste management model is no longer sufficient, and we are deliberately beginning to transform the waste management system.”

JOHANNESBURG'S WASTE SYSTEM AT A GLANCE

A large municipal system serving a complex metropolitan economy



CURRENT SYSTEM



Transformation objective: progressively reduce the share of waste ending at landfill while improving service reliability and resource recovery.

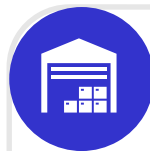
WHERE JOHANNESBURG IS STRONG

A strong foundation exists, the opportunity is to build on it and accelerate the waste management system transformation.



Established Waste Collection System

The city entity Pikitup is responsible for municipal waste collection, city cleansing services and disposal



Existing Waste Infrastructure Network

Landfills, depots, garden sites, buy-back centers, fleet and material recovery facilities provide an established operational **base**.



Policy and Regulatory Framework

Municipal waste management by-laws, Waste Policy and compliance systems support waste governance.



Growing Waste Diversion Programmes

Separation at source, recycling, organic waste diversion and waste picker integration are expanding the recovery system.



Alternative Treatment Projects

Waste-Energy, biodigester and landfill-gas-to-energy provide pathways for reducing long-term landfill dependency.



Partnership and Innovation Platform

Collaboration with communities, private sector, PROs, NGOs, Waste Picker Organisations, development partners (DBSA, GEF, UNEP and Invest International) and other government spheres.

Johannesburg is not starting from zero, the City has the institutional, infrastructure and project foundations required to accelerate the transition towards an integrated waste management system.

KEY CHALLENGES FACING THE JOHANNESBURG WASTE SYSTEM

A growing city, increasing waste volumes and complex waste streams places pressure on the City's waste management system.

1

Growing Waste Generation

Increasing population, urban development and economic activity are driving higher waste volumes and more complex waste streams.

2

Low Waste Diversion Rates

A large proportion of waste is still landfilled, with insufficient separation, recycling and organic waste recovery.

3

Increasing Pressure of Landfill Sites

Finite landfill airspace, rising disposal costs and environmental compliance requirements places pressure on existing landfill sites.

4

Illegal Dumping and Non-Compliance

Persistent illegal dumping, unlawful waste operations and non-compliance undermine service delivery, environmental quality and public health.

5

Financial Sustainability Pressures

Rising operational costs, limited revenue recovery and funding constraints challenge the long-term financial sustainability of the waste management system.

6

Complex Stakeholder Environment

A diverse range of stakeholders, including communities, informal Waste Pickers, private operators and regulatory authorities, require ongoing coordination and alignment.

These challenges highlight the need to accelerate waste minimisation, increase diversion, optimize infrastructure and strengthen governance to build a cleaner, greener and more resilient Johannesburg.

ILLEGAL DUMPING: MOVE FROM CLEAN-UP TO PREVENTION

Johannesburg's response increasingly needs an integrated enforcement and infrastructure chain.

R80m/a

Annual illegal-dumping cost

369 000t/a

Illegally dumped waste removed

46

Local SMMEs

DETECT

INVESTIGATE

ENFORCE

PROSECUTE

REHABILITATE

Prevention also requires accessible disposal/recovery facilities, community participation and formal local waste enterprises.

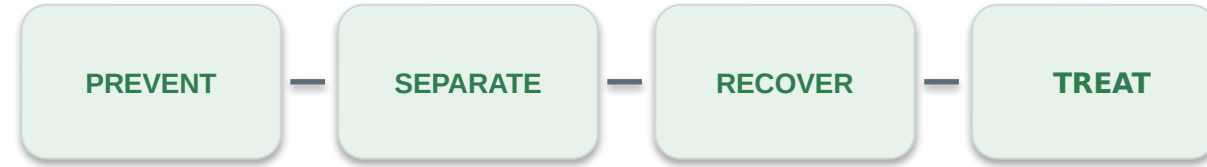
THE TRANSFORMATION PATHWAY

From a disposal-oriented value chain to an integrated resource recovery system

TODAY'S PRESSURE



TARGETED STATE



RESOURCE STREAMS



The objective is not “zero landfill”; it is a hierarchy in which landfill becomes the managed destination for residuals that cannot reasonably be recovered or treated.

JOHANNESBURG'S INNOVATION PORTFOLIO

Three innovation pathways: residual waste treatment , organic waste treatment and landfill gas to energy

AWTT / WASTE-TO-ENERGY

- 500 000 t/a diversion target
- Material Recovery Facility + WtE
- PPP: design, build, finance, operate & maintain
- Proposed 25-year concession
- Blended finance support
- Procurement under way.

WtE

BIOGAS / BIODIGESTION

- 50 t/day pilot concept
- Focus on biodegradable waste
- Converts organics into biogas/electricity
- Demonstrates alternative treatment
- Potential pathway to fuel/electricity
- Pilot informs future scale-up

BIO

LANDFILL GAS-TO-ENERGY

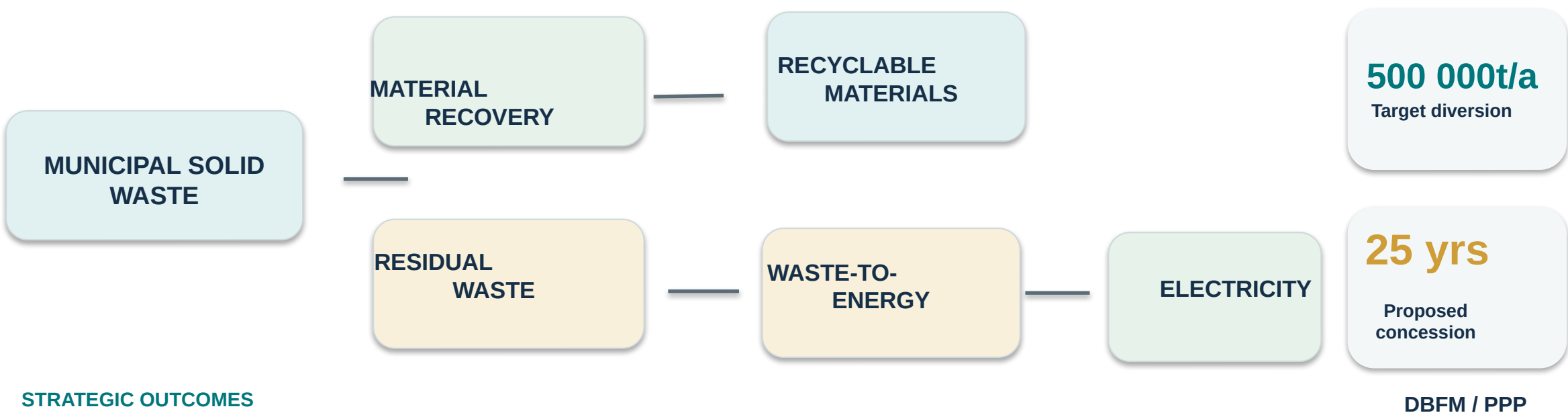
- Methane capture from landfill sites
- Approx. 13 MW project capacity .
- Three landfill sites participating (Robison Deep, Goudkopies and Marie Louise)
- generate electricity from existing landfills
- Supports emissions reduction and energy diversification.

LFG

Innovation principle: use the right treatment pathway for the right waste stream while protecting affordability, compliance and long-term system resilience.

FLAGSHIP TRANSFORMATION: ALTERNATIVE WASTE TREATMENT TECHNOLOGY

A disposal capacity intervention structured as a long-term infrastructure partnership.



STRATEGIC OUTCOMES

- Extend landfill life
- Recover materials
- Generate energy
- Mobilise private capital
- Support environmental compliance

Private partner: design • build • finance • operate • maintain

THE ENABLING LAYER: DATA, PEOPLE AND THE WASTE ECONOMY

Technology will not transform the system without information, markets and participation.

1 | DATA

Develop an integrated Waste Information Management System :

- service providers
- facilities
- waste tonnage
- disposal
- recycling & recovery
- compliance reporting
- spatial intelligence

2 | PEOPLE

Strengthen participation of:

- waste pickers
- SMMEs & cooperatives
- communities
- schools & institutions
- private operators
- universities & innovation partners

3 | WASTE ECONOMY

Create stronger conditions for:

- recycling markets
- recovered materials
- green jobs
- circular products
- organic waste markets
- climate / blended finance

“We cannot manage what we cannot measure.”

The City's Waste Information Management System(WIMS) development is intended to improve registration, monthly tonnage reporting across waste operators and facilities.

JOHANNESBURG'S 12–24-MONTH PRIORITY AGENDA

A focused implementation agenda rather than another planning cycle.

01

Stabilise basic services

Fleet, depots, maintenance and operational performance

02

Accelerate diversion

AWTT, organics, recycling and other treatment pathways like crushing of construction and demolition waste

03

Strengthen enforcement

Illegal dumping: detection → investigation → enforcement → prosecution

04

Build the data spine

Integrated waste information and performance reporting

05

Strengthen the waste economy

Waste pickers, SMMEs, markets, skills and circular enterprises

06

Secure investment

Project preparation, blended finance, PPPs and climate finance

THE MESSAGE FROM JOHANNESBURG

From collection to recovery

From disposal to diversion

From waste management to a circular waste economy

“WE CANNOT SOLVE THE WASTE CHALLENGE BY WORKING IN ISOLATION.”

THANK YOU