

WASTE KHORO 2019: Asbestos and Land Remediation Summit  
18-20 September 2019

"Good Green Deeds towards a Recycling Economy and Sustainable Land Remediation"



# SOUTH AFRICA STATE OF WASTE REPORT

Waste Khoro 2019: Asbestos and Land Remediation  
Kimberly Northern Cape



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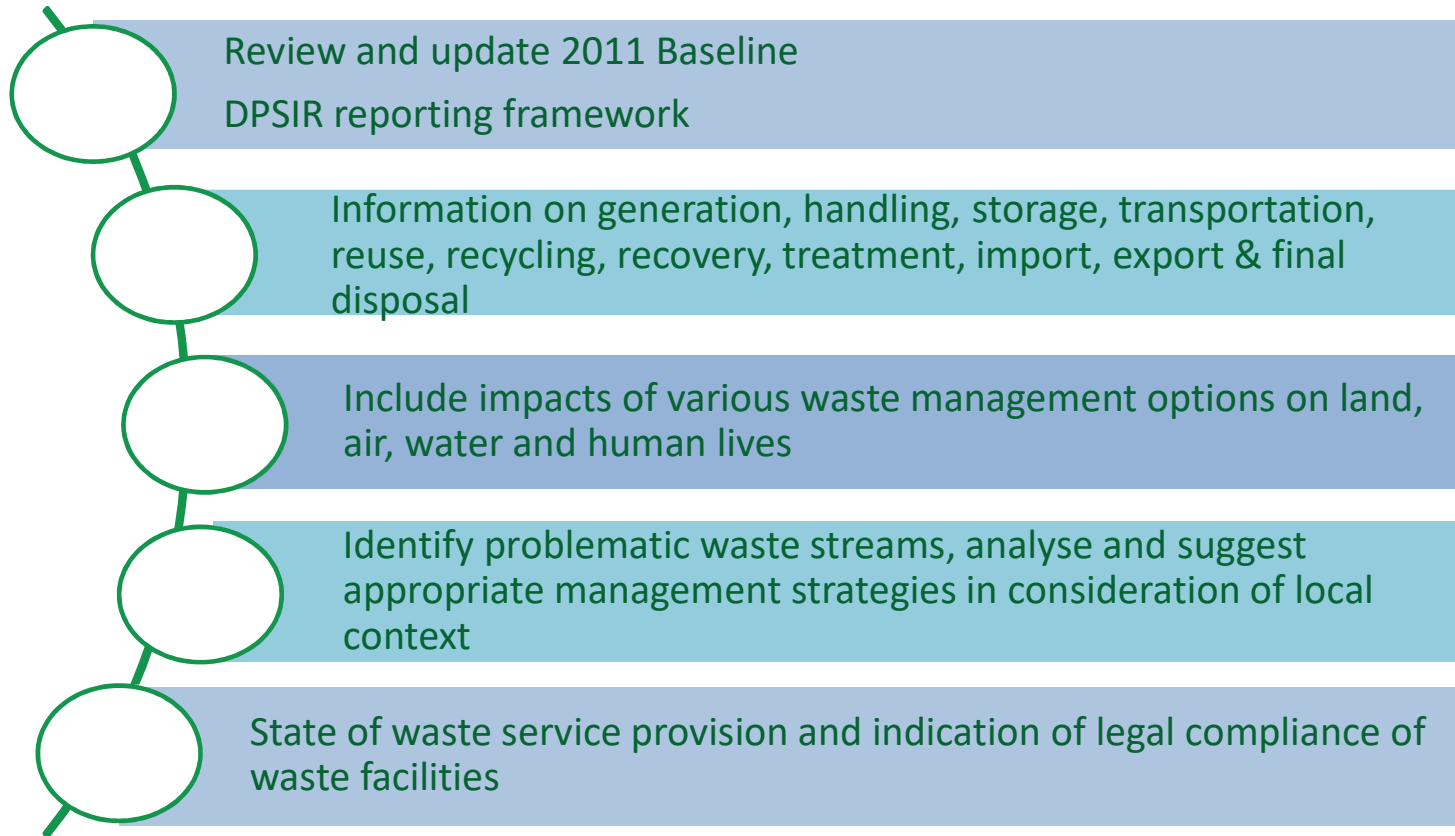
# Historical Waste Reporting



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# SCOPE



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## WASTE KHORO 2019: Asbestos and Land Remediation Summit

"Good Green Deeds towards a Recycling Economy and Sustainable Land Remediation"

# Approach to the Project

### Phase 0

- Inception

### Phase 1

- Draft Zero Report
- Stakeholder engagement

### Phase 2

- Stakeholder consultation workshop: 9 May 2018
- Draft 1 SoWR

### Phase 3

- 2<sup>nd</sup> consultation workshop
- Draft 2 SoWR
- 29 Aug - Gov
- 30 August 2018

### Phase 4

- Final version of SoWR: November 2018

# STAKEHOLDER ENGAGEMENT & DATA COLLECTION

## National Government & Services

NEMA Schedule 1 & 2 National Departments  
 State Owned Entities (SoEs)  
 DEA: Chemicals & Waste Management Department  
 Waste Bureau  
 International Trade Administration Commission of South Africa (ITAC)  
 South African Revenue Service (SARS)  
 Council for Scientific and Industrial Research (CSIR)  
 South Africa Local Government Association (SALGA)

## Provincial Departments & Agency

KZN: EDTEA  
 Limpopo: LEDET  
 Mpumalanga: DARDLEA  
 Northern Cape: DENC  
 North West: READ  
 Eastern Cape: DEDEAT  
 Western Cape: EADP  
 Gauteng: GDARD  
 Free State: DETEA  
 Gauteng Infrastructure Financing Agency (GIFA)

## Organisations & Waste Associations

IWMSA	POLYCO
Paper: PRASA	Polystyrene SA
Chamber of Mines	ROSE Foundation
e-Waste: eWASA	SAPRO
Polystyrene: EPSASA	TGRC
Green Building Council	E-Waste Regulatory Authority
GreenCape Association	SAEWA (WEEE Recycling)
MetPac SA	RECLAM
Packaging SA	Wits (Dr Melanie Samson)
PETCO	
Plastics SA	

- Letters from DEA
- Meetings with stakeholders
- Engaged with metropolitan municipalities, district municipalities and local municipalities
- Literature research
- Data collection
- Invitation to the workshop



# STRUCTURE OF THE REPORT (DPSIR FRAMEWORK)



Chapter 1: Introduction

Chapter 2: Drivers and Pressures

Chapter 3: State

Chapter 4: Impacts

Chapter 5: Responses

Chapter 6: Conclusion

- References

- Appendices

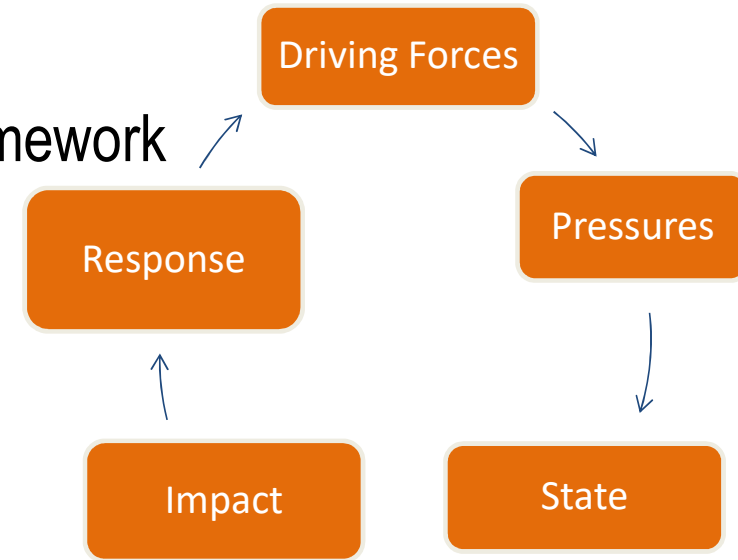
Data Sources & Methodology for Calculations



# CHAPTER 1: INTRODUCTION



- DPSIR Reporting Framework
- Purpose
- Methodology
- Report Structure
- SoWR varies from the 2012 Baseline Report



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# CHAPTER 1: INTRODUCTION



## 2011 Baseline

- 108M tonnes/yr
  - 59M tonnes general waste
  - 1M tonnes hazardous waste
  - 48M tonnes unclassified waste
- 10% is recycled
- 826 landfills



## CHAPTER 2: DRIVERS AND PRESSURES



- Population
  - Size
  - Growth
  - Density
- Economy
- *Income*
- Urbanisation
- *Globalisation*
- *Developing Context*



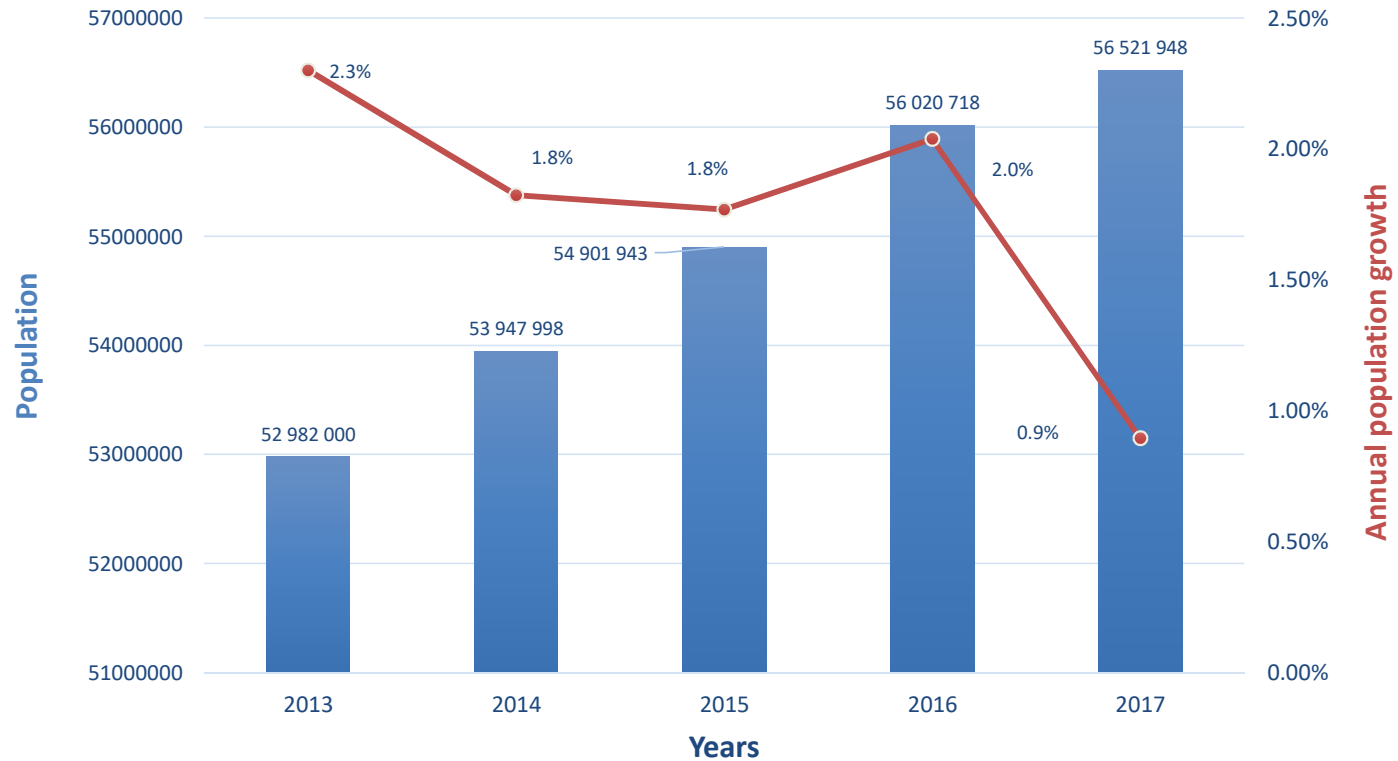
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# CHAPTER 2: DRIVERS AND PRESSURES

## Population

- Size
- Growth



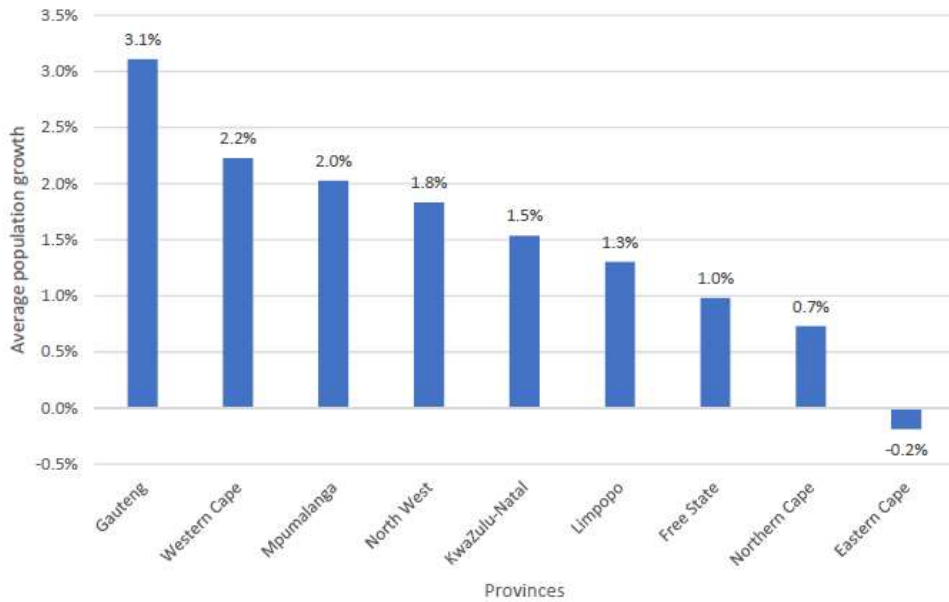
Estimated total population and annual growth from 2013-2017



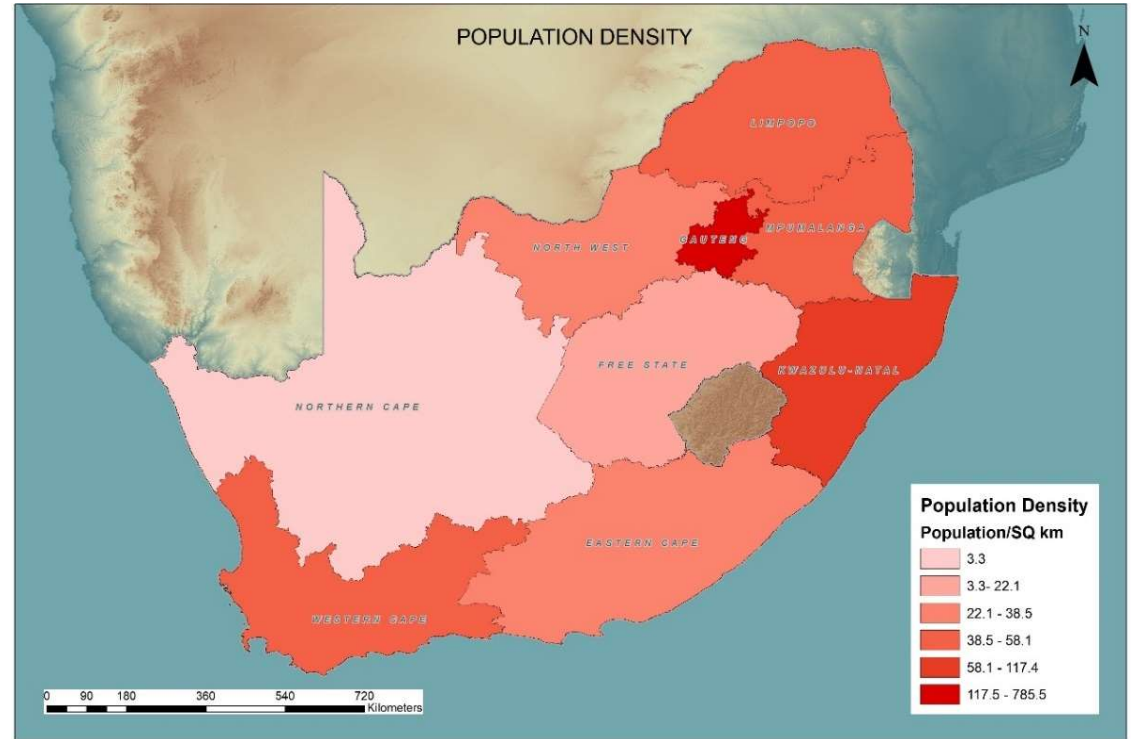
# CHAPTER 2: DRIVERS AND PRESSURES

## Population

- Growth
- Density



Average population growth by province from 2013-2017

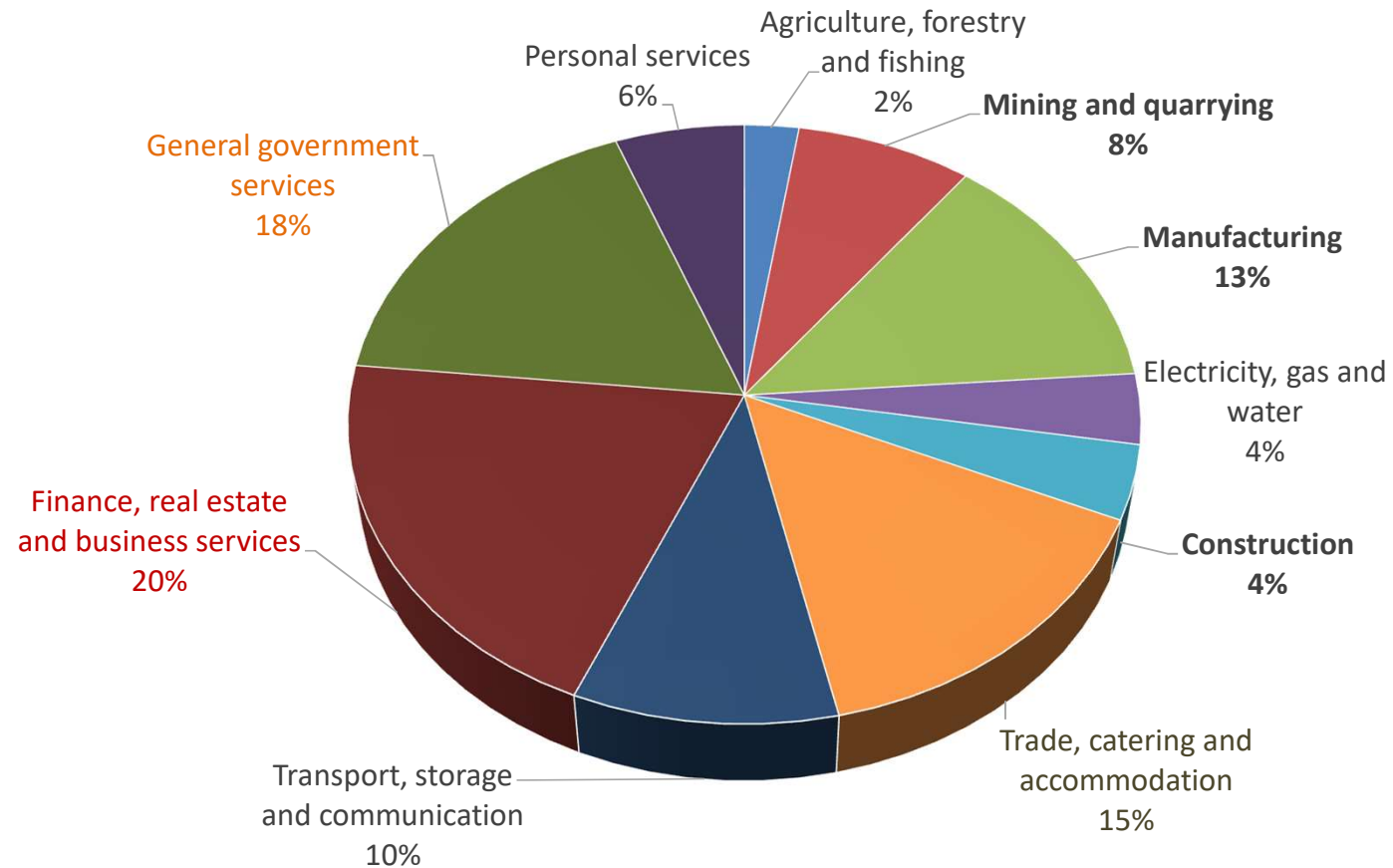


Population density of each province in 2017



## CHAPTER 2: DRIVERS AND PRESSURES

- Economy

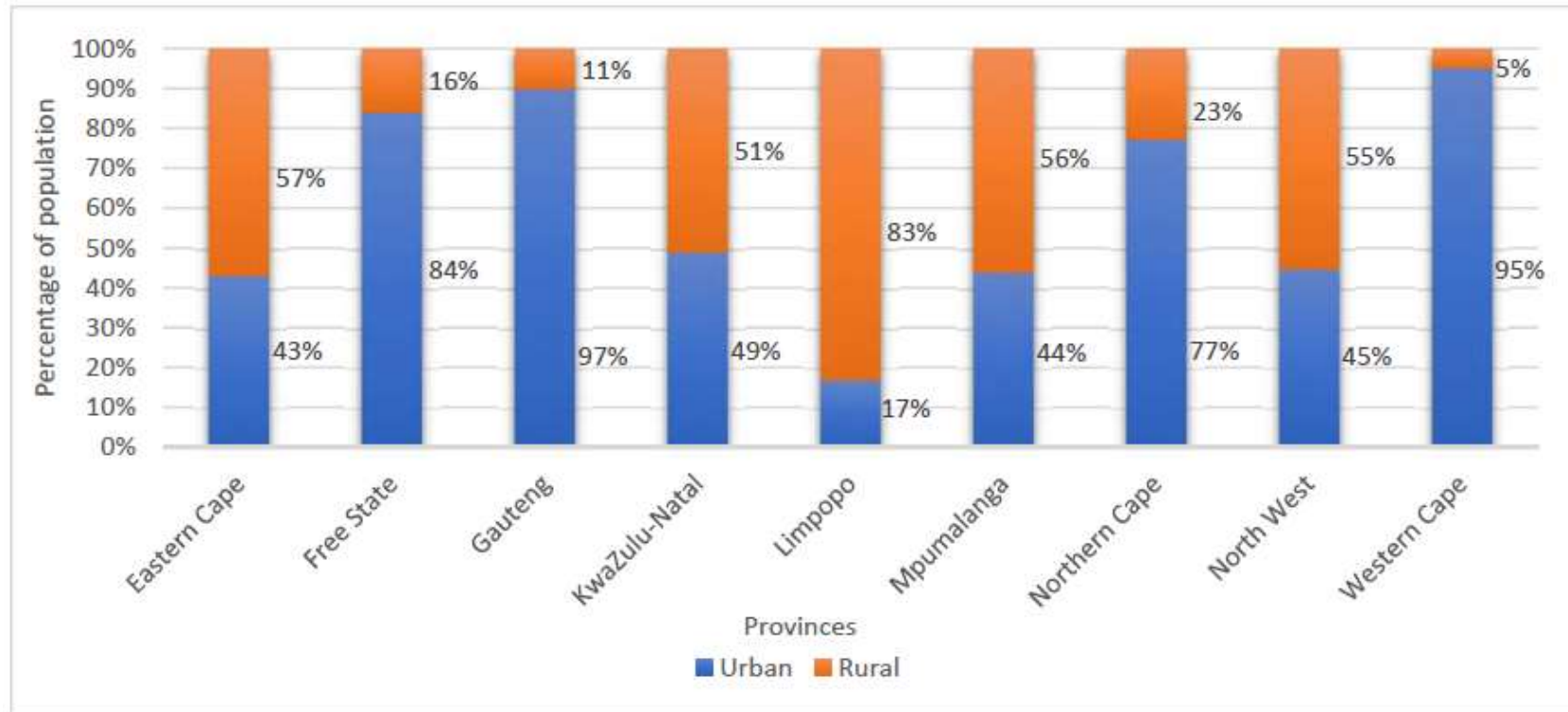


Contribution of key economic sectors to the national GDP in 2016



## CHAPTER 2: DRIVERS AND PRESSURES

- Urbanisation



Percentage of population living in urban and rural areas



## CHAPTER 3: STATE



- Waste Types
- Waste Generation
- Trends
- Waste Collection Services
- Waste Management Facilities
- Status of Compliance
- *State of the Formal and Informal Sector*



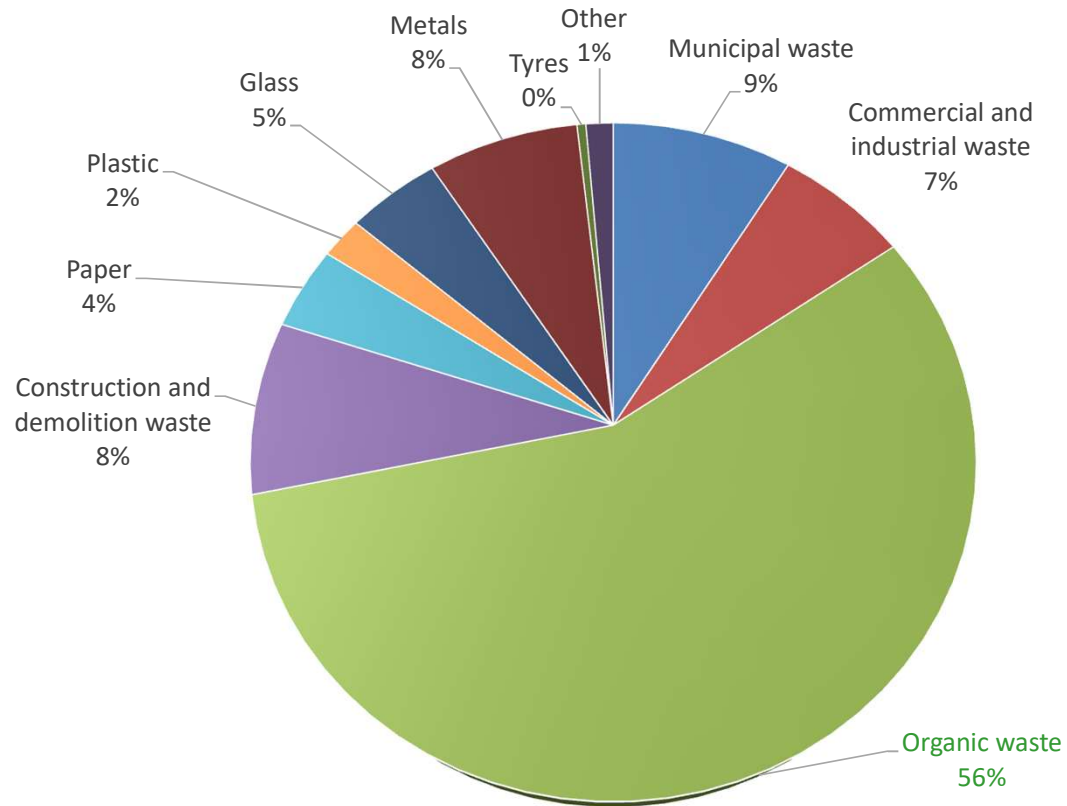
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# CHAPTER 3: STATE

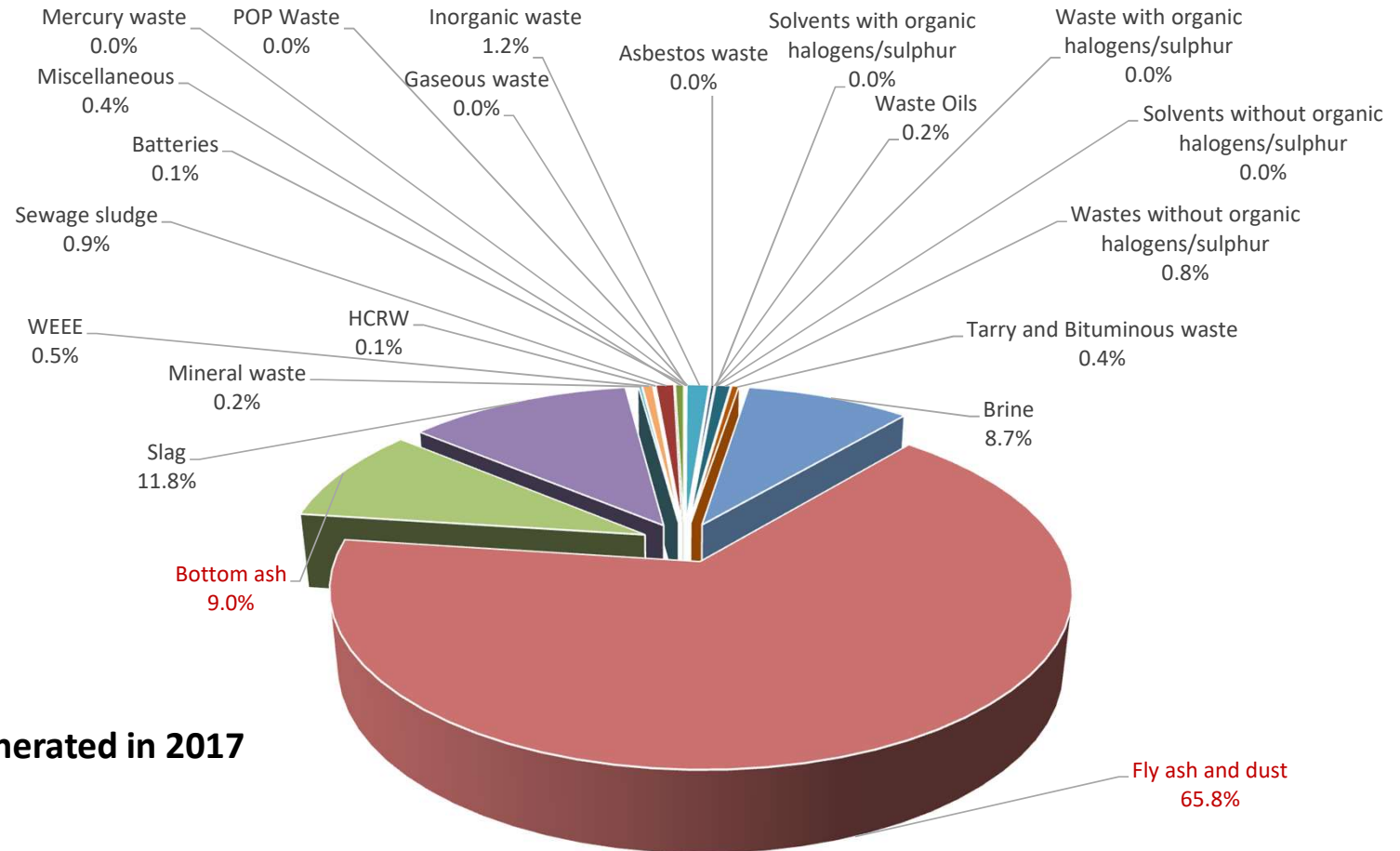
- Waste Composition

Breakdown of general waste generated in 2017



# CHAPTER 3: STATE

## Waste Composition

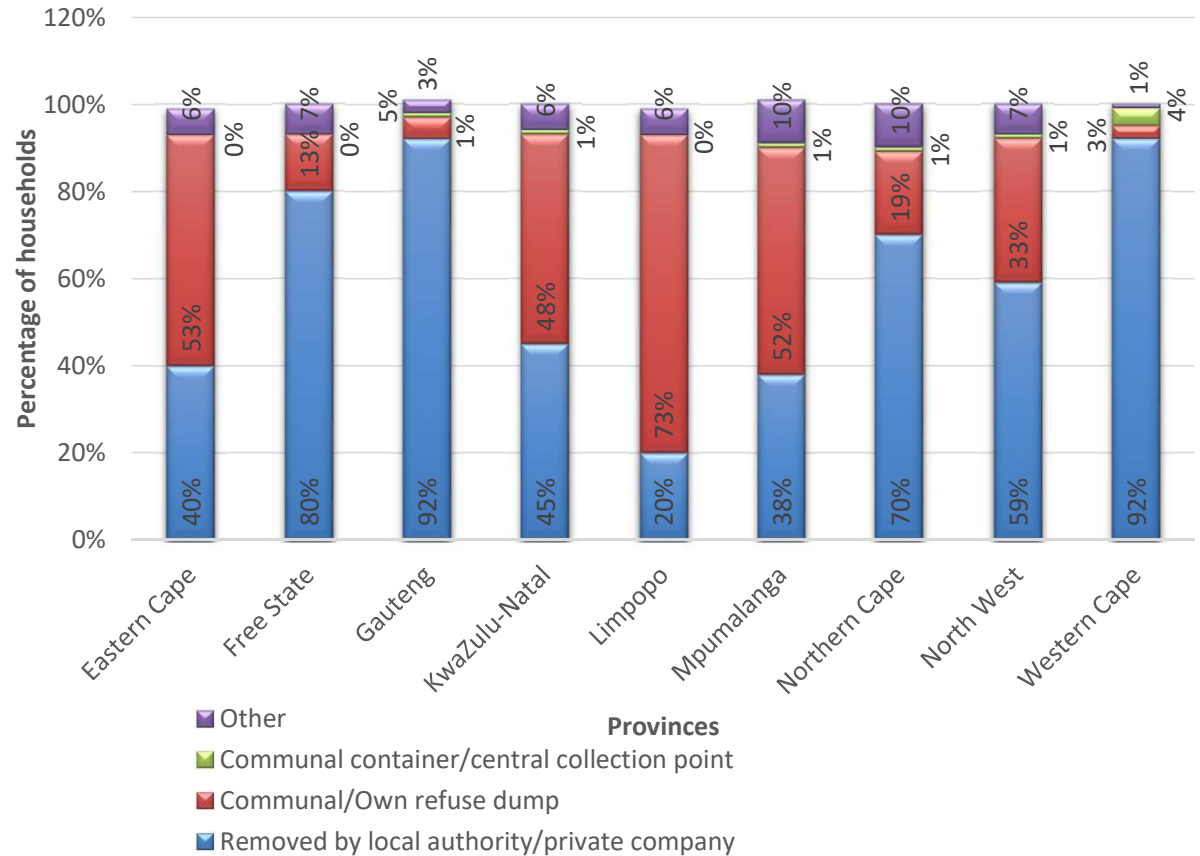


Breakdown of hazardous waste generated in 2017



# CHAPTER 3: STATE

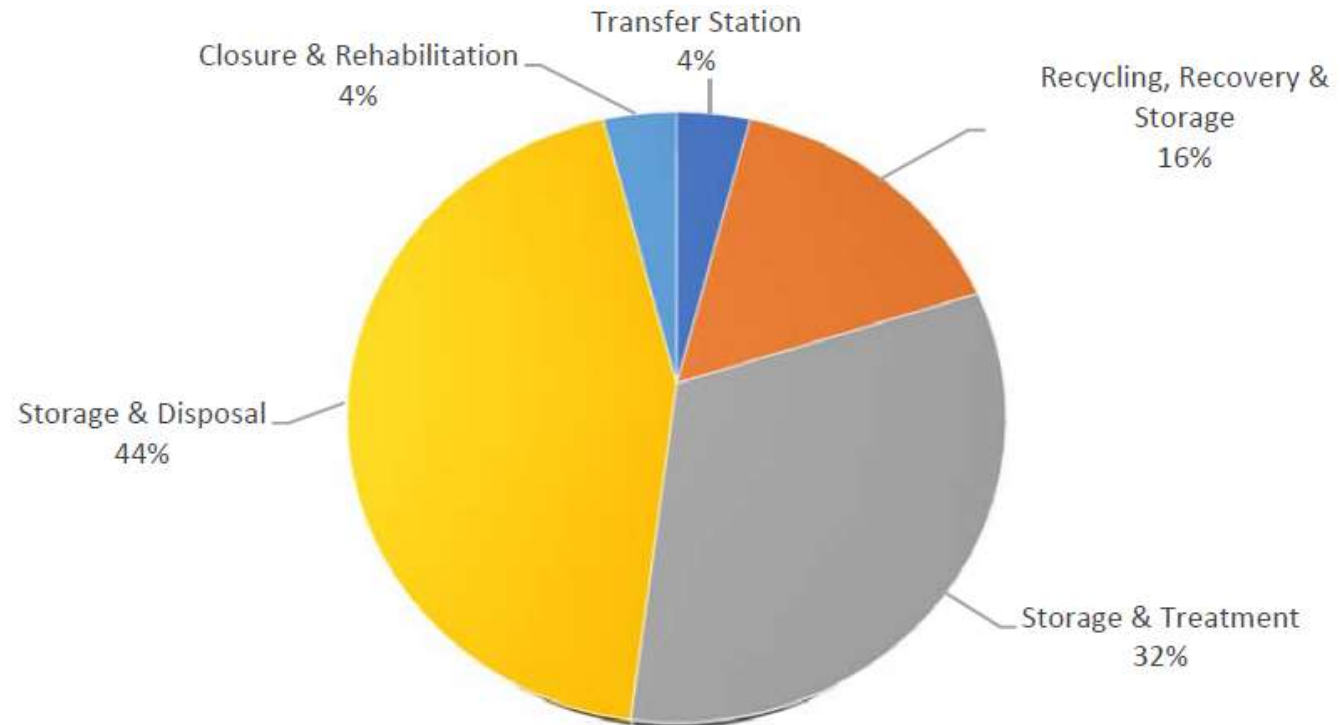
- **Waste Collection Services**
- *National Domestic Waste Collection Standards (RSA, 2011)*
- In 2016, ± 60% of households had their waste collected by the local authority



**Breakdown of waste collection services in each province**

## CHAPTER 3: STATE

- **Level of Compliance**
- Private facilities
  - High level of compliance with license conditions
- Few issues - management & monitoring

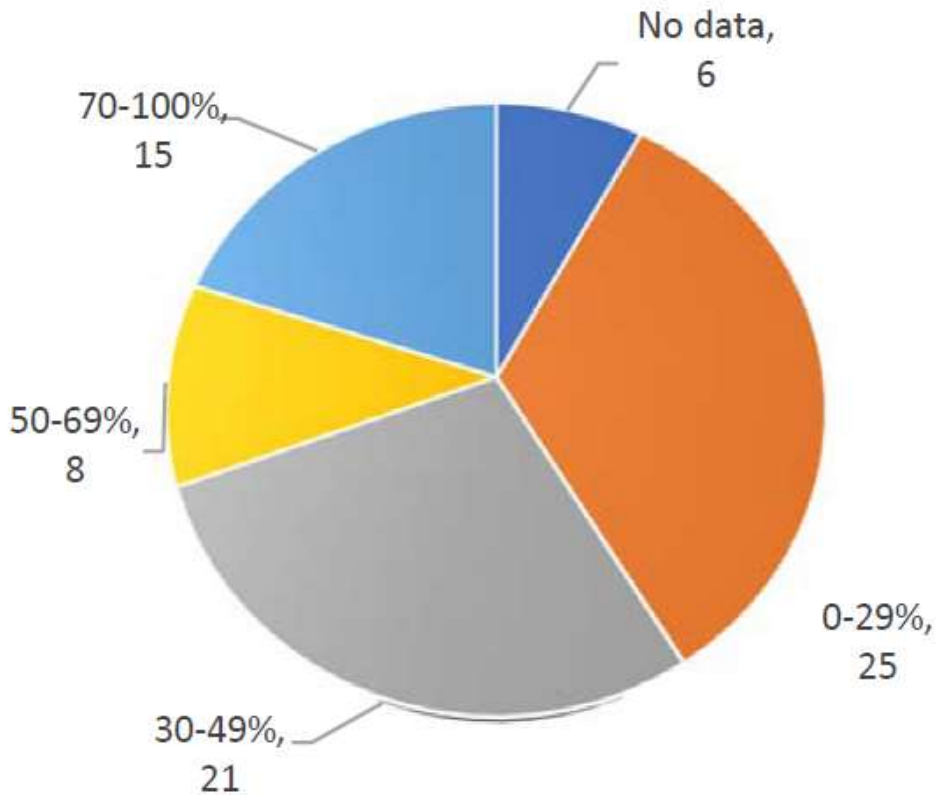


Breakdown of external audits reports reviewed by type of waste management facility



## CHAPTER 3: STATE

- **Level of Compliance**
- Public facilities
  - 75 sites assessed
  - Low level of compliance with license conditions

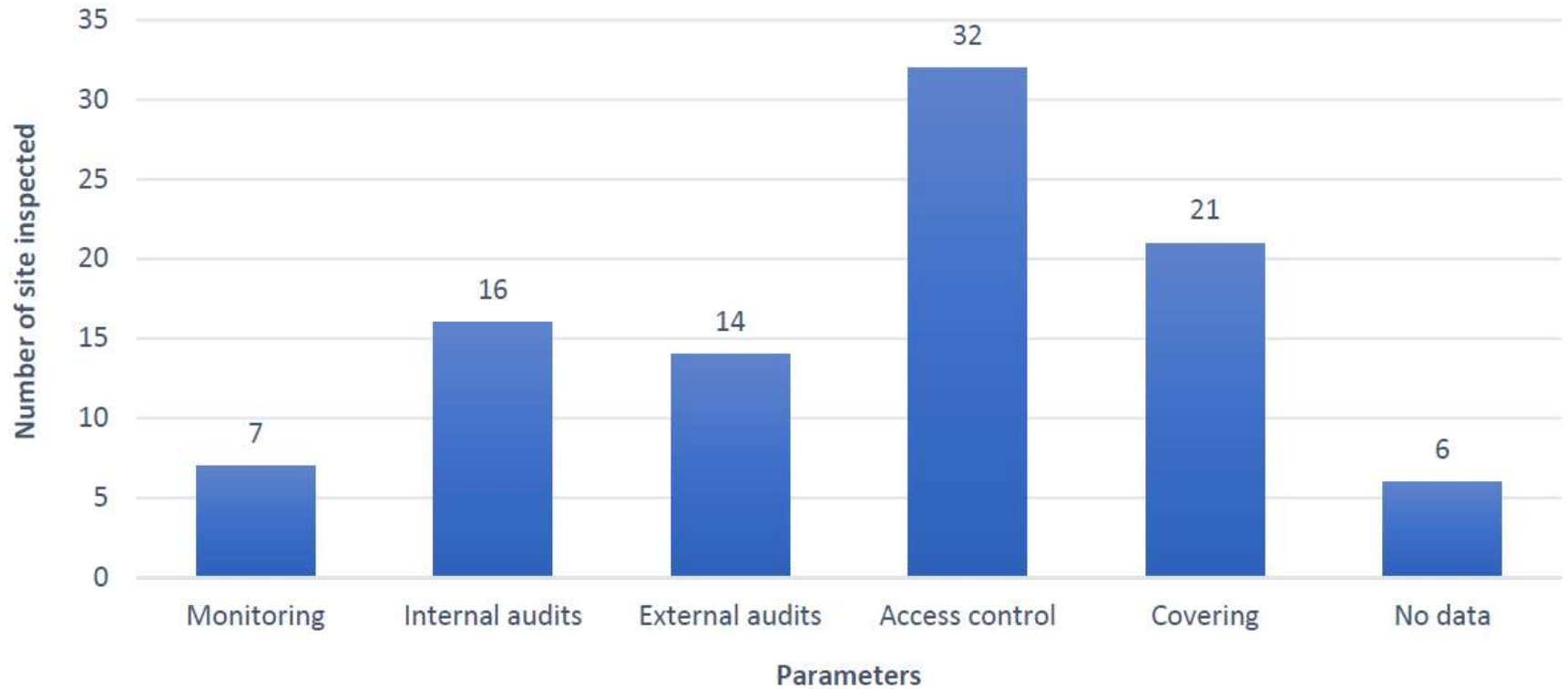


**Level of compliance of the public waste management facilities inspected**



## CHAPTER 3: STATE

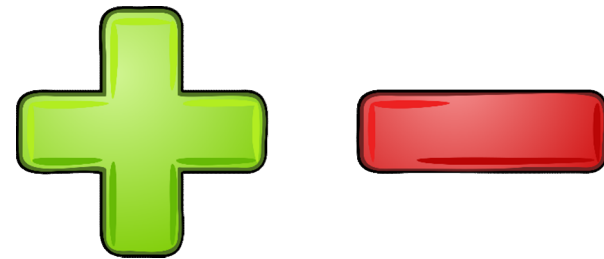
- Level of Compliance
- Public facilities



**Sites with non-compliant conditions at the public waste management facilities inspected**



# CHAPTER 4: IMPACTS



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## CHAPTER 4: IMPACTS



- Air Quality
  - Landfills and WWTWs
    - Greenhouse Gas Emission
      - $\text{CH}_4$ ,  $\text{CO}_2$ , N, VOCs
    - Odour Nuisance
  - Incineration
    - Criteria, acid and metal gases, and dioxins & furans



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## CHAPTER 4: IMPACTS

- **Water Quality**
- Groundwater monitoring undertaken at 17/25 of external audit reports reviewed.
- Non-compliance at 7.
- No significant pollution incidents.
- At 2 sites with issues of upstream pollution.



- **Land Use**
- **Littering and Illegal Dumping**

## CHAPTER 5: RESPONSES



- Legislative Instruments
- Economic Instruments
- Compliance and Enforcement
- Avoidance, Recycling & Recovery
- Capacity Building and Awareness Raising Campaigns
- Informal Sector
- Operation Phakisa



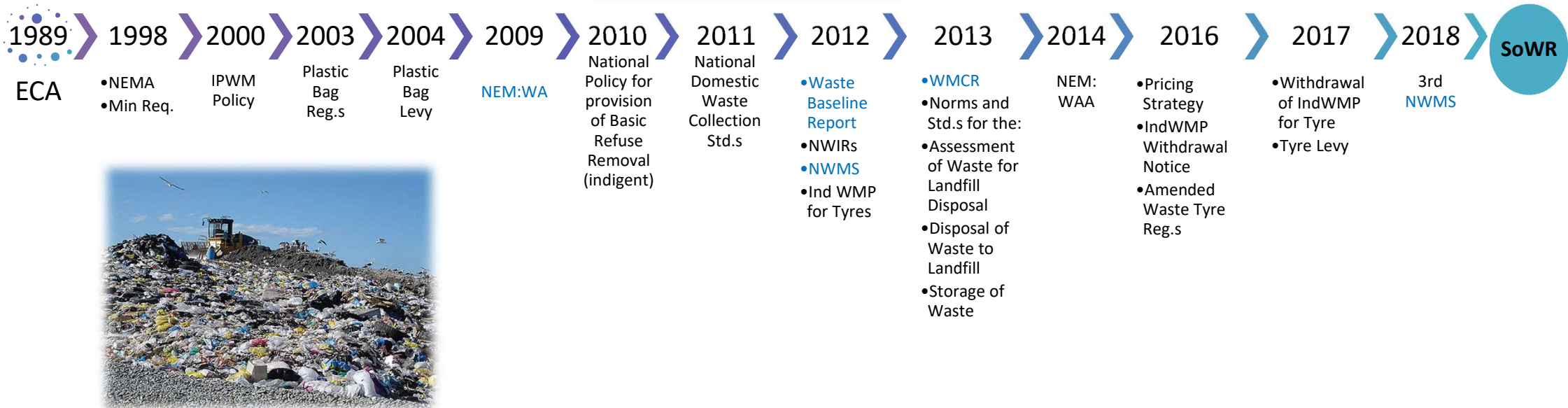
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# CHAPTER 5: RESPONSES

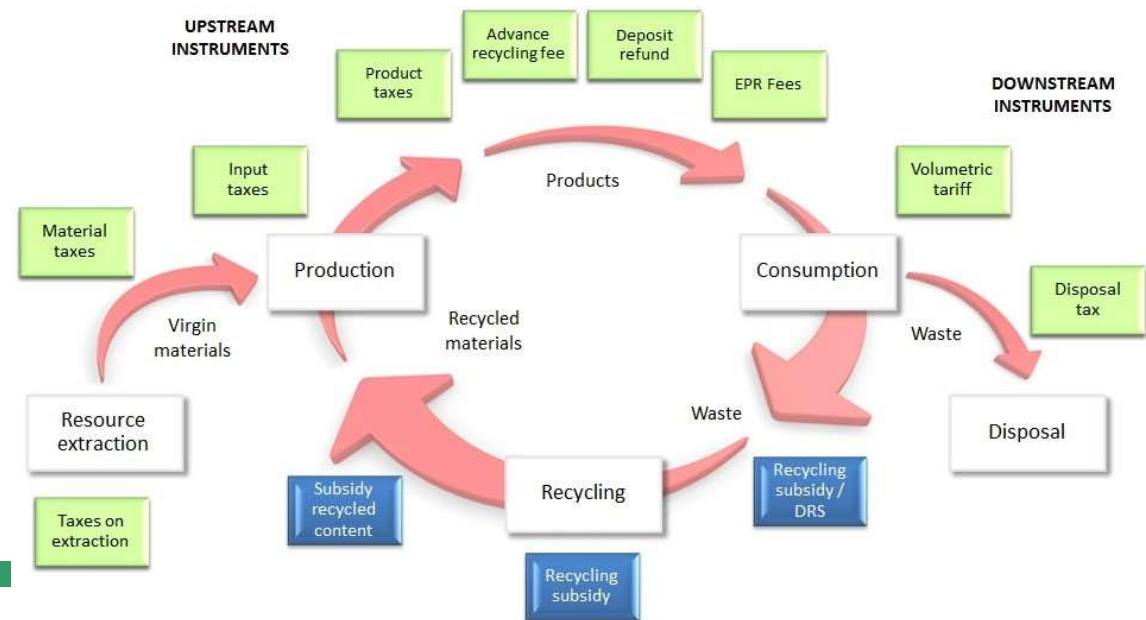
- Legislative Instruments



# CHAPTER 5: RESPONSES



- Economic Instruments
- Avoidance, Recycling & Recovery



## CHAPTER 5: RESPONSES

- **Operation Phakisa**
  - fast track the implementation of solutions on critical development issues
- Based on 24 waste areas identified in the Waste RDI Roadmap (2011)
  - Organic waste (food and abattoir waste);
  - Municipal waste;
  - Tyres;
  - Mineral waste;
  - Plastic;
  - Construction and demolition waste;
  - Ash;
  - Sewage sludge;
  - WEEE;
  - Glass (within packaging);
  - Slag (beneficiation opportunity); and
  - Paper (within packaging).

## CHAPTER 6: So What?

- **We need to ...**
  - Improve compliance, enforcement & waste collection in rural areas.
  - Focus on problematic wastes & the informal sector for recycling.
  - Improve education & awareness of 3Rs.
- **South Africa is making a move...**
  - ... from landfilling (90% in 2011) to recycling (almost 40% in 2017) for general waste.





# Thank You

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