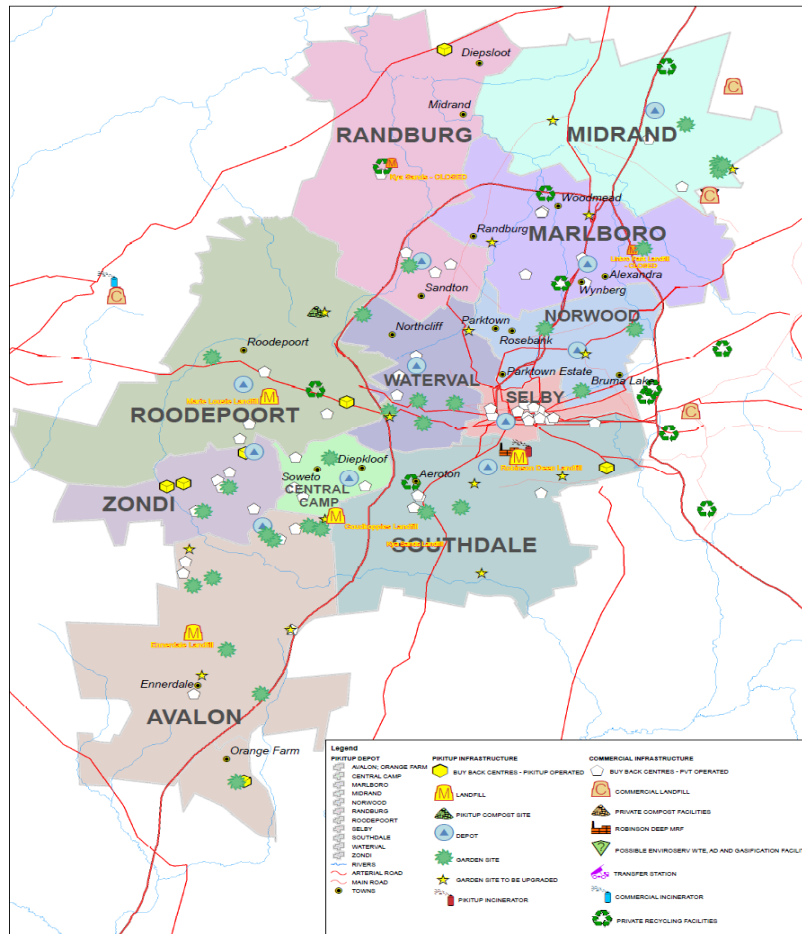




**INTEGRATED WASTE MANAGEMENT: CITY OF  
JOHANNESBURG  
IWMSA WORKSHIP FEB 2020**



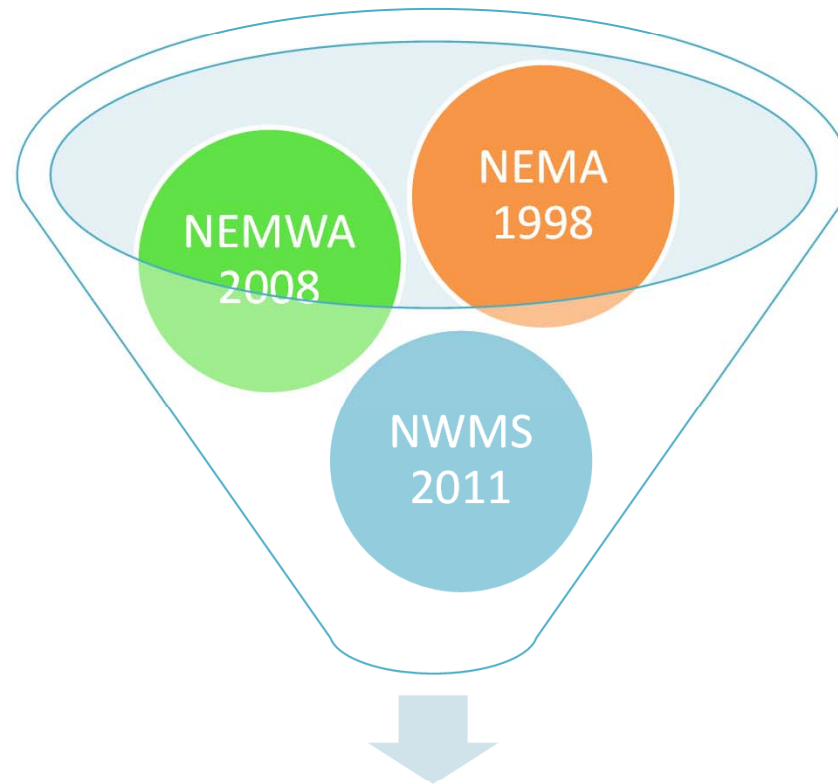
# Basic facts and Figures



- Area of approximately 1646 km<sup>2</sup> (7 x City Regions – A to G)
- **Population**
  - Community Survey 2016 – 4.9 million
  - Census 2011 – 4.4 million
- **Household**
  - Community Survey 2016 – 1.8 million
  - Census 2011 – 1.4 million
- **City collects about 1.6m tonnes of waste per annum**
- 4 x operational landfills with an average landfill airspace of **5.22 years**
- 42 x garden sites / drop-off facilities
- 5 x buy-back centres (City-owned)
- Private sector buy-back centres (+30)



## Legal, Policy and strategic aspects



- CoJ IWMP
- CoJ Waste Management By-laws
- Illegal dumping strategy



## Legal, Policy and Strategic aspects

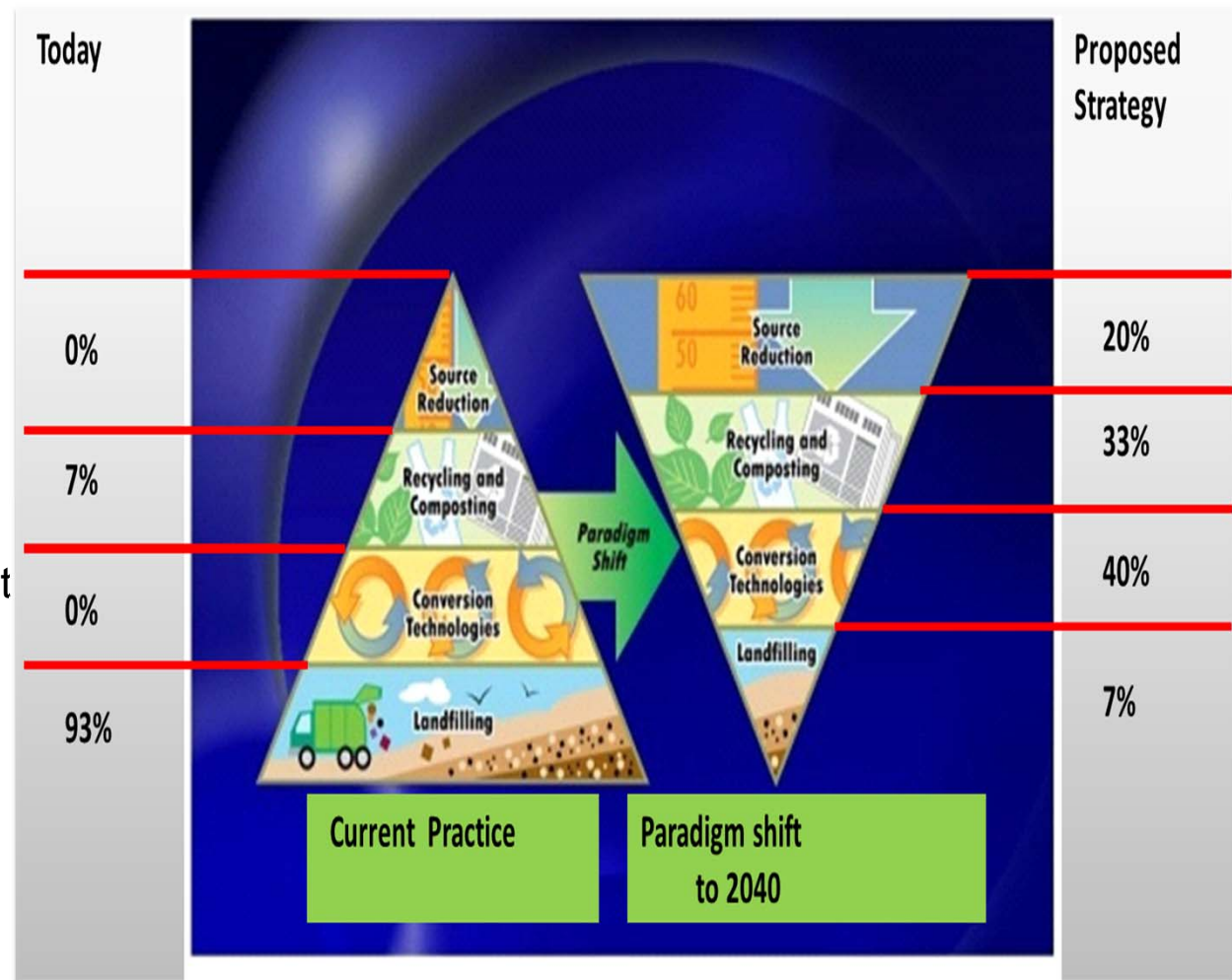
The City's policy and the Department's strategic agenda is further influence by the NDP outcomes; GDS 2040 Outcomes and Mayoral Priorities as it relates to Environmental Sustainability and Infrastructure Planning





## Policy and strategy drivers

- Ensure integrated and sustainable waste management through the hierarchical management of waste (Reduce, Reuse, Recycle and Dispose)
- Supported by:
- Compliance and enforcement of legislation
- Proper, research, planning and execution
- (credible data and information)







## Problem statement

Three aspects  
define the  
problem  
statement  
regarding waste  
management in  
the City

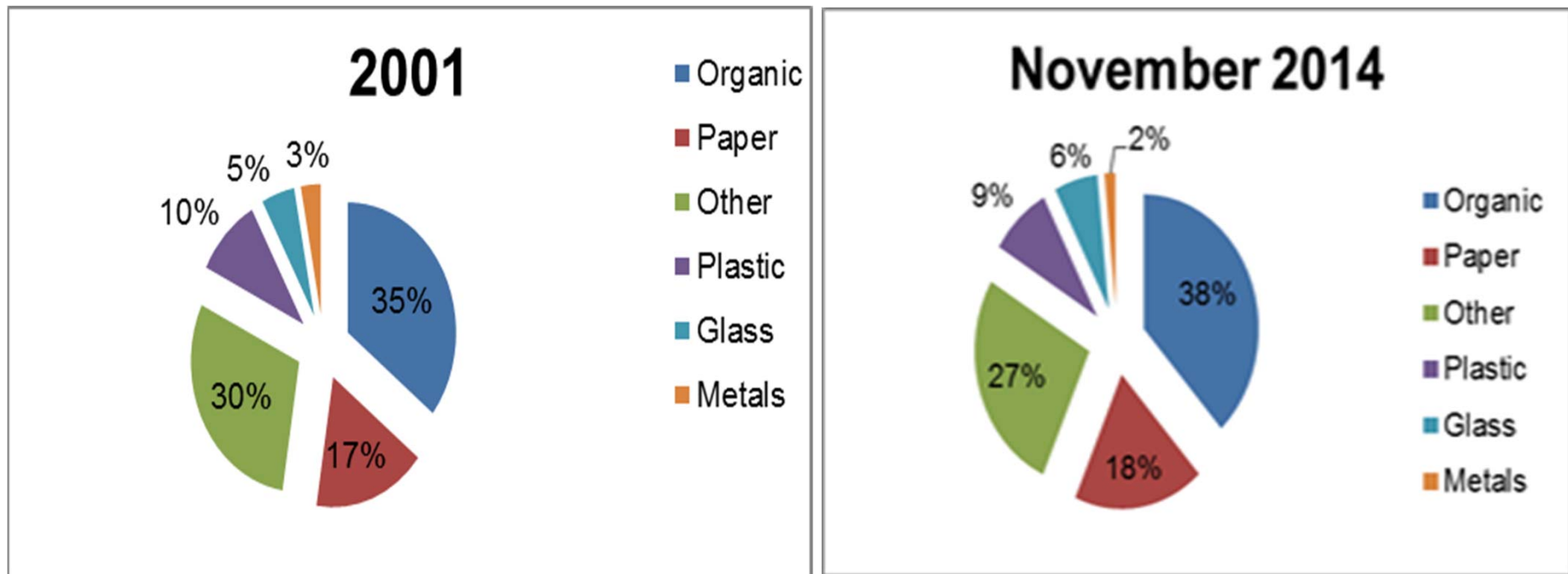




## Key City initiatives

2001 vs 2014 - no significant change in the waste character

2014 - In the summer season, household RCR receptacle comprises of dry recyclables (circa 35%) and organic waste (circa 38%) and other (circa 27%).





## City of Johannesburg Targets



- Reduce waste to landfill through Waste Minimisation and Recycling (target is 20% of all generated )
- Develop alternative waste treatment technology projects (WtE and Biogas) to treat and over +- approximately 800 000 tons of waste/ annum (50% of municipal waste generated waste )
- Establish a recycling economy in the City of Johannesburg (a GDS deliverable)
  - Separation at Source
  - Reduce, Reuse, Recycle





# Separation at Source Models

- **2009** – S@S Programme piloted in the Waterval depot area
- **2013** – S@S Programme rollout to additional depot areas in the City using Co-op model in low to middle income areas
- **2017** – Introduced Pvt Sector model in middle to high-income areas
- **2018** – Mandatory S@S in all current rollout areas
- **Models**
  - **Co-op Model**
    - 25 Cooperatives appointed and managed through an MOU
    - Pikitup provides caged truck with driver, plastic bags, sorting facility
    - Cooperatives provides own labour
    - Cooperatives distribute bags, collect recyclables, sort, and sell recyclables for own financial benefit and report tonnages to Pikitup as waste diversions





## Separation at source model

- **Private Sector Model**
- 2 x Companies appointed and managed through a SLAs with penalty clauses for non-performance
- Companies provide own caged truck with driver, plastic bags, sorting facility
- Companies provide own labour
- Companies procure own bags, distribute bags, collect recyclables, sort, and sell recyclables for own financial benefit and report tonnages to Pikitup as waste diversions
- In return, Pikitup pays service providers on a Rate per household basis
- Both models currently under review due to costs of running these models. A new single model is being crafted and will be based on Rate per ton diverted instead of the current Rate per household.







## Waste Treatment and disposal technologies (Waste to Energy Project) in partnership with GIFA and DBSA

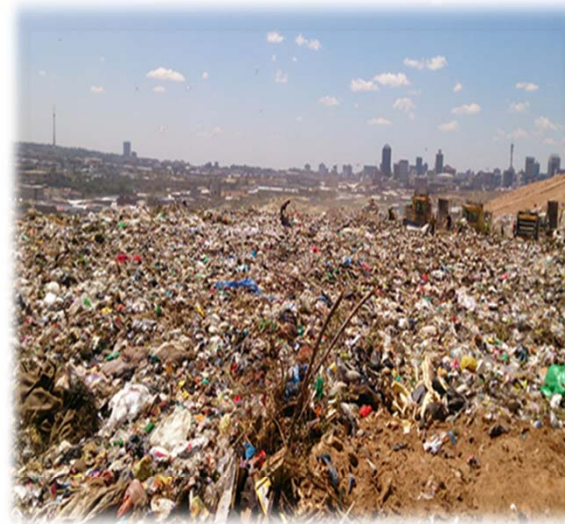
- PPP project
- Feasibility concluded, now commencing with PPP procurement stage
- The City seeks alternative waste treatment technology (AWTT) for Municipal Solid Waste, through a "design-build-operate and -transfer" Drastic reduction of waste to landfill
- Generation of renewable energy
- Creation of jobs
- The general scope of this project is to provide the CoJ with a waste treatment technology facility/s,
- That will accept and treat 500 000 tonnes of municipal solid waste per annum





## Waste Treatment and disposal technologies (Biodigester ) in partnership with GEF and DBSA

- Biodegradable waste pilot
- Feasibility by UJ concluded on 50 ton bio-digester
- Plant design specification concluded
- Will use waste from Fresh Produce Market and part of garden waste and the dailies as feed stock
- Will generate bio-fuel to run 9 Metro buses
- Plans to upscale scaled to bigger plant with potential to divert 30% waste generated and produce bio-fuel enough to run 800 buses.
- Reduce Carbon emissions







# Challenges

## Waste Diversion and S@S

- High cost of collection
- Low participation by residence
- Poor quality material
- Integration of the informal Waste Picker to the system
- Poor coordination and synergy in spheres of government

## Technologies

- High cost of project development
- Lack of technical skills and knowhow
- Lengthy project development process
- Highly regulated PPP process
- Lack of futuristic planning at municipal level
- Political environment
- Poor coordination and synergy in spheres of government
- Legislative framework



## What to do

- Implement separation at source projects aiming at diverting waste from landfill ( S@S, WtE,)
- Secure landfill/ disposal space from private sector role players
- Review current service delivery model (combat illegal dumping and responsive to current community needs
- More future planning and opportunity management vs performance management
- Align legislation to create an enabling environment
- More synergy and cooperation from all stakeholder ( move from silos)
- More resource allocation to green waste minimization and recycling initiatives



**THANK YOU FOR YOUR ATTENTION**

Makhosazana ( Khosi ) Baker  
Director: Waste Management and Regulation  
City of Johannesburg  
011 5874215  
0724401909  
[makhosazanab@Joburg.org.za](mailto:makhosazanab@Joburg.org.za)