



POLICY AND STRATEGY RESPONSE TO CLIMATE CHANGE

Development Planning, Transportation and Environment

Environmental Planning & Management

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Joburg



OUTLINE OF PRESENTATION

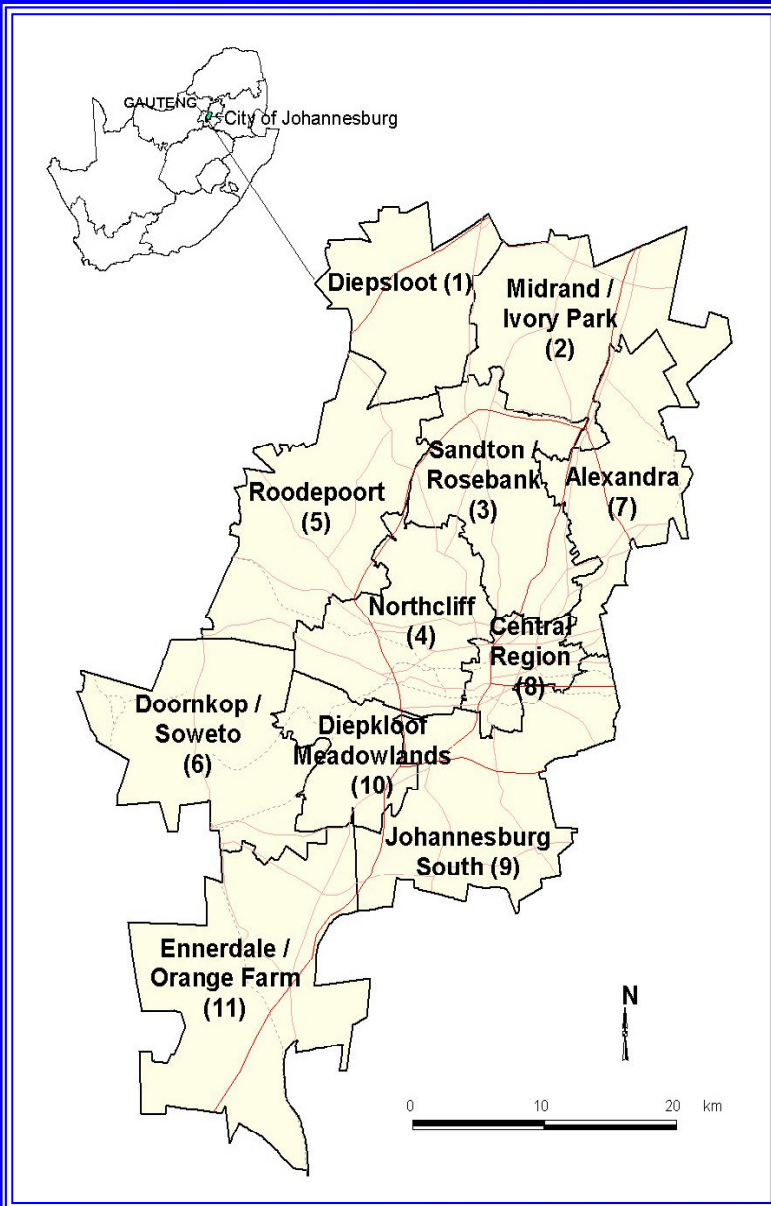


- ***Some facts about Joburg***
 - ***Consumption patterns in Joburg***
 - ***Interventions to address climate change***
 - ***Air Quality Management***
 - ***Cleaner Production Policy and implementation***
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Map of South Africa showing location of Johannesburg



ORIENTATION MAP OF CITY OF JOBURG



SOME FACTS ABOUT JOBURG

- **Population = 3.2 million people**
 - **53% in previously disadvantaged areas**
 - **1 006 930 households**
 - **16% of South Africa's GDP**
 - **City budget R19billion equivalent to USD 3b**
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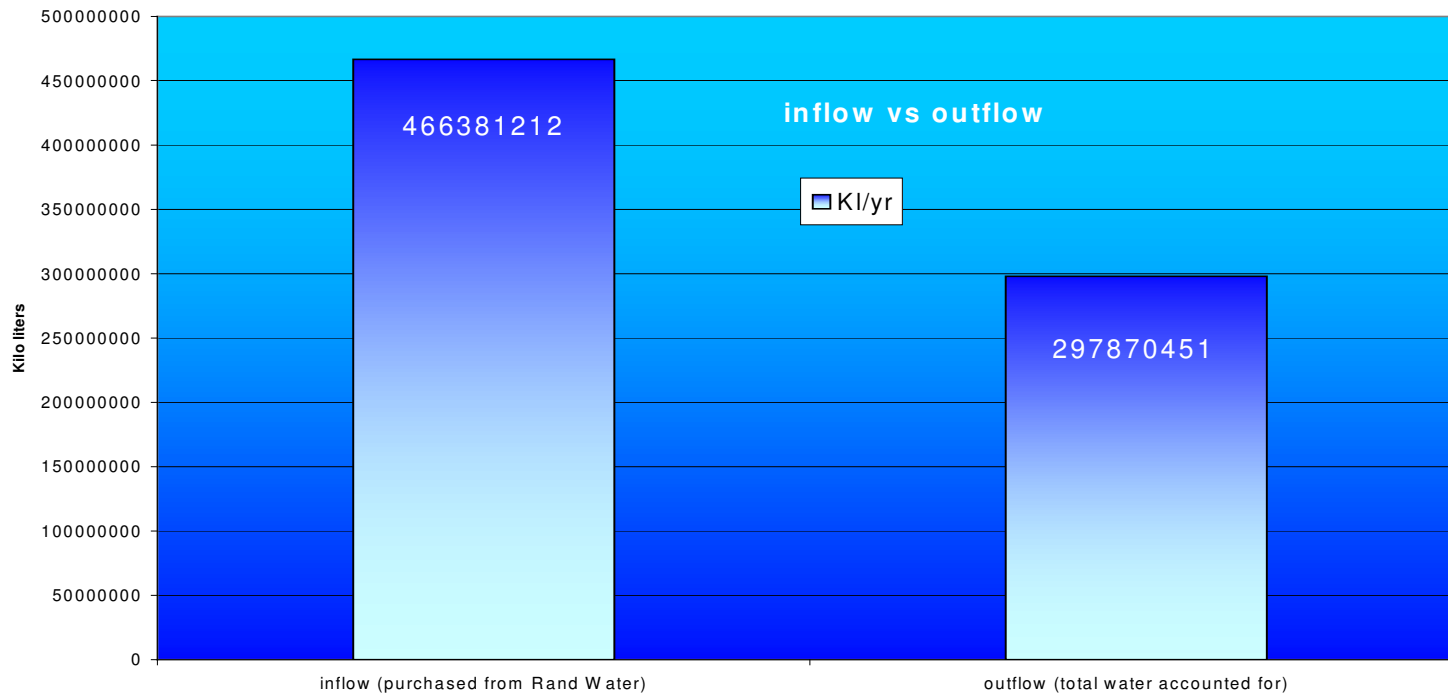
VISION

A world class African city

Mayoral priorities

- **Economic development and job creation**
- **Bylaw enforcement**
- **Service delivery excellence**
- **Good governance and customer care**
- **Inner City**
- **HIV/AIDS**

CONSUMPTION PATTERNS- WATER

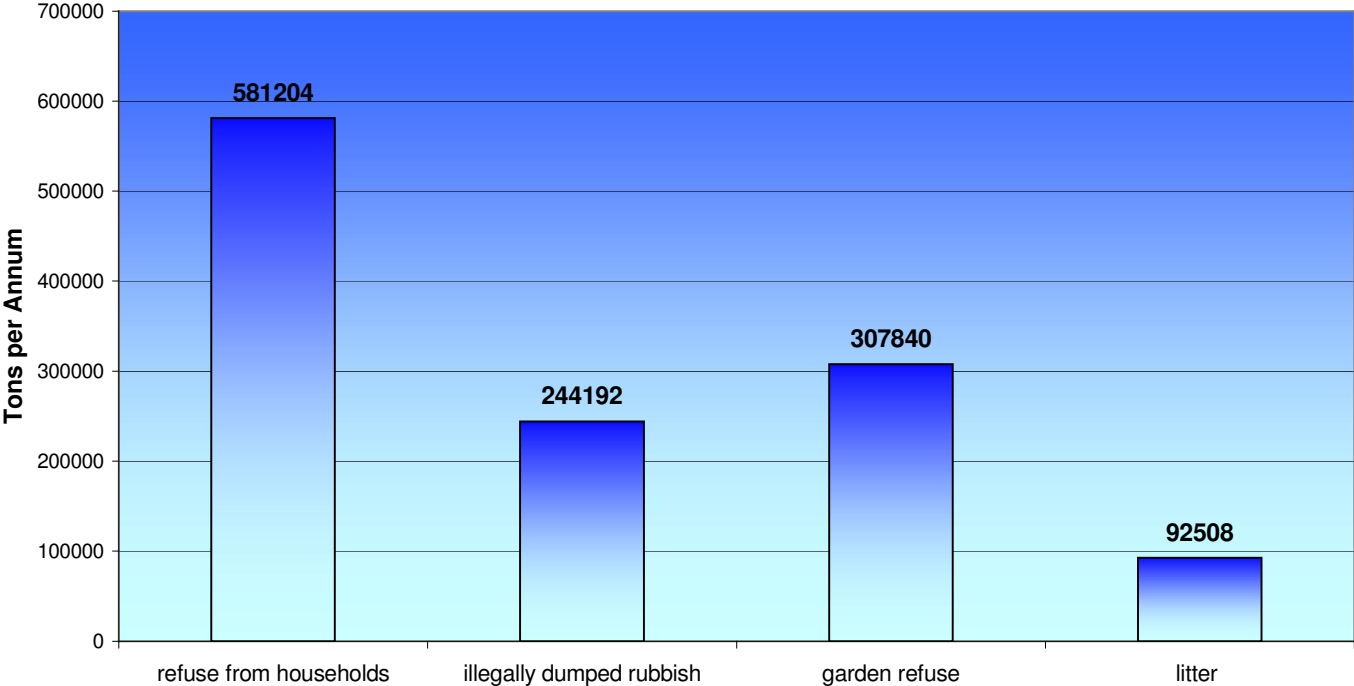


- 3000ML purchased annually distributed in 9500KM of reticulation
- 48 kL per household per month
- 43 % losses (14% international benchmark)
- 891 ML treated per day in 6 waste water treatment works through a network of 9000 sewer reticulation pipelines

CONSUMPTION PATTERNS- WASTE



Annual Waste Generation Figures



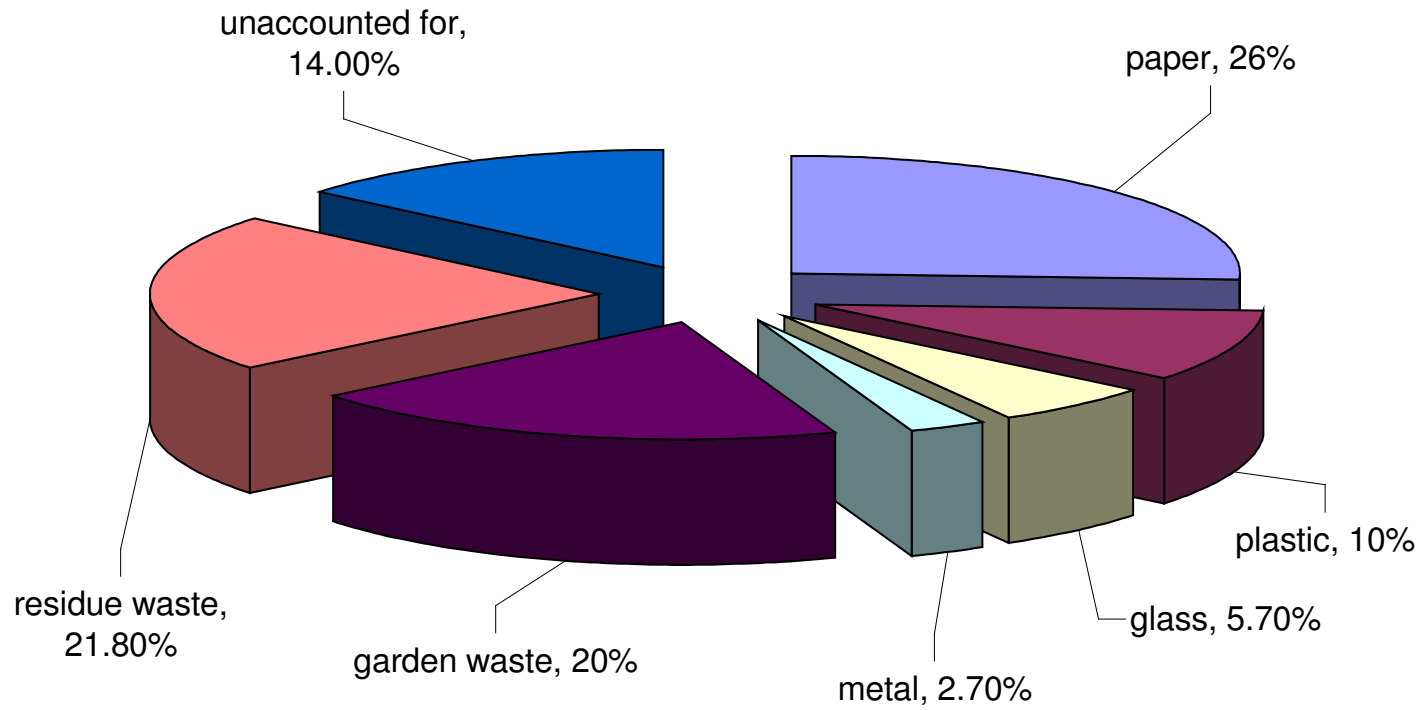
LANDFILL AIRSPACE UTILISATION



<i>Name of Landfill</i>	<i>Region</i>	<i>Rate of Deposition(t onnes/day)</i>	<i>Annual Deposition (tonnes/ year)</i>	<i>Air space utilisation (M³ per year)</i>
<i>Robinson Deep</i>	<i>8</i>	<i>1626</i>	<i>422 800</i>	<i>352 333</i>
<i>Marie Louise</i>	<i>4</i>	<i>1421</i>	<i>369 400</i>	<i>307 833</i>
<i>Goudkoppies</i>	<i>10</i>	<i>1163</i>	<i>302 500</i>	<i>252 083</i>
<i>Linbro Park</i>	<i>7</i>	<i>1306</i>	<i>339 500</i>	<i>282 017</i>
<i>Ennerdale</i>	<i>11</i>	<i>312</i>	<i>81 200</i>	<i>67 667</i>
TOTAL		5824	1 515 400	1300 333

CONSUMPTION PATTERNS- WASTE BREAKDOWN

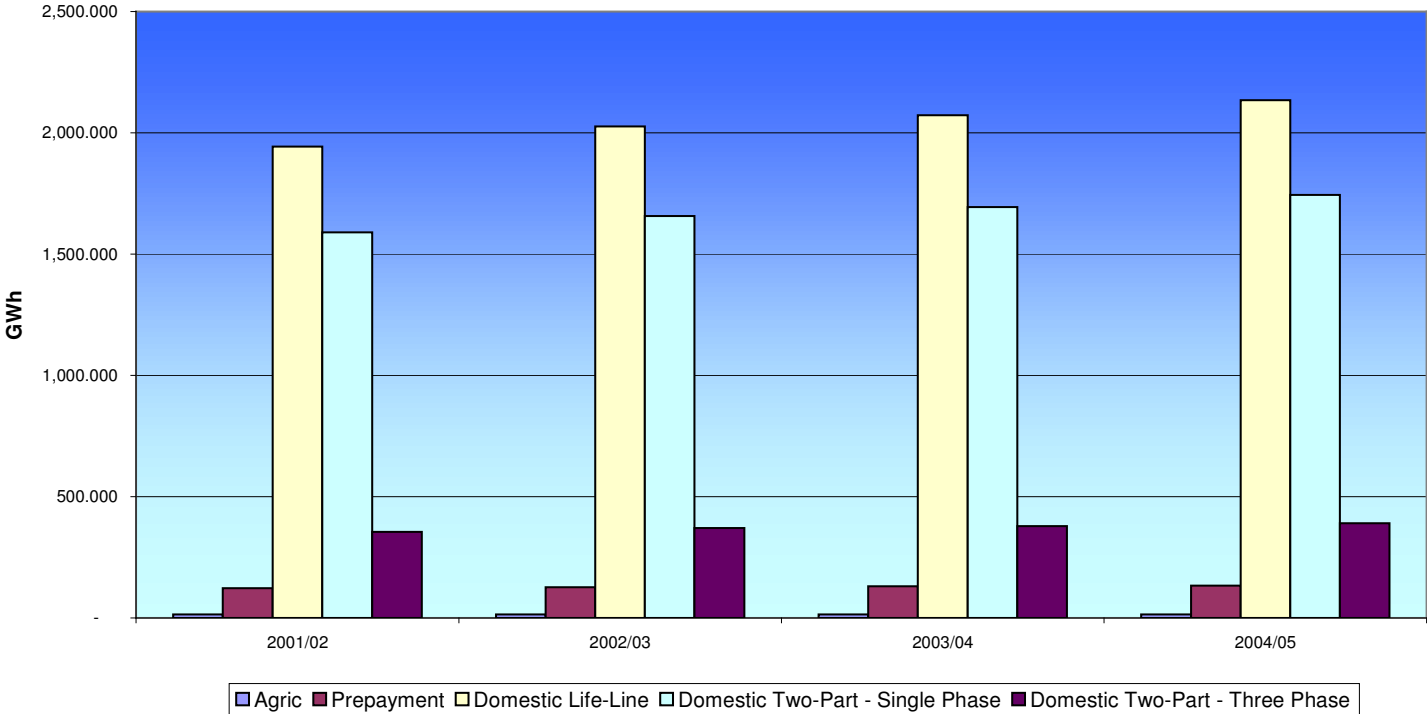
Waste breakdown (Pikitup)



CONSUMPTION PATTERNS- ELECTRICITY



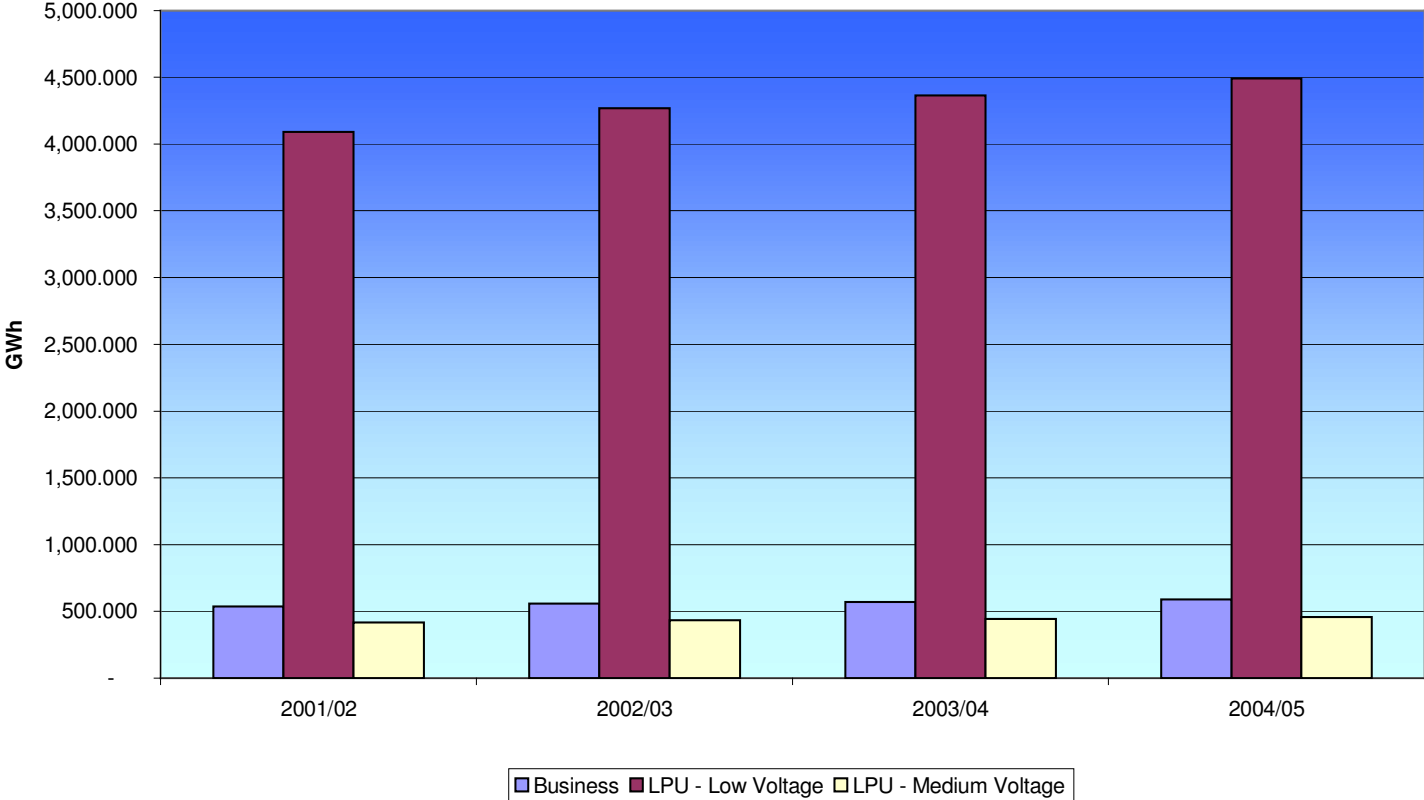
Residential Energy Consumption



CONSUMPTION PATTERNS- ELECTRICTY



Commercial Energy Consumption



MAJOR ENERGY INFRASTRUCTURE



1. Kelvin Power Station

- **fully privatised**
- **Power purchase agreement with City Power**
- **Over R50million being spent to reduce emissions**

2. iGoli Gas Works

- **fully privatised**
- **Service delivery agreement with SASOL**

3. Diesel turbine

- **owned by City Power**
- **conversion programme to natural gas**

ENERGY SERVICE PROVIDERS AND SOURCES



- ***KELVIN POWER STATION-
1,2 million tons of coal/
year***

20/80 split

2. ESKOM- coal fired stations

ENERGY PRACTICES



Open air coal burning

Impact



Cities for Climate Protection



- **Programme started in 2001 and is funded by USAID**
 - **In Johannesburg, a number of implementation measures have been identified**
 - **CCP has been used to leverage other opportunities that aim to respond to the impacts of climate change**
 - **These have been in the form of policies and strategies for implementation**
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Benefits of the programme



- **Financial savings- save the cost of electricity**
 - **Job creation and local economic development**
 - **Reduced traffic congestion**
 - **Improved Local Air Quality**
 - **Enhanced urban/community livability**
 - **Awareness creation**
-

Programme Focus



CCP is guided by 5 Milestones viz

- **Preparation of an energy and emissions profile or inventory**
 - **Setting an emissions reduction target**
 - **Identification of emission reduction measures and development of local emissions reduction action plan (LAP)**
 - **Implementation of LAP measures to reduce GHG's**
 - **Monitoring and verification of progress on implementation of measures and review where necessary**
-

Profile of mitigation measures



<i>Projects implemented</i>	<i>Savings / costs</i>
<i>Retrofitting of council building</i>	<i>4646 tCO2</i> <i>R 4,1 million</i>
<i>Energy savings in water pump installation</i>	<i>Approximately 10% saving of energy cost or R 4-6million saving</i>
<i>Methane gas recovery</i>	

CONTEXT OF POLICY RESPONSES



- *Guided by the Integrated Environmental Management Policy of the city.*
- *The policy is a Statement of Intent, which sets out a vision of the kind of sustainable future towards which the City will strive. It identifies key areas of intervention for achieving this, together with certain targets against which to measure progress.*
- *Vision for the Policy is*

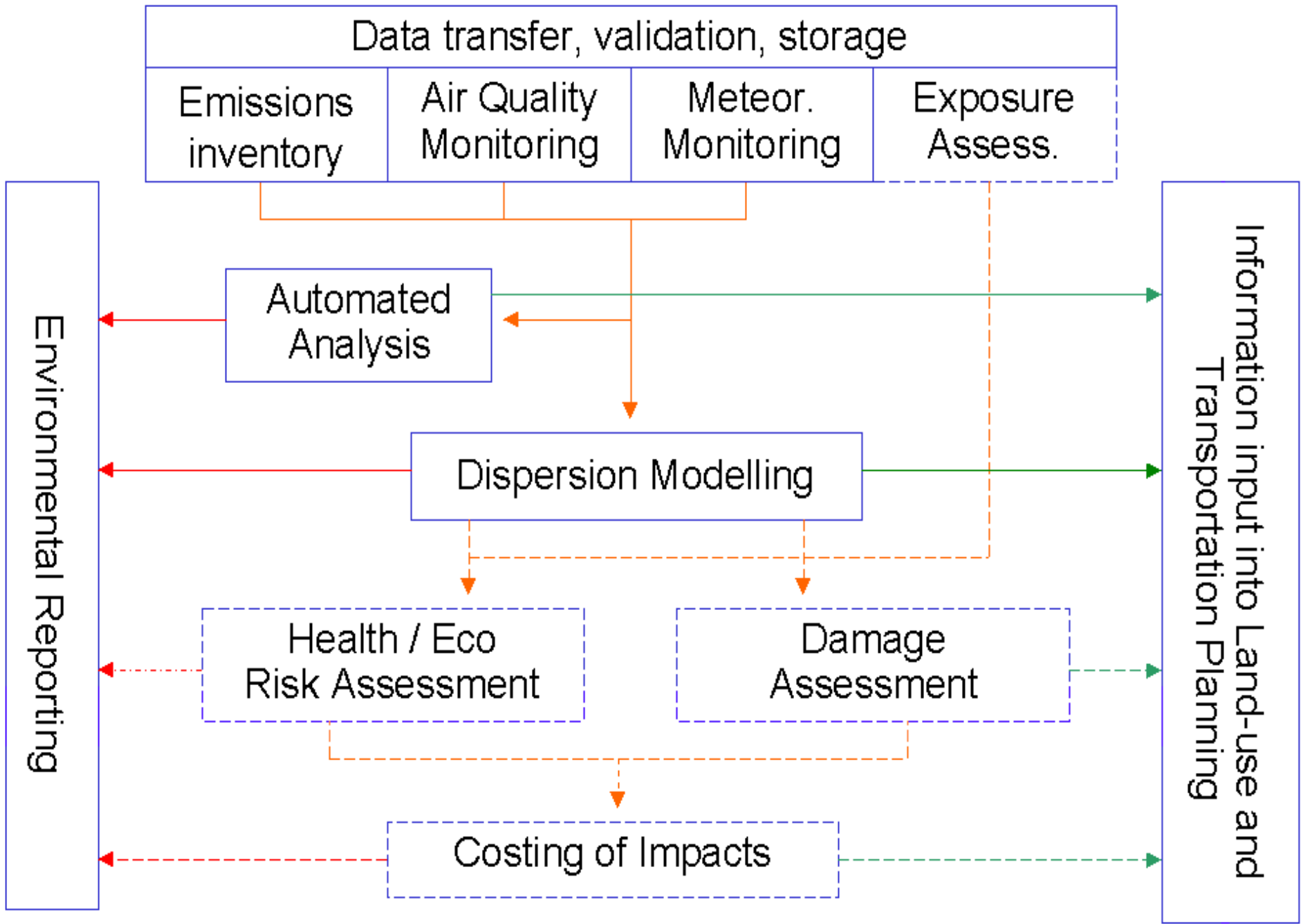
An improved quality of the environment with clean air, clean water, reduced waste, protected landscape and biodiversity providing citizens of Johannesburg with a high quality of life.

Policy responses related to climate change

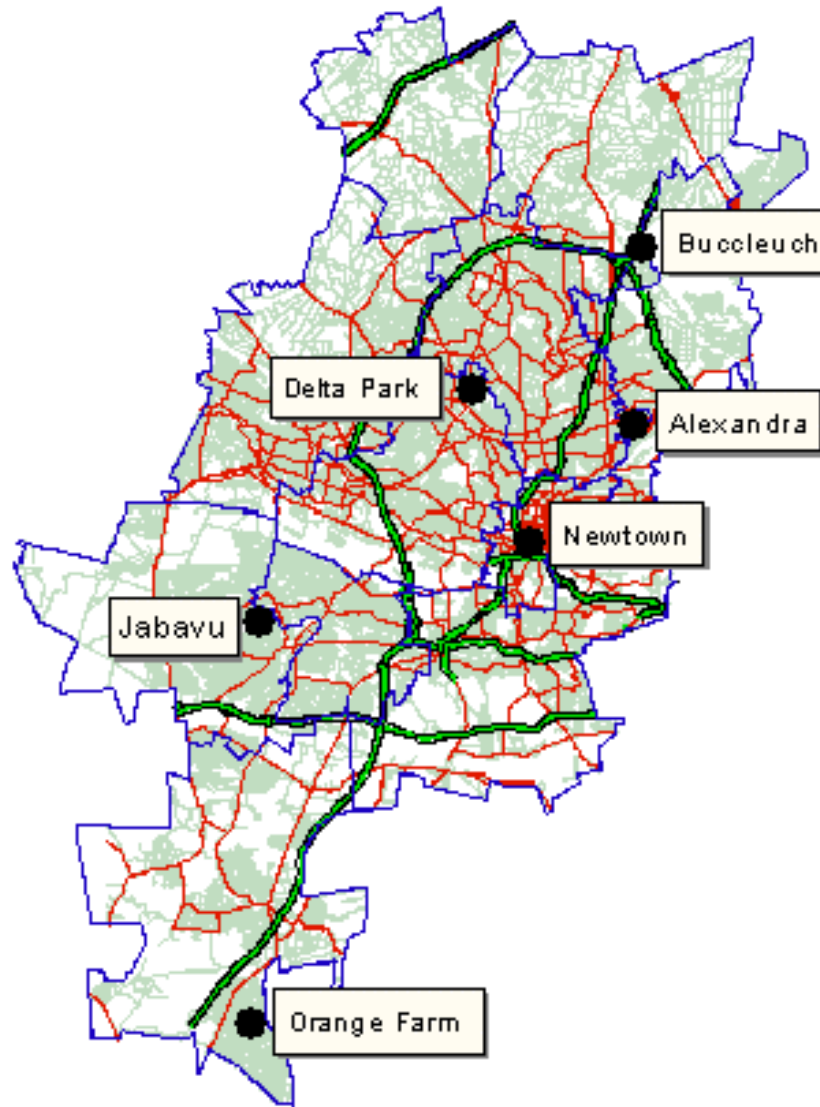
- ***Air Quality Management Plan***
 - ***Cleaner Production Policy***
 - ***Integrated Transport Plan***
 - ***Density Policy***
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POLICY DRIVERS

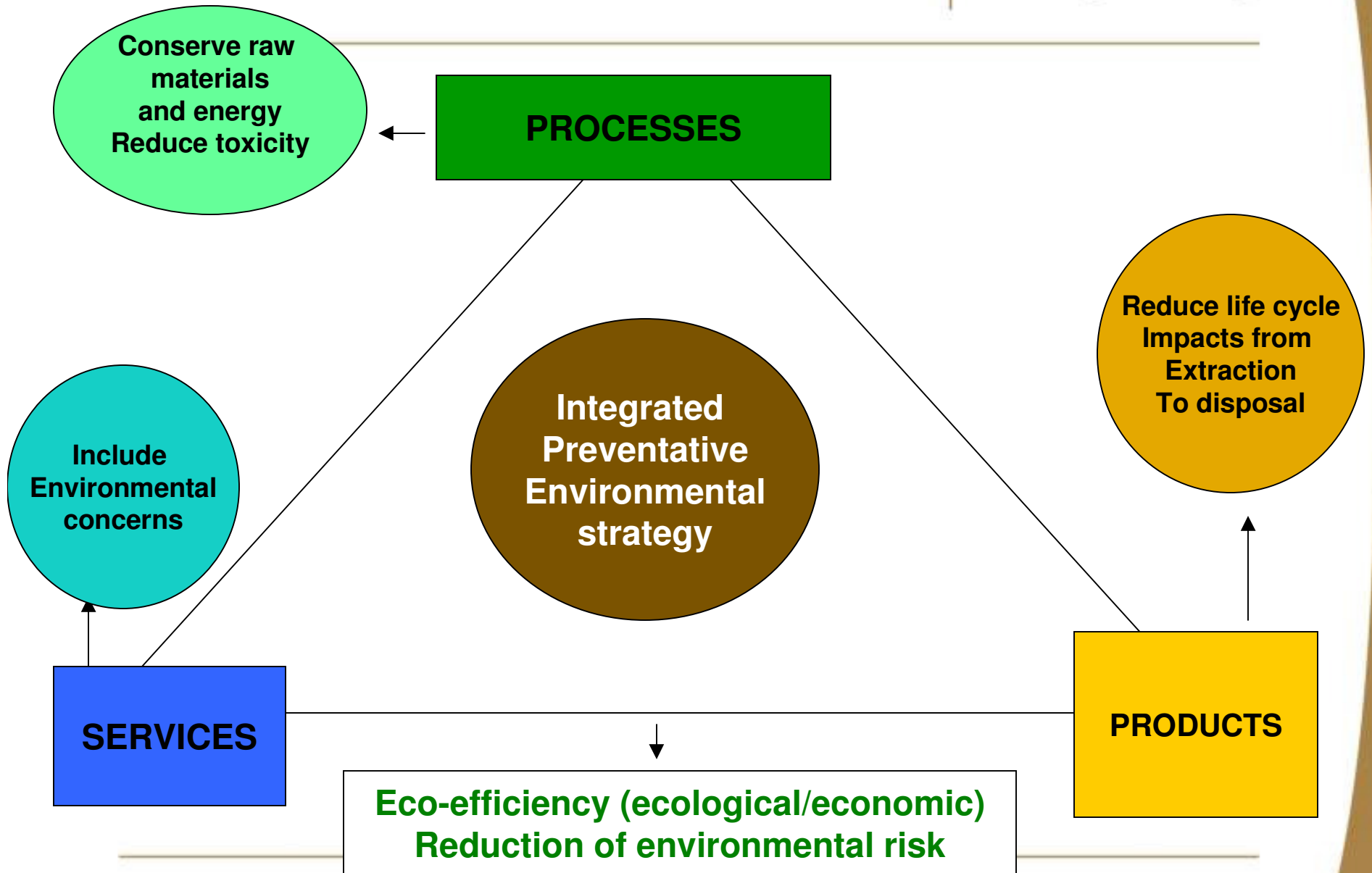
- ***Legislative – the need to promote sound environmental governance***
 - ***Addressing Climate Change Impacts***
 - ***Striving to be world class by implementing best practices***
 - ***Environmental stewardship***
 - ***Economic efficiency***
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MONITORING STATIONS NETWORK



What is Cleaner Production



Why implement Cleaner Production



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- ***Water and electricity losses mainly due to ageing infrastructure***
 - ***Residual impacts from old and disused infrastructure***
 - ***Environmental impacts from existing and new developments***
 - ***High consumption rates due to inefficient infrastructure and or outdated technology***
 - ***Decline in natural resources-water, electricity, land***
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Cleaner Production policy



AIMS OF THE POLICY

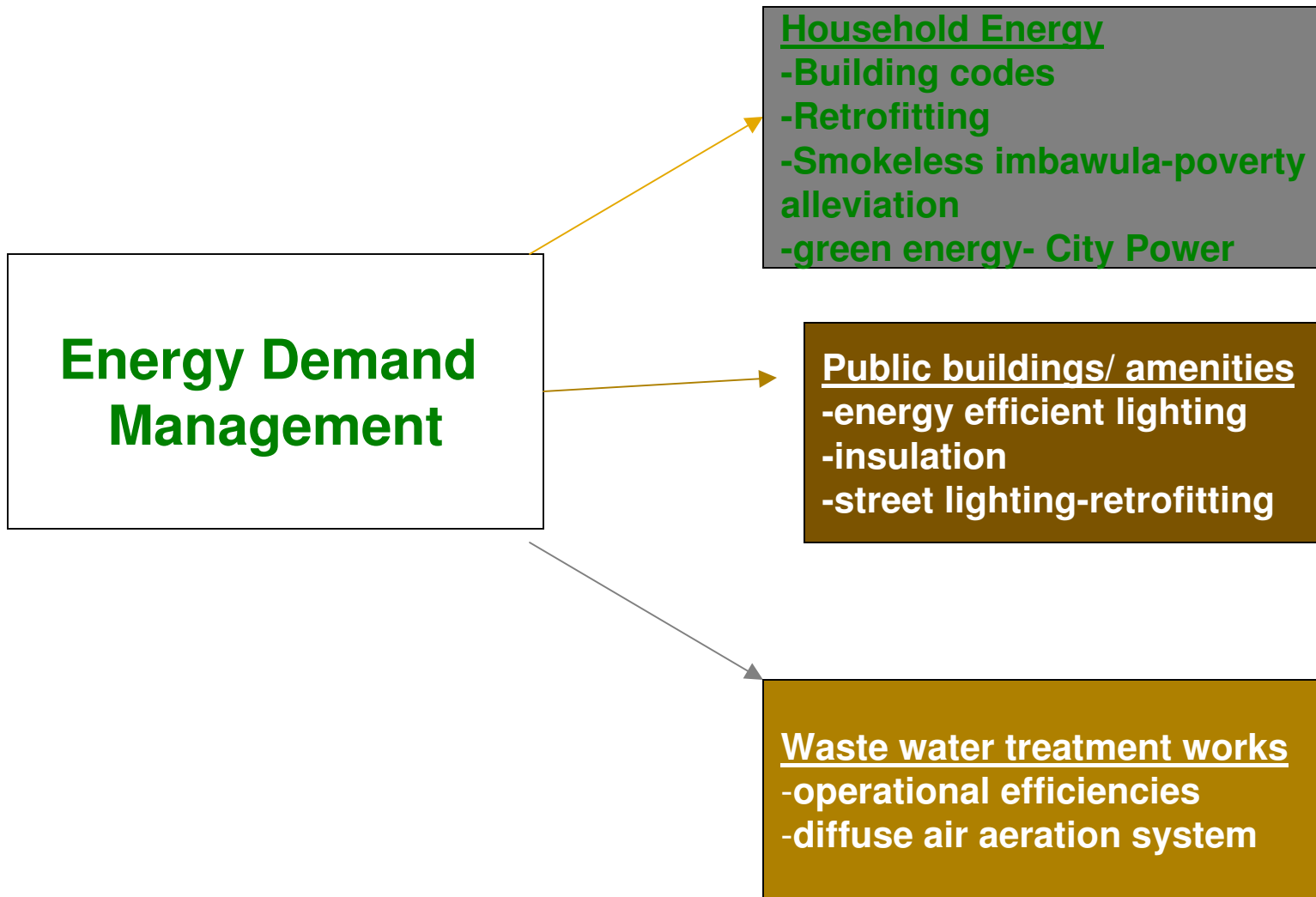
- ***A driving force for implementation of the city's environmental management policy***
 - ***Stimulate adoption of cleaner production strategies***
 - ***Capacity development eg Zero Carbon Cities Campaign***
 - ***Promoting public private partnerships and raise awareness***
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Focus areas identified for implementation



- ***Demand side interventions***
 - ***Water demand management***
 - ***Energy demand management***
- ***New or alternative energy sources***
- ***Waste minimisation***
- ***Greening of events***
- ***Planting indigenous trees***
- ***Land use***
- ***Public transport initiatives***

DEMAND SIDE INTERVENTIONS



HOUSEHOLD INTERVENTIONS



Guidelines for energy efficient housing



Smokeless imbawula

TRANSPORTATION AND URBAN FORM



URBAN FORM

1. Inner city housing
2. Urban boundary
3. Infill developments
4. Nodal developments

TRANSPORTATION

- Integrated Transport Plan
- Metrobus fleet
- Public transport initiatives
- 4. Non-motorised transport



Key drivers to implementation



- ***Reduce cost of service delivery, through energy efficient practices***
- ***Reduce materials consumption (water, land and fossil fuel)***
- ***Maximise on resource use***

The goal is to use cleaner production to drive actions that will make the city to adapt and mitigate the impacts of climate change.

Other initiatives linked to Cleaner Production



- ***Operation Gcin'amanzi- project aims to reduce water demand in low-income houses- Joburg Water***
- ***Tree Planting- Joburg City Parks***
- ***Greening 2010- strategy to reduce carbon emissions during the world cup, which includes, energy and water demand management, waste management, carbon tax to offset emissions and indigenous tree planting***
- ***Environmental Management System implementation- which involves the quantification of impacts on the environment and measures to reduce impacts***

THANK YOU

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