

# Composition and Value of waste in landfills in SA

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From Mining to Urban Mining  
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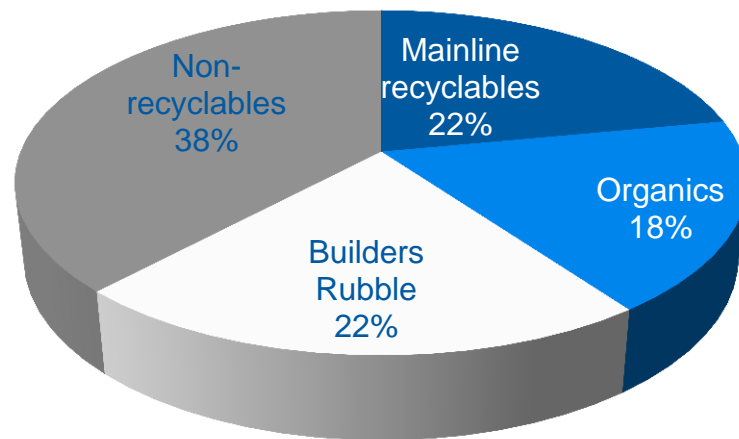
Research Group Leader: Waste for Development  
Competency Area: Solutions for a Green Economy

# Statistics

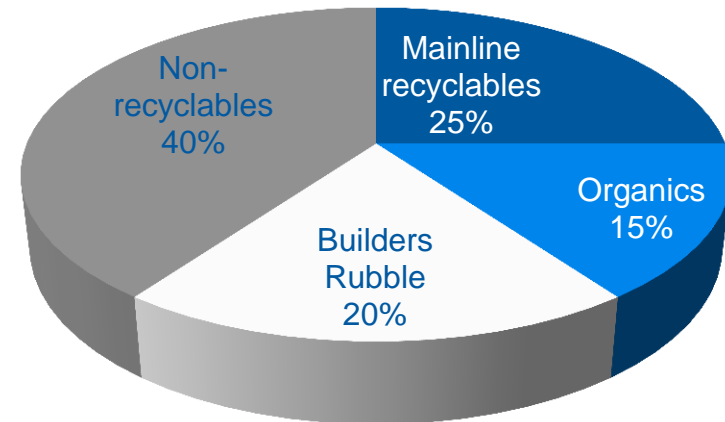
- 108 million tonnes of waste generated per annum (2011)
- 90% of this waste is disposed to landfill (2011)
- 20 million tonnes/annum is municipal solid waste (2011)
  - High income = 1.29 kg/person/day
  - Middle income = 0.74 kg/person/day
  - Low income = 0.41 kg/person/day
- R339 per tonne cost of disposal (2011)
- 50.5% post-consumer packaging waste recycled in 2012
- 70-90% of packaging waste recycled is sourced from informal collectors (2012)

# Municipal waste composition (Percentage by Mass)

## Cape Town



## Gauteng



### Note:

1. From domestic commercial and industrial sources
2. Mainline recyclables in this comparison include Paper, Plastic, Glass, Tins and Tyres

### Sources:

- <sup>1</sup>GWMP Status Quo, 2008
- <sup>2</sup>Wise et al, 2011

# Domestic waste composition as % by weight

	Paper	Plastic	Glass	Metal	Organic	Other
Cape Town	24	15	12	7	32	9
Western Cape	24	22	9	8	22	16
Northern Cape	21	18	10	3	10	39
Free state	14	12	8	6	42	19
North West	11	9	6	2	58	14
Johannesburg	17	10	5	3	36	30

**Note:**

Cape Town – average of 3 different studies

Western Cape – average of Characterization studies in 5 District municipalities and average City of Cape Town

Northern Cape – data for Sol Plaaityje LM

Free State – Average of Mangaung and 1 District municipality

North West – NWP IWMP, 2008

Johannesburg – Jarrod Ball and Ass, 2001

# Pickers at landfill



# Value of waste as a resource

- Estimated resource value of the waste is R25.2billion per annum (0.86% of GDP)
  - Recycling at  $\pm 10\%$  (as at 2011 baseline) unlocked R8.2 billion/year worth of resources into the South African economy
  - There is potential to recover a further R17 billion per annum worth of resources back into the economy

# How to grow recycling in SA

- Supply side
  - Investment in collection infrastructure
  - Creating entrepreneurial opportunities, for example in collection and sorting of activities
  - Policies and incentives driving separation and collection system at the household and municipal levels
- Demand side
  - Innovative uses of recycled materials in SA
  - Development of innovative new high quality products using recycled content

# Conclusion

- There is potential to recover a further R17 billion per annum worth of resources back into the economy
- Investment in collection infrastructure is required
- Creation of entrepreneurial opportunities
- Design for recycling
- Creation of markets for recycled materials
  - Replacing virgin materials with recyclate
  - Develop new innovative high quality recycled products



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# Thank You

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