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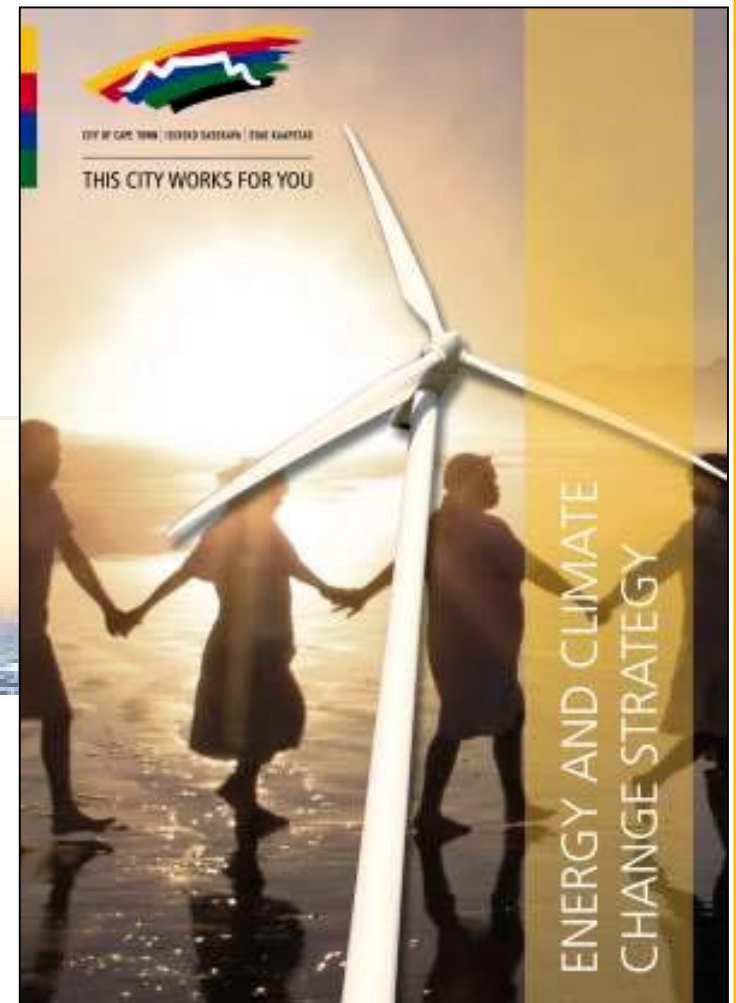
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CITY OF CAPE TOWN

Energy and Climate Change Strategy



Osman Asmal
Environmental Resource Management
Department

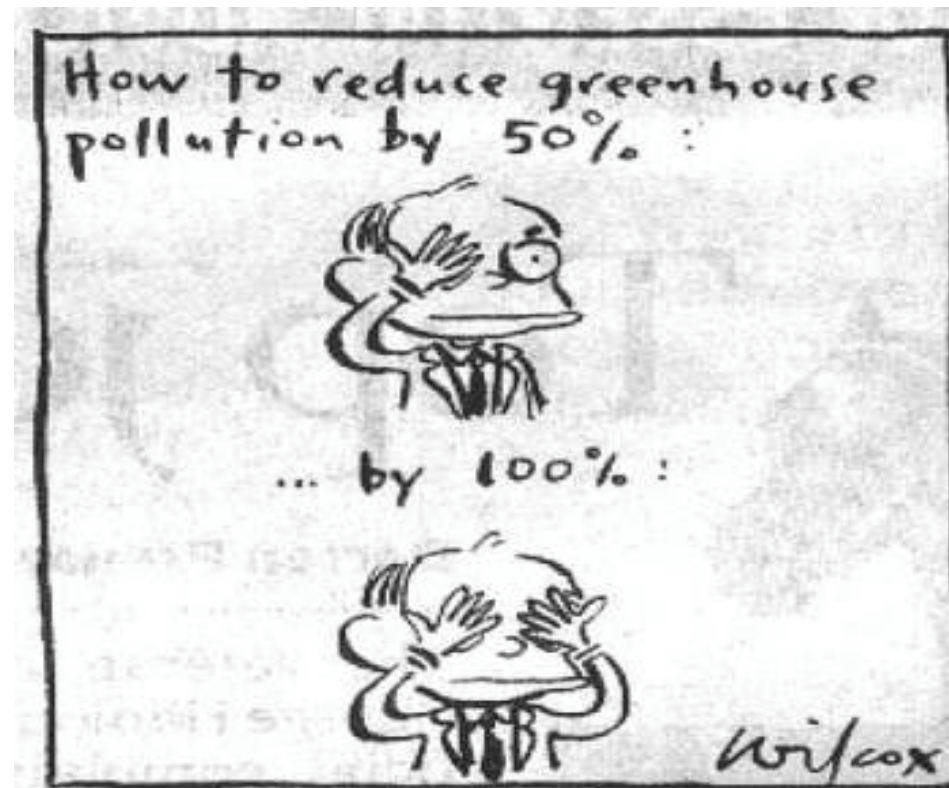




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Mainstreaming Climate Change

- In 1999 - Climate Change – abstract concept!
- Difficult for technocrats – even more difficult to explain to politicians and city residents
- How could we link climate change to the lives of residents
- Prioritise and align to government and stakeholder priorities – Poverty alleviation



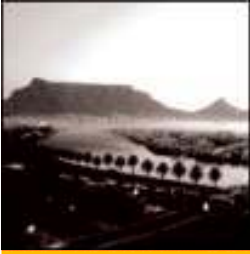
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History - Cape Town's Strategy

- 1999 – Partnership with Sustainable Energy Africa on the Sustainable, Environment and Development Programme (SEED) Energy,
- 2000 - Partnership with South-South North on potential CDM projects Bellville South Buildings Landfill Kuyasa and
- 2001 - 1st Energy Audits on Parow Municipal Building
- 2001 - CCP Campaign and IIEC Study
- 2002 - World Summit on Sustainable Development
- 2003 - Africa's first State of Energy Report and Energy Strategy completed
- 2003 - Retrofitting of first municipal buildings with energy efficient materials
- 2003 - City Energy Strategies Conference
- 2004 - IDP Targets and Bonn Renewable Energy Conference Commitments
- 2005 - Draft Energy and Climate Change Strategy
- 2005 - 1st African approved CDM project, 1st International Gold Standard Rating, 1st Panel CDM Solar
- 2006 - ICLEI World Congress and GEF Assembly
- 2006 - By Laws and SWH Projects



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Background

- Cape Town's environment is its greatest economic asset
- Population: 3.2 Million residents
- Unique biodiversity of international importance (more plant species in the Table Mountain National Park than in all of the UK!)
- 307 km of coastline with beaches recognised as some of the most beautiful in the world
- Unique cultural and social heritage
- Energy: Supply – average to good wind and solar energy potential



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Cape Town Developmental Challenges

- Approximately 33% of CT households live below the poverty line
- Backlog of 265 000 families require adequate shelter and services
- Increasing unemployment rate: 13.3% (1997) to 23.2% (2003)
- Health (HIV and TB [24129 cases and 1351 deaths])

- Balancing biodiversity conservation with growth and development:
- Tourism: 2 million local and foreign tourists per annum

- Consumption of resources: Energy, Water, Waste
- 65% of energy is provided by fossil fuel (coal)
- Limited water supply – post 2010 - CT must supplement water supply
- Energy – SA reaches peak electricity demand by 2007



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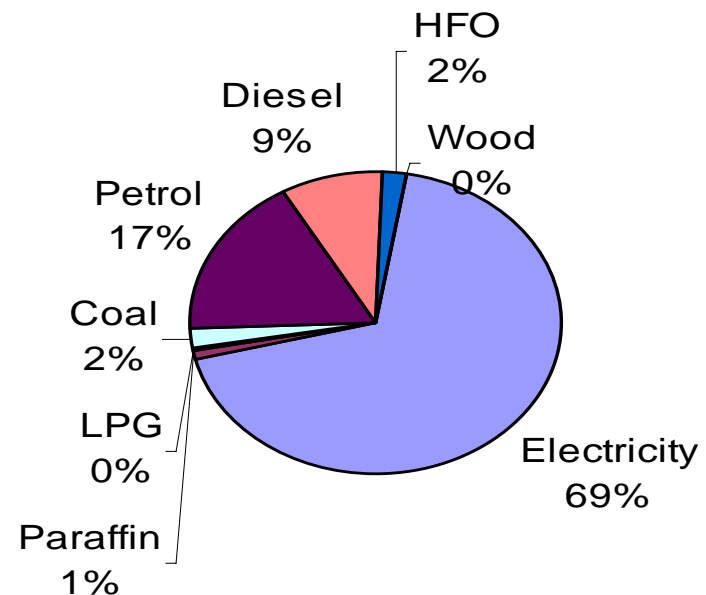
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Cape Town's Carbon Dioxide Emissions

2003: State of Energy Report

First for an African City

Total CO₂ emissions from energy use



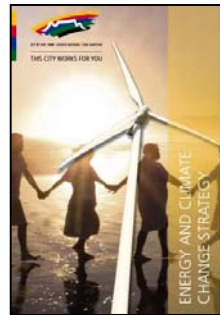


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Energy and Climate Change Visions



Vision 1: Access to appropriate, affordable, safe and healthy energy services.

Vision 2: Meeting energy needs in a SD manner

Vision 3: Efficient use and management of energy.

Vision 4: Equitable transport system, based on public transport and compact planning.

Vision 5: Provision of Energy in support of economic competitiveness and increased employment.

The CCT aims to achieve this vision by means of specific targets and implementation of projects geared toward these targets.



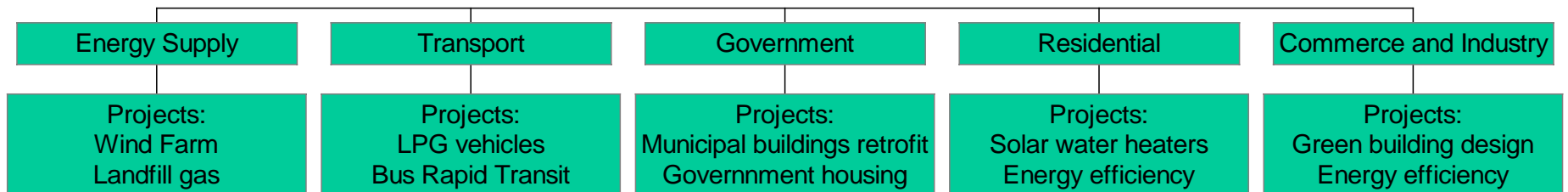
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Energy and Climate Change Strategy: Programmes and Projects





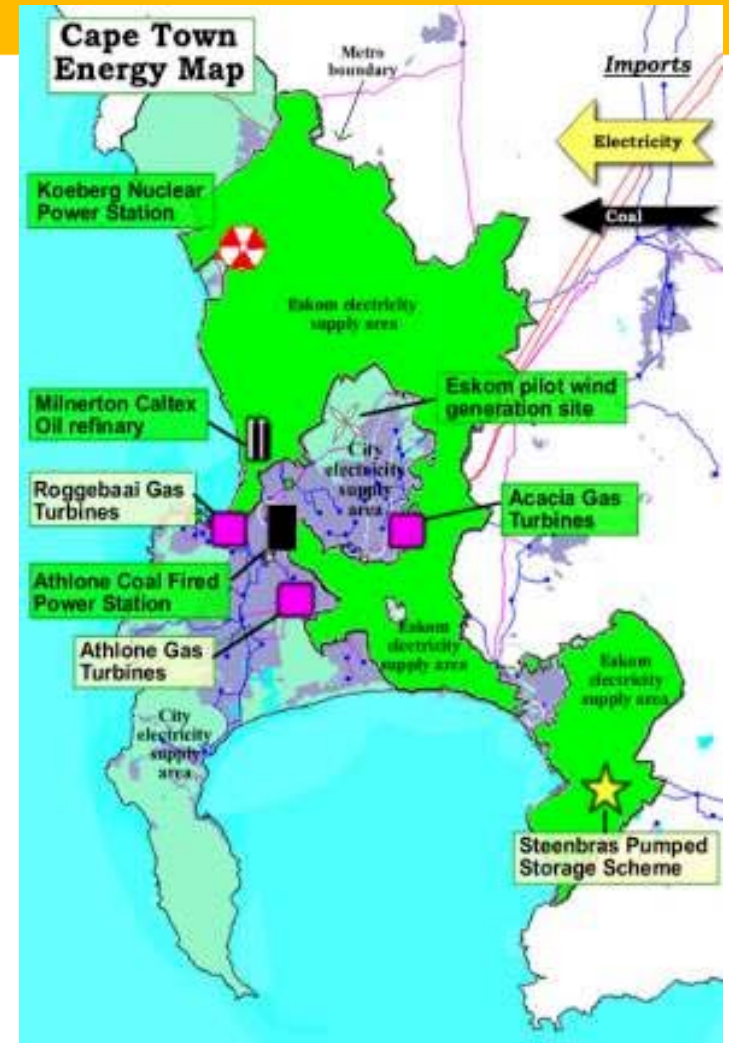
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Energy Supply and Economic Development

- Energy Supply Sources
- Energy Security
- Limited Renewable Energy Sources
- Competitive tariffs ensured through:
 - Load management
 - Pumped storage & other generation plant
 - Demand-side management (hot water cylinder ripple control)





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Energy Supply (Renewal Energy)

- Darling Wind Farm - 2006
- EIA approved
- 6 months construction
- 5.2 MW installed
- Other options of wave, biogas and solar energy being investigated





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Residential Sector

- Housing Backlog 265 000
- 10% renewable energy by 2020
- N2 Gateway Business Plan Completed (22 000 houses)
- iKapa - 1st housing project activity implemented jointly (AIJ) – pre Kyoto
- Low cost housing in Kuyasa, Khayelitsha
- SWHs, compact fluorescent light bulbs and ceilings for households
- Mitigation potential: Approx 5504 tons eCO₂ emissions / annum
- 1st SA CDM project to be validated by the DNA
- 1st International Gold Std CDM and African project to be validated
- 2005 Gleneagles Summit: 1st 10 000 tons of CERs sold to the G8





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Economic Impact of Energy Targets

Draft economic impact assessment of installing:

- 10% Solar Water Heaters by 2010
- 160 gW of Energy Savings per annum
- Industry of over a R1 Billion could be established for initial retrofitting of houses

Target can be Implemented via:

- Can be done via pilot projects
- SWH By-law to create demand (financial and disincentives)
- All round win – win situation



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Government Sector

- Working in partnership with National and Provincial Government based in Cape Town
 - ★ Joint funding of projects (Kuyasa)
 - ★ Cleaner Production in the Tourism Sector
 - ★ Joint Awareness Raising Programmes (ICLEI WC and GEF)
- Working with Academic institutions, institutes, hospitals & schools
 - ★ Research partnerships with tertiary institutions
 - ★ Improving energy efficiency of buildings
- City of Cape Town Initiatives
 - ★ Marketing, awareness, training and and communications Initiative
 - ★ Staff SWH housing incentive programme
 - ★ Research, development and demonstration projects
 - ★ Municipal Fleet Retrofit
 - ✓ LPG conversion of twelve Council vehicles
 - ✓ Savings (10%) – 6 tons CO₂e/vehicle/annum
 - ✓ R 2400 (US \$400)/vehicle/annum





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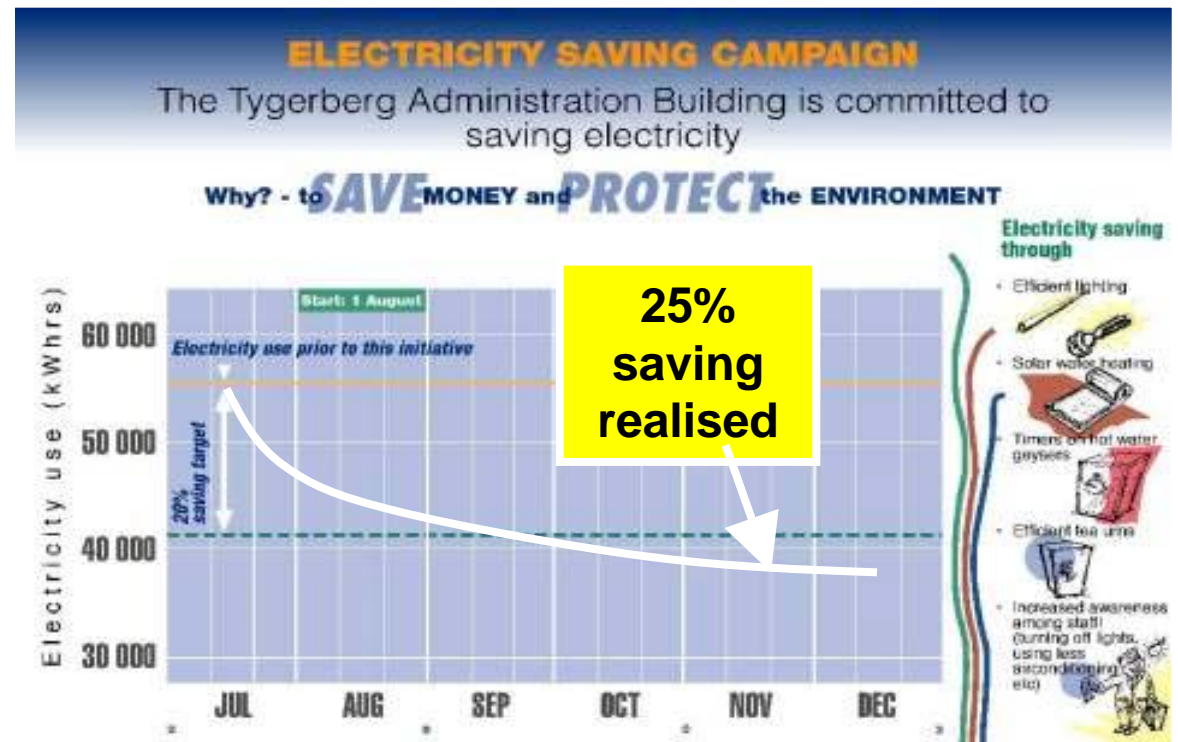
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Government Sector

- Institutional restructuring seen establishment of dedicated to Resource Management
- Local Legislation (By-Laws)

- ✓ Draft Green Buildings
- ✓ Draft Solar Water Heater

- Municipal Buildings Energy Efficiency Retrofit Programme
 - ✓ Parow and Bellville
 - ✓ CT Civic Centre – R1 Million savings per annum





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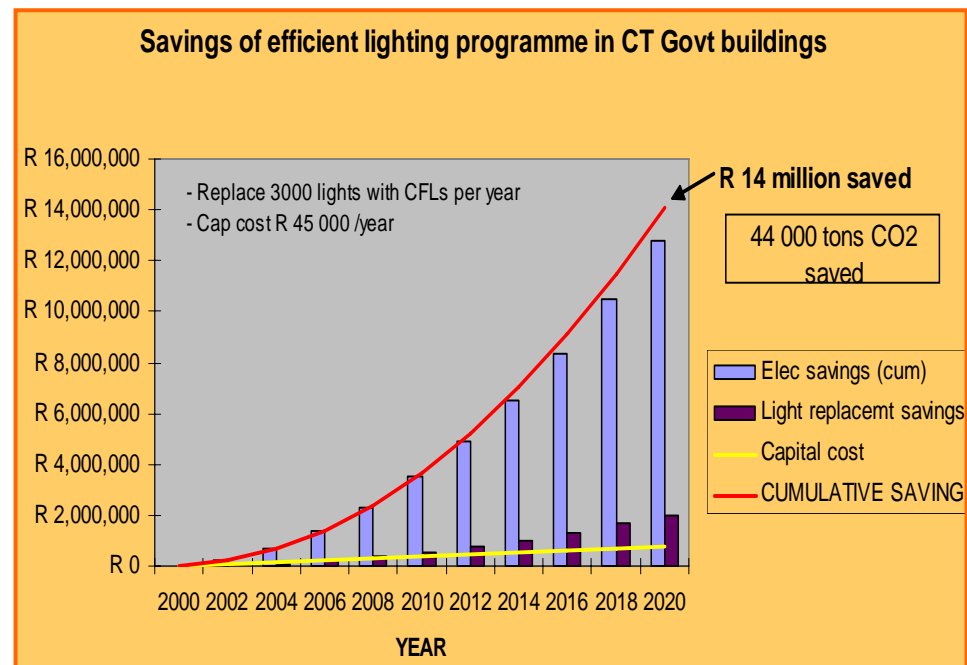


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Efficiency Savings in Municipal Buildings

Issues:

- Great potential for cost-effective efficiency interventions in commercial buildings (incandescent lights still account for 15-25% of lighting elec use).
- Potential for 20%+ savings in government buildings





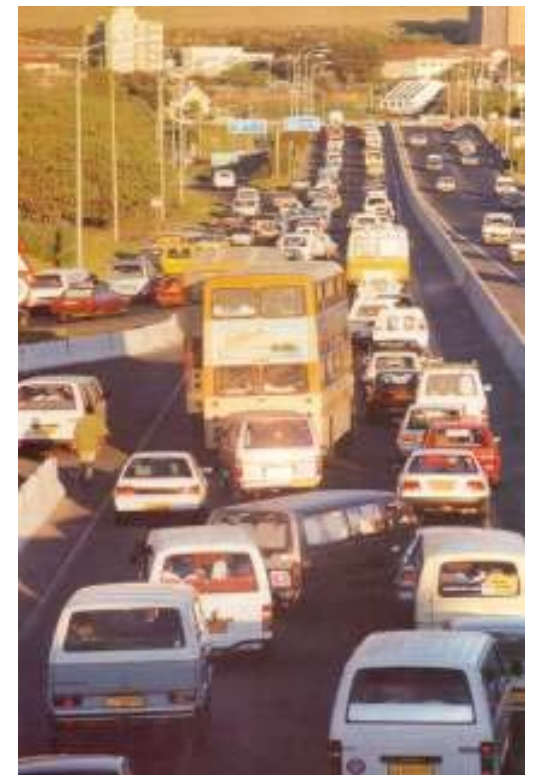
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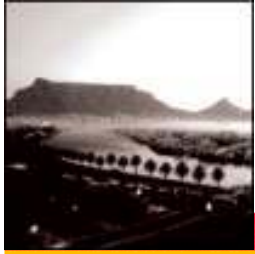


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Transport Efficiency & Equity

- **Issues:**
 - Increasingly inefficient transport situation:
 - private vehicle use increasing (congestion)
 - public transport inadequate



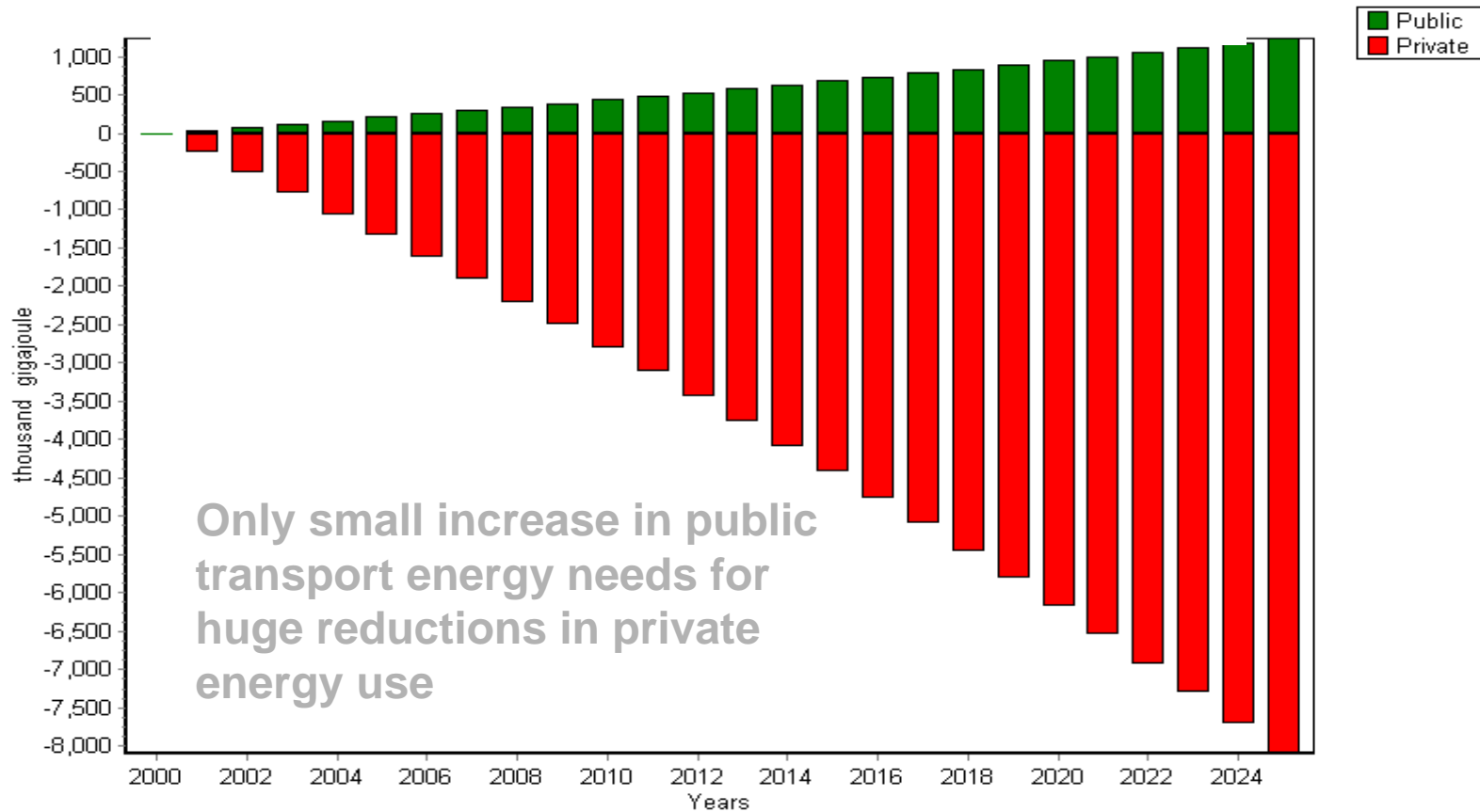


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Comparison of energy demand of modal shift to public transport





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Challenges

- Addressing issues of **mitigation**
- **City planning function** does not reflect climate change e.g. adaptation
- **Building Awareness & Capacity** in local government
- Financial, economic, institutional and legal barriers (e.g. Solar Water Heaters)
- Slow **turn around** rates
- **Limited resources**
- **Roll Out Strategy**
- **Stability** during political and institutional restructuring
- Addressing various income groups



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Cape Town's Road Ahead

- Focus on Financial, Resource Economic and Legal Assessments
- Partnerships
- Leadership
- Targets and Delivery
- Addressing Challenges





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Thank You

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