

Understanding the South African Waste Sector:

The economic and employment opportunities it provides

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OUTLINE OF PRESENTATION

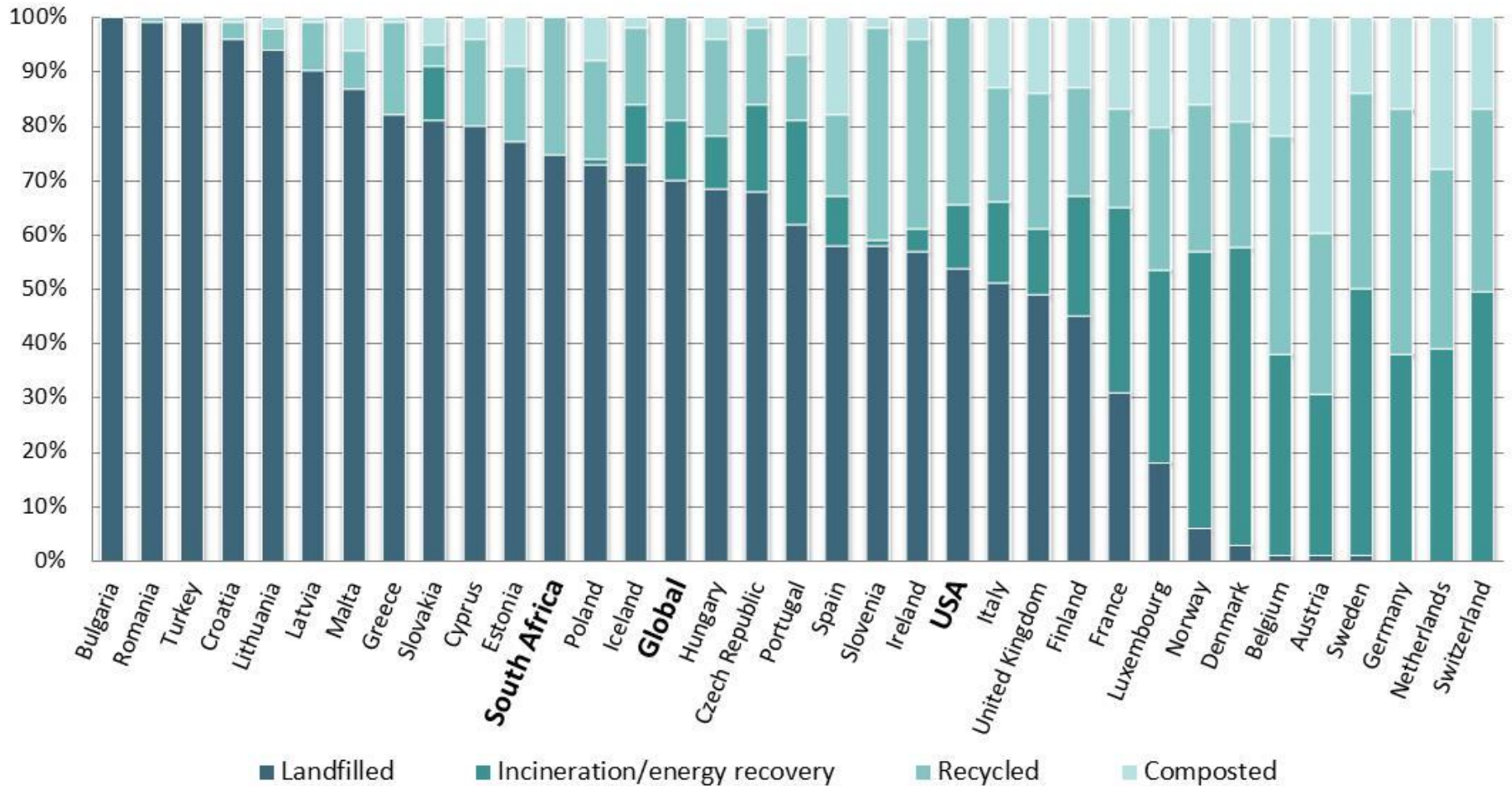
- Introduction
- Method
- Results
- Conclusions

INTRODUCTION

- South Africa landfills ~90% of all waste generated and ~75% of MSW (DEA, 2012)
- Opportunities exist for alternatives to landfilling, and with it **job creation** through new businesses and through labour intensive approaches
- Government target of 69,000 new jobs and 2,600 SMEs and cooperatives by 2016



INTRODUCTION



Adapted from DEA (2012); ISWA (2012); EuroStat (2012); US EPA (2013)

INTRODUCTION

- The SA waste sector is not a formal economic sector, so information and understanding of the sector is limited
- DST embarked on a project in 2013 to undertake the first Waste Sector Survey (*organisational understanding*)
- Establish a benchmark against which to monitor sector growth



METHOD

- Define the formal waste sector (organisations)
- Define organisation size
- Sampling
- Data collection and analysis
- Results

METHOD: DEFINING THE SECTOR

- Defining the formal waste sector (organisations)
 - Waste **handlers** (private and municipalities)
 - included city **cleansing**, waste **collection** and **transport, storage** and transfer, **sorting** and separation of recyclables, **reprocessing** or recovery of recyclables, **treatment**, and **disposal** (landfilling)
 - Waste **equipment providers**
 - Waste **consulting/engineering** companies
 - Waste **research and development** organisations
 - Waste and resources sector **associations**
- Defining organisation size
 - Private waste organisations and municipalities

METHOD: ORGANISATION SIZE

Private sector

	Waste revenue [Rm]
Large enterprises	> 51
Medium enterprises	13 – 51
Small enterprises	5 – 13
Very small enterprises	0.2 – 5
Micro enterprises	< 0.2

Public sector

MIIF category	Description
A	Metropolitan municipalities (metros)
B1	Secondary cities, local municipalities with the largest budgets
B2	Local municipalities with a large town as core
B3	Local municipalities with small towns, with relatively small population and significant proportion of urban population but with no large town as core
B4	Local municipalities which are mainly rural with communal tenure and with, at most, one or two small towns in their area
C	District municipalities

** National Small Business definition of enterprise size (aligned with the Manufacturing sector, and the Electricity, Gas and Water sector*

** Municipal Infrastructure Investment Framework (MIIF) categories*

METHOD: SAMPLING

- Sampling
 - No sampling
 - Effort to include all organisations
- Target population
 - Private 'companies' involved in waste
 - Local and metropolitan municipalities

METHOD: DATA

- Data collection
 - Self-administered questionnaires
 - Emailed to >500 private companies and >280 municipalities (and posted)
- Self-administered questionnaire with follow-up calls and emails
 - Section A: Basic organisational information
 - Section B: Employee information
 - Section C: Financial information
 - Section D: Waste sector and technologies
 - Section E: Technological innovation
 - Section F: Non-technological innovation

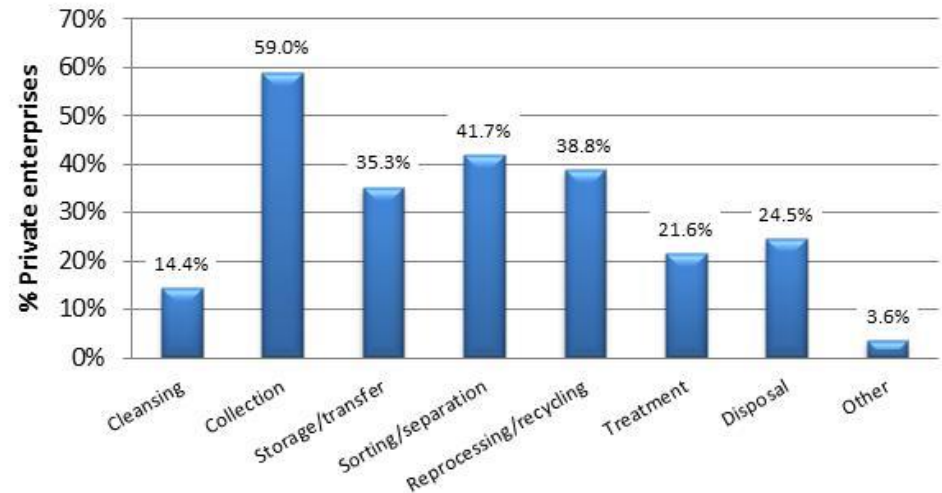
RESULTS: SERVICES RENDERED

In which area(s) of waste management does your organisation operate (value chain)?

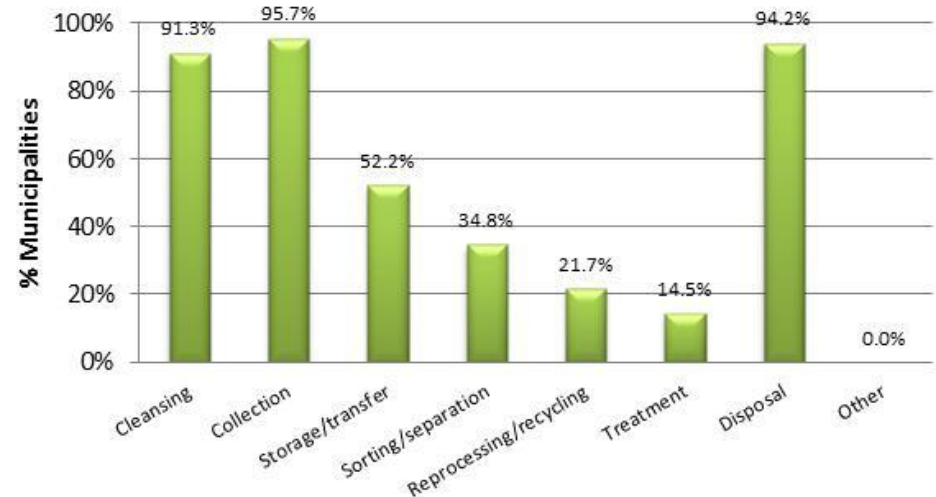
- Cleansing
- Collection
- Storage / transfer
- Sorting / separation
- Reprocessing / recycling
- Treatment
- Disposal
- Other

Majority of municipalities indicated that reprocessing / recycling activities were in fact being done by private companies and not the municipality

Private: Service rendered



Municipalities: Service rendered



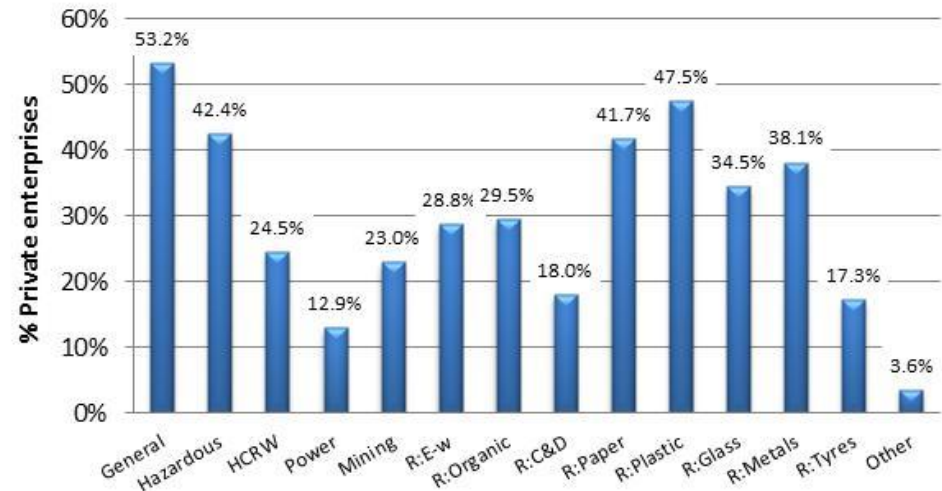
RESULTS: WASTE TYPES HANDLED

With which type(s) of waste does your organisation deal?

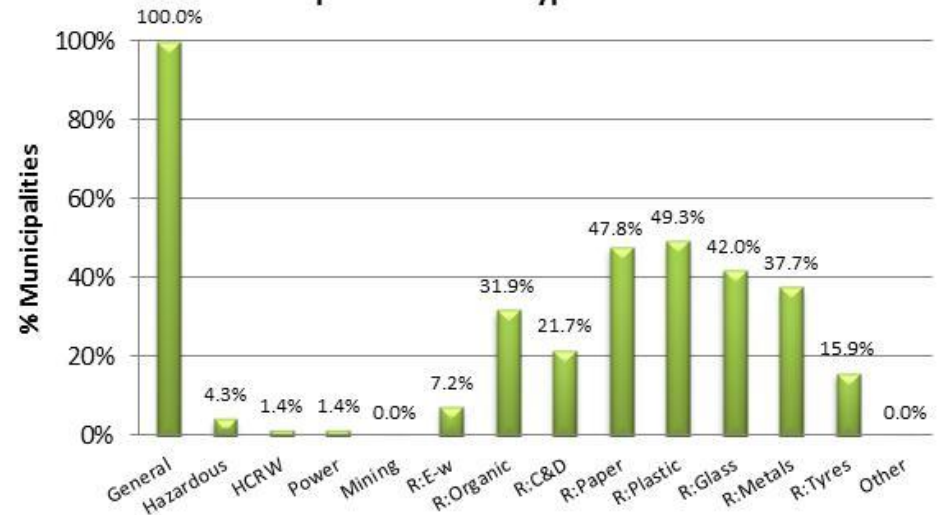
- Private sector coverage across all waste types (identified niche and under-serviced waste streams)
- Public sector aligned with Constitutional mandate

Many municipalities have sorting and separation of recyclables occurring within the municipalities, these activities are undertaken in the majority of instances by private companies and are not 'dealt with' by the municipality

Private: Waste types handled



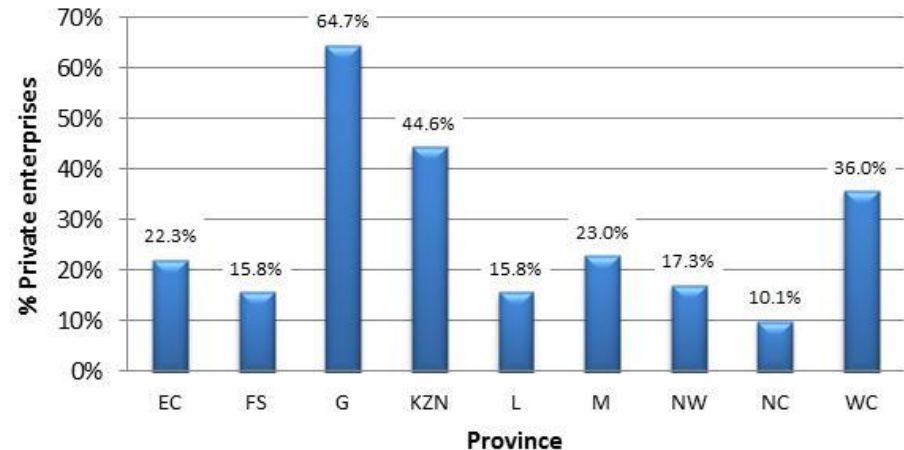
Municipalities: Waste types handled



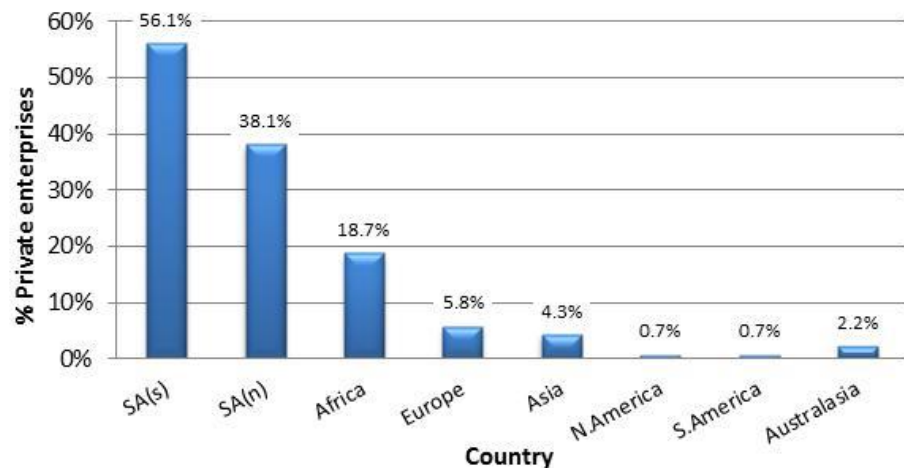
RESULTS: GEOGRAPHIC FOOTPRINT

- Majority of private companies operations in 3 main economic hubs of SA (Gauteng, KZN and Western Cape), where bulk of waste is generated
- 56.1% of respondents have only a **regional** footprint (SA(s))
- 38.1% of respondents have a **national** footprint (SA(n))
- Footprint of SA companies extends into **Africa** and rest of the **world**
- Represents –
 - International consulting / technology partnerships
 - Movement of recyclables into the global waste economy

Private: Geographical distribution



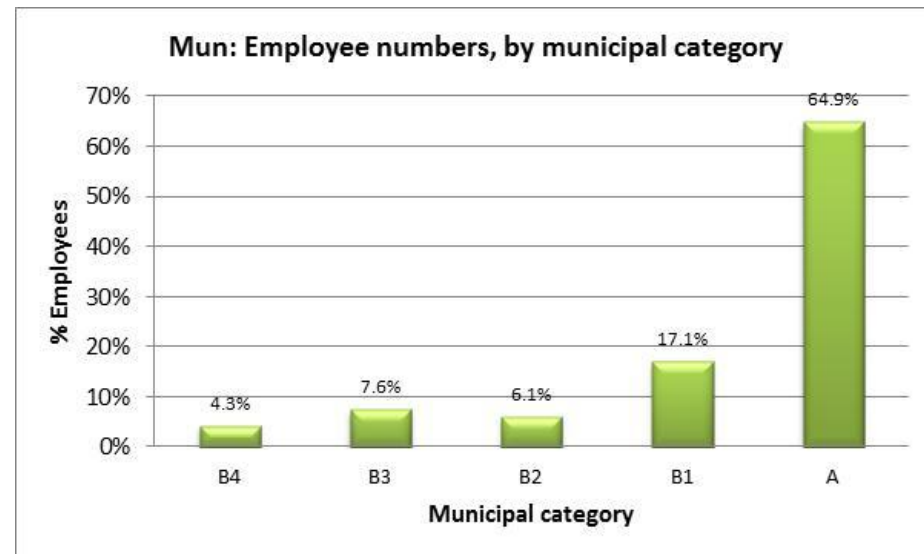
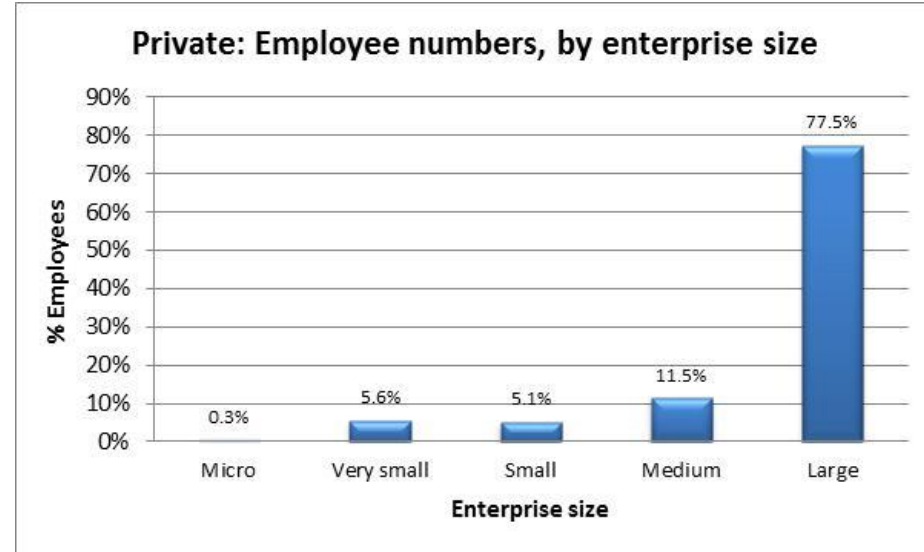
Private: Market distribution



RESULTS: PEOPLE EMPLOYED

Waste sector	Number of waste employees	
	2009 (DEA)	2012 (DST)
Private	9 000	9 741
Public	20 505	20 092
Total	29 505	29 833

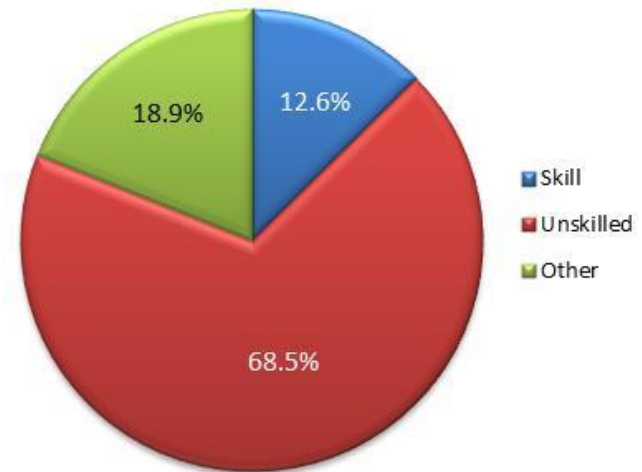
- Minimum of 29 833 people employed in formal waste sector
- Employment in municipalities levelled-off at around 20 000
- Estimated 2-3 times this number in the informal waste sector
- Achieving Goal 3 of NWMS look towards the private waste sector and informal sector



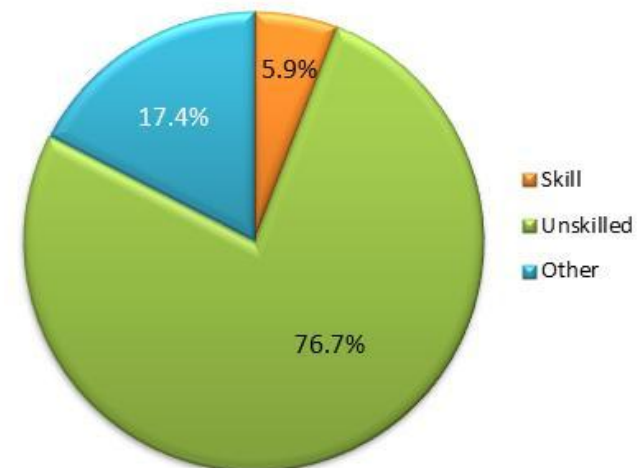
RESULTS: EMPLOYEES SKILLS

- Skill categories –
 - ‘*Skilled*’ (waste technical specialists, e.g. qualified engineers, scientists, waste professionals),
 - ‘*Un/semi-skilled*’ (waste labour, e.g. drivers, operators, spotters), and
 - ‘*Other*’ (e.g. support services such as management, finance, admin).
- ~70-80% of persons employed in the waste sector are unskilled, highlighting –
 - Importance of waste sector in absorbing unskilled labour
 - Need for skills development (across the NQF)

Private: Employee skill category

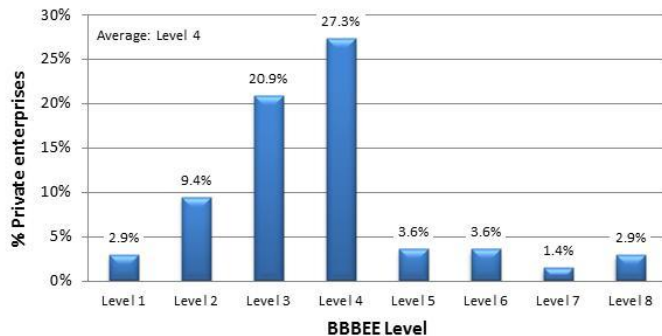


Mun: Employee skill category

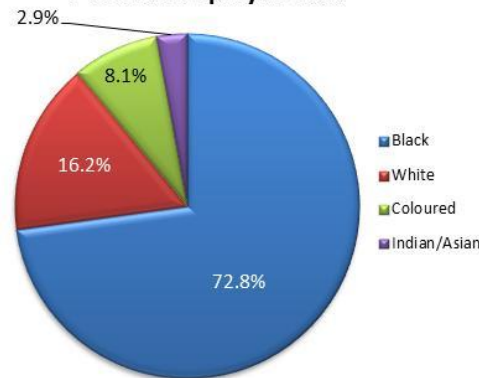


TRANSFORMATION OF THE SECTOR

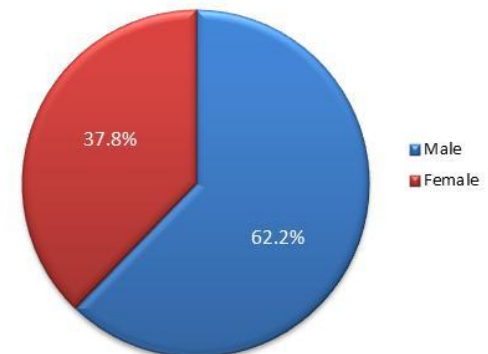
Private: BBBEE Level



Private: Employee race

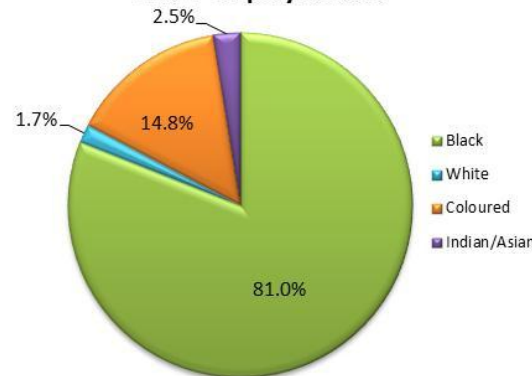


Private: Employee gender

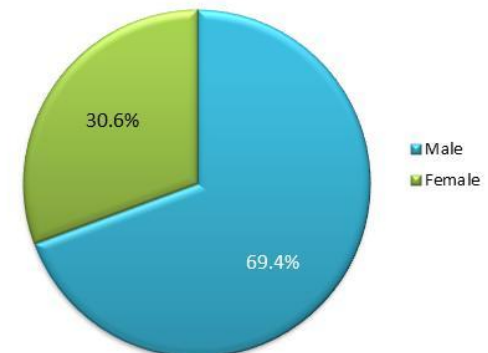


- Positive transformation of the waste sector –
 - BBBEE – 77.2% of private organisations BBBEE certified, Average BBBEE - Level 4
 - Race – 83.8% of private sector employees and 98.3% of municipal employees being people of colour
 - Gender – 37.8% of private sector employees and 32.1% of municipal employees being female

Mun: Employee race



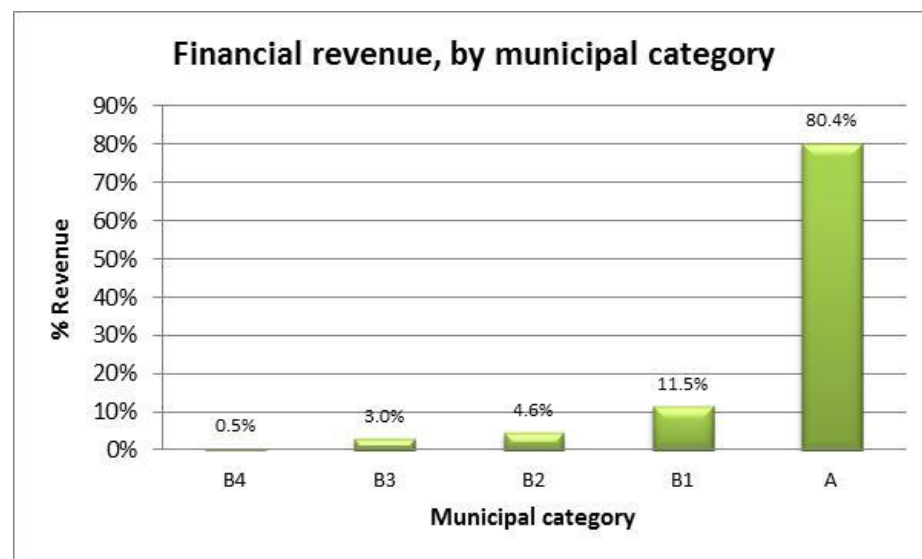
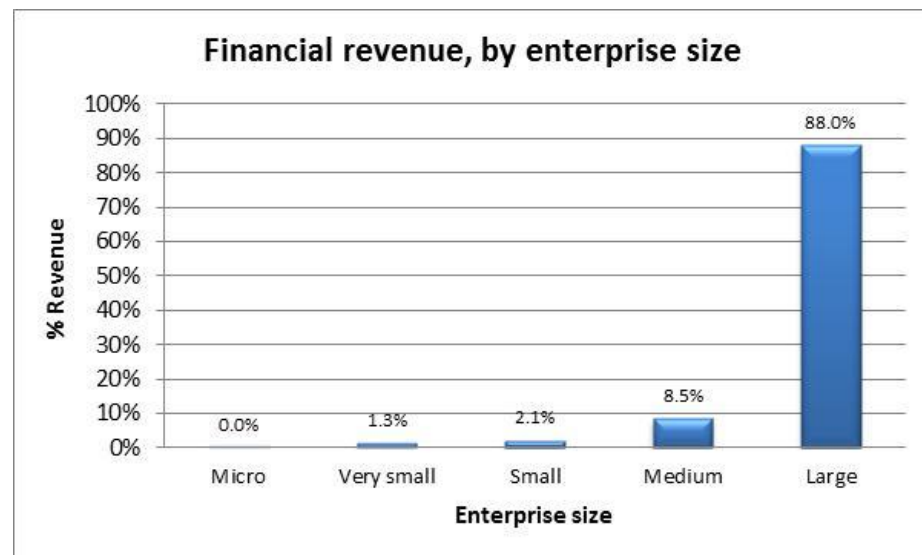
Mun: Employee gender



RESULTS: REVENUE BY ENTERPRISE SIZE

	DEA [Rm] (2009)	DST [Rm] (2012)
Private	3 000 000 000	6 961 644 605
Public	7 000 000 000	8 323 879 000
Total	10 000 000 000	15 285 523 605

- Minimum financial value of the formal waste sector (for 2012) is **R15.3 billion** (or 0.51% of GDP)
- Majority of this revenue is in large enterprises (88.0% of private sector revenue) and metropolitan municipalities (80.4% of public sector revenue)
- Companies which started up waste activities between 2007-2012 contributed a minimum of R188m into the economy



RESULTS: SPEND ON R&D

- Spend on waste-related Research & Development (R&D) –
 - remains low for the waste sector at ~0.33% of the value of the sector
- Opportunity to grow this to at least 1-2%

Waste Sector	Sector value [R]	Waste R&D [R]	Waste R&D as % of sector value
Private	6,961,644,605	37,251,663	0.54%
Public	8,323,879,000	12,996,567	0.16%
Total	15,285,523,605	50,248,230	0.33%

RESULTS: SPEND ON WASTE HCD

- Spend on waste-related Human Capital Development (HCD) equates to 2.8% of the value of the sector
- Public sector showed 4x greater spend on HCD, yet still shows a greater % of unskilled employees

Waste Sector	Sector value [R]	Waste HCD [R]	Waste HCD as % of sector value
Private	6,961,644,605	84,396,037	1.21%
Public	8,323,879,000	344,166,234	4.13%
Total	15,285,523,605	428,562,271	2.80%

CONCLUSIONS

- Formal SA waste sector employs upwards of **29,833 people**
- Minimum financial value of formal waste sector is **R15.3 billion** (or 0.51% of GDP)
- Majority of revenue and employees in **large enterprises** and **metropolitan municipalities**
- While we've seen financial growth of the sector this is not matched by employment growth
- “Young waste companies” (<5 years old) contributed ~R188 million into the economy in 2012.

CONCLUSIONS

- Waste Sector Survey establishes a baseline of the South African Waste Sector as at 2012
 - creates a baseline against which to track investment in waste research, development and innovation, and human capital development
- This understanding of the sector –
 - creates the opportunity for dialogue between industry, government and society around labour and business
 - identifies areas that require intervention and support

FOR MORE INFORMATION

South African Waste Sector – 2012

An analysis of the formal private and public waste sectors in South Africa

A National Waste Research, Development (R&D) and Innovation Roadmap for South Africa:

Phase 1: Status Quo



science
& technology

Department:
Science and Technology
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Thank you

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