

Mutual Benefit:

Working towards a **win-win-win** scenario in Durban:
Green economy - climate change adaptation -
biodiversity protection.



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ENVIRONMENTAL PLANNING & CLIMATE PROTECTION DEPARTMENT



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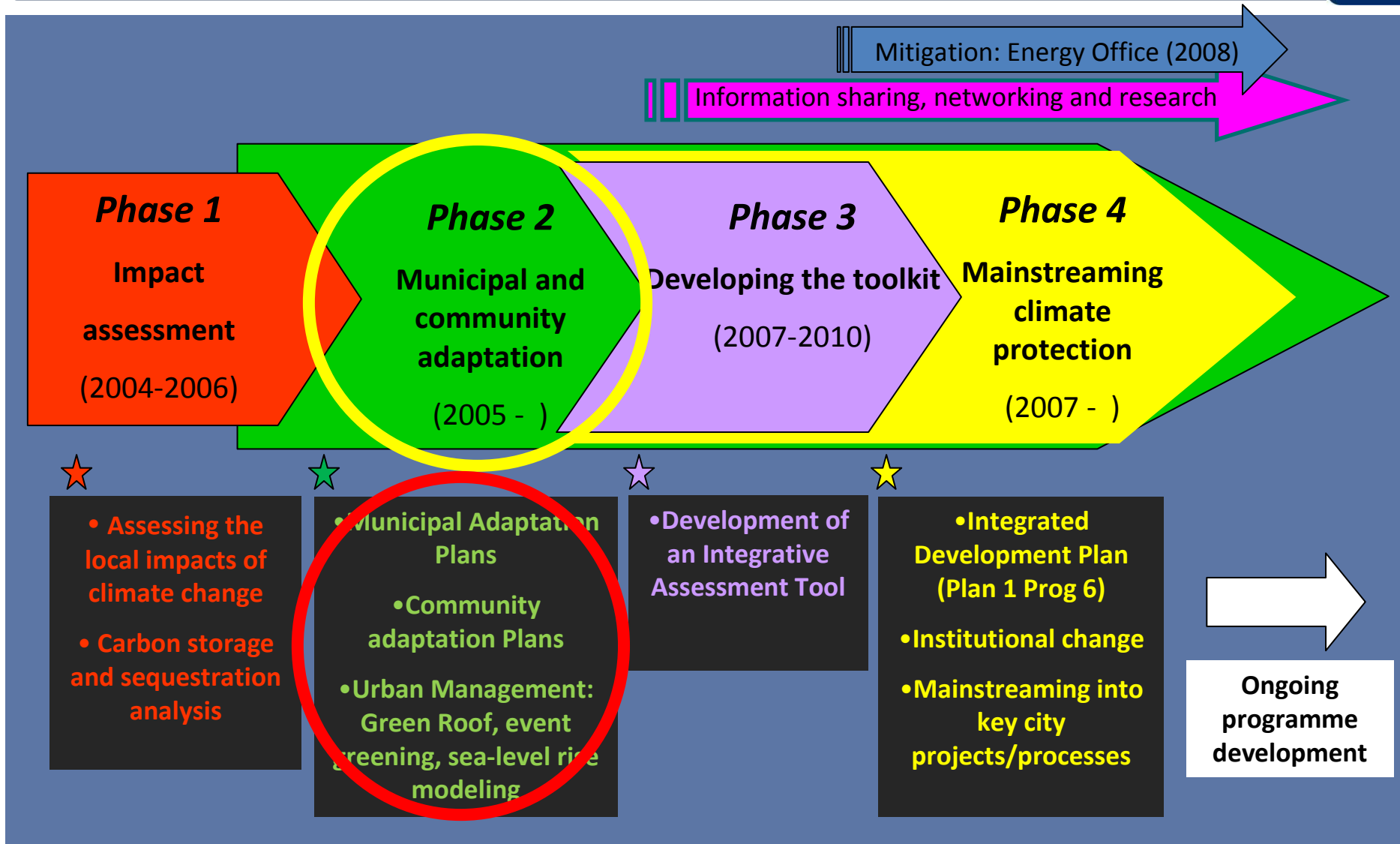
Durban - The Local Context



- Largest port and city on east coast of Africa: 2 300 km²
- Population: 3.6 million
- Budget: R28.5 billion (1 US\$= 7 Rands)
- 2/3 of the province of KwaZulu-Natal's GDP
- 34% unemployment
- HIV/Aids - life expectancy of 47
- Housing backlog: 360 211 units (03/2011) units
- Global biodiversity hotspot
- **The host city for UNFCCC COP17-CMP7 2011**



Municipal Climate Protection Programme (MCPP)



1) Municipal Adaptation



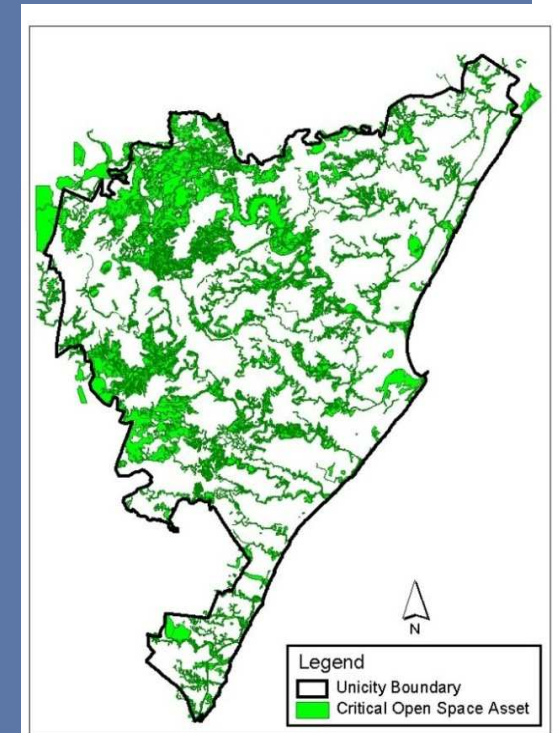
Municipal Adaptation Plans

Headline Adaptation Strategy

Sectoral MAPs

'Climate Smart' D'MOSS (07-ongoing)

1. **Global biodiversity hotspot** – Durban Metropolitan Open Space System (D'MOSS): 75 000ha.
2. **Provides Green Infrastructure as the basis of the Green Economy:** provider of essential ecosystem services – critical for the city's long-term sustainability and for climate change



adaptation.

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Ecosystem Services: worth R3.1 billion (\$388m) per annum **FREE!**




Protecting vulnerable communities




Protecting traditional economies




Protecting vulnerable coastlines



Protecting water quality and quantity



Protecting important ecological processes.



Flood control

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1) Municipal Adaptation



Municipal Adaptation Plans

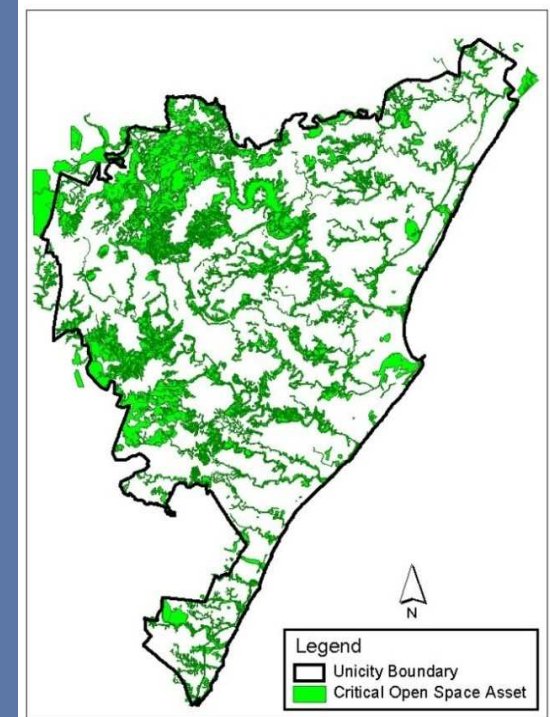
Headline Adaptation Strategy

Sectoral MAPs

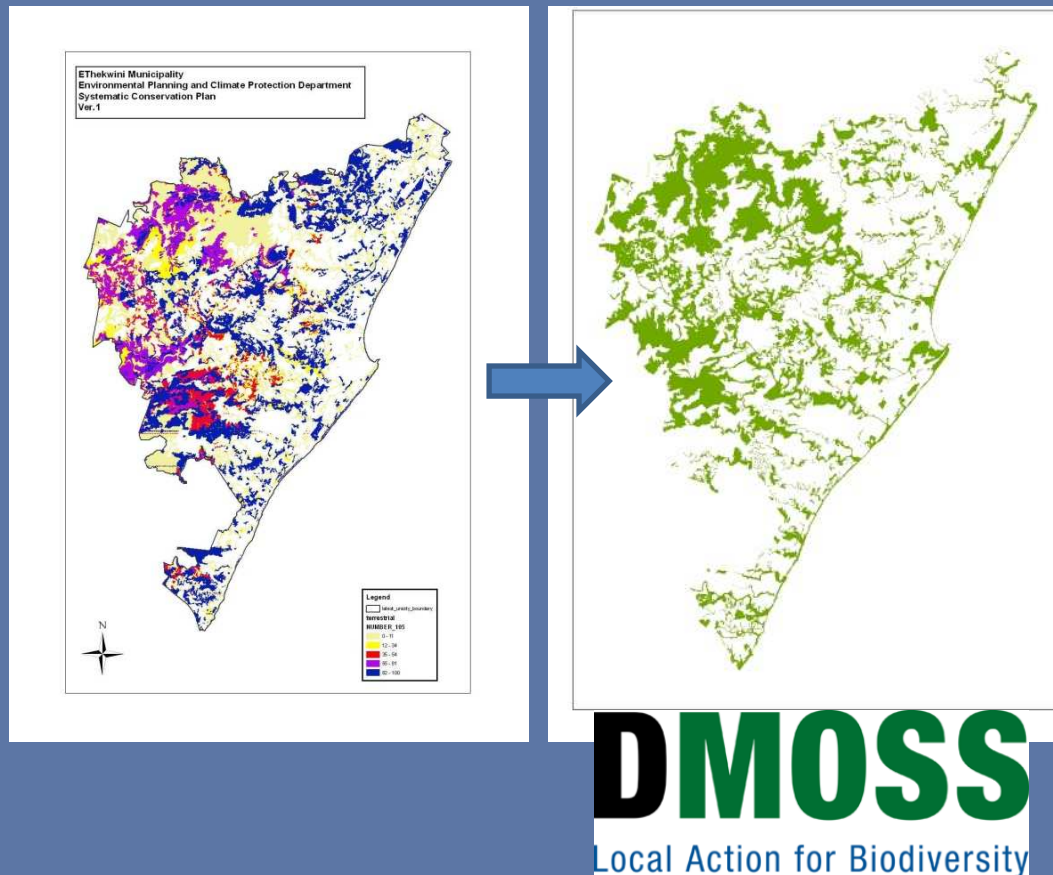
'Climate Smart' D'MOSS (07-ongoing)

3. Need to determine the impact of CC on D'MOSS. Data inadequate.

1. **Long-term:** address through research partnership with local university.
2. **Short-term:** reduce the non-climate stresses.
 - a) Reduce habitat loss and fragmentation.
 - b) Invasive alien species: strategy and implementation plan
 - c) Innovative use of existing tools.



Reducing Habitat Loss: Systematic Conservation Planning



- Includes:
 - **Biodiversity features**
 - Ecological processes
 - **Ecosystem Services**
 - Costs (opportunities & threats)
- Integrated into D'MOSS and Integrated Development Plan.



b) Controlling Invasive Alien Species: Working for Ecosystems- initiated 2006 stats for 2010/11

**Total Area of IAP (Invasive Alien Plant)
control: 218 Ha**

Total Training Courses: 6

Total Training Person Days: 480

Total Jobs Created: 124

Total Person Days: 7068

36% Youth, 67% Female



b) Controlling Invasive Alien Species: Working on Fire – initiated 2009 stats for 2010/11

IAP control - initial: 114 Ha

IAP control – follow-up: 564 Ha

Total Area of Burning: 38 Ha

Total Training Courses: 12

Total Training Person Days: 1254

Total Jobs Created: 52

Total Person Days: 14042

37% Female; 63% Male

c) Using Existing Tools: Giba Gorge Special Rating Area

The Municipal Property Rates Act makes provision for the formation of Special Rating Areas (SRAs) to supply 'top-up' services through an additional levy on property tax.



- Giba Gorge is 1st Environmental Special Rating Area in SA.
- Includes 165 private, municipal and state landowners.
- Operational since 2009.
- Activities include invasive alien plant removal, soil erosion control, fire management, trail and amenity management, monitoring and education.
- Jobs created: 5 full time staff = 1 conservation manager and 4 field rangers. Employ casual labour from time to time.

2) Community Based Adaptation



Community Adaptation Plans

'Climate Smart' Communities

Community Reforestation (08/10)

ACCCA

- Durban: 'Carbon Neutral' 2010 FIFA Soccer World Cup™. Footprint of 307 208 tCO₂.
- **Buffelsdraai Community Reforestation Project: 216 000 trees/185ha in the buffer of a regional landfill site Will reforest 521 ha in total – replacing sugar cane.**
- 96 jobs at the project site (24 full time, 10 part time, 62 temporary) and 583 "treepreneurs" : grow and trade indigenous trees.



Tree-Preneur Cycle



seeds planted & germinated



Seedlings grown and cared for until ready for sale



Facilitator measures & counts trees

credit note issued

WILDLANDS
 TREE PRENEUR CREDIT NOTE
 VERBODEN TOEGANG TOT DEZE CREDIT NOTE
 TOTAAL NO. OF TREES: 200
 TOTAAL WERT: R1000

Category	Value of tree	Quantity	Total amount
A	R500	200	R100000
B	R100	100	R10000
C	R1000	0	R0
TOTAL CREDIT			R110000

1. SIGNATURE: C.A. [Signature]
 2. SIGNATURE: [Signature]



Tree-preneur collects seed



Trees planted by Planting Team at landfill



Trees collected by truck



Trees taken to nursery at Buffelsdraai



Credit note exchanged for goods at Tree Store

2) Community Based Adaptation



Community Adaptation Plans

'Climate Smart' Communities

Community Reforestation (08/10)

ACCCA

- Roll out: Inanda Mt. 250ha. 33 jobs (11 full time, 2 part time, 20 temporary) 76 "treepreneurs".
- 3rd site for COP17-CMP7 ecological offset.
- Adaptation advantages:
 - Rehabilitation of degraded forest ecosystems.
 - Catchment management - water supplies
 - Employment and upliftment of communities.



3) Urban Management Adaptation



Urban Management Interventions

Green Roof Pilot Project (08/11)



- Temperature and stormwater benefits
- Biodiversity protection**
- Food production

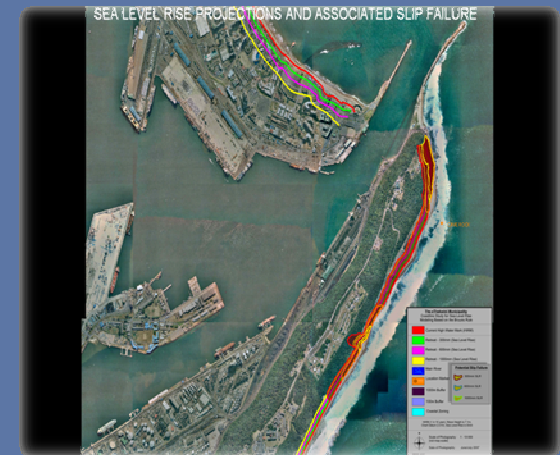
Greening Durban 2010 (07/10)

GREENING
DURBAN 2010



- Green Guideline series:
- Water and energy efficiency
 - Landscaping**
 - Waste Management
 - Green Roof**

Sea Level Rise Modeling (07-ongoing)



- Input into shoreline and coastal management plans.
- Projections of 30cm, 60cm and 100cm



Thank You

Contact details:

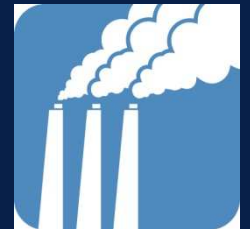
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<http://www.durban.gov.za/durban/services/development-planning-and-management/epcpd>



Threats of Climate Change

Change to Climate Variable	Example of Impact
Higher mean temperatures	<ul style="list-style-type: none"> - Increased evaporation - Increased droughts - Decreased water availability - Extinction and changes in the distribution of ecosystems and species
Higher maximum temperatures, more hot days and more heat waves	<ul style="list-style-type: none"> - Increased incidence of death (heat stress) and serious illness - Increased risk of damage to some crops (decreased food security) - Increased fire danger - Higher energy consumption
Higher minimum temperatures, fewer cold days and frost days	<ul style="list-style-type: none"> - Increased risk to some crops - Increased pests and vector and waterborne diseases - Loss of tourism revenue
More intense/heavy and erratic rainfall	<ul style="list-style-type: none"> - Increased flood, landslide and mudslides - Increased soil erosion - Increased pressure on disaster relief systems - Increased infrastructural damage
Increased mean sea level	<ul style="list-style-type: none"> - Salt water intrusion into ground water and coastal wetlands - Increased coastal flooding, and erosion particularly when combined with storm surges