LULUCF and REDD+ frameworks

– *the South African perspective* –

Sebataolo Rahlao

COP18 – Doha2012 – EU Pavilion – 30 November 2012

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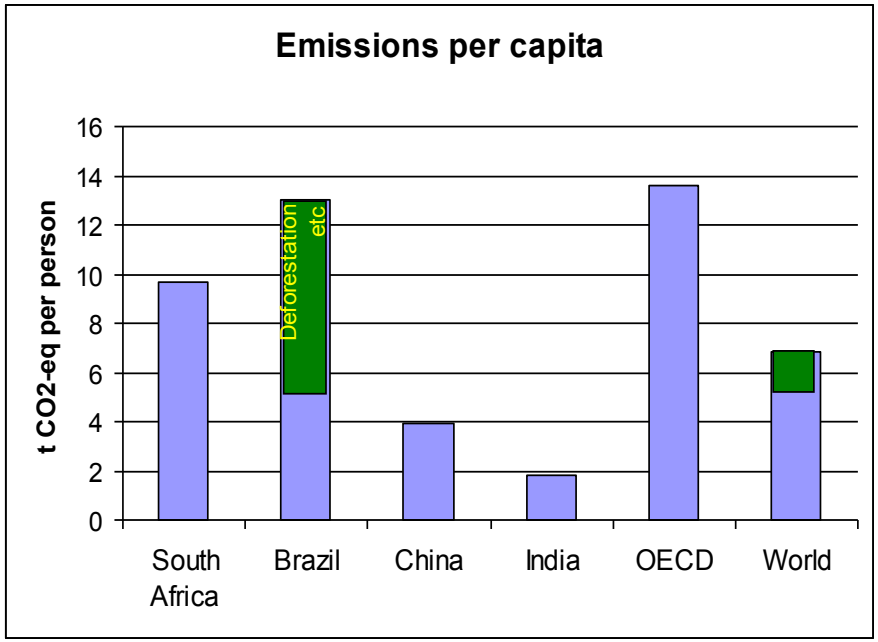
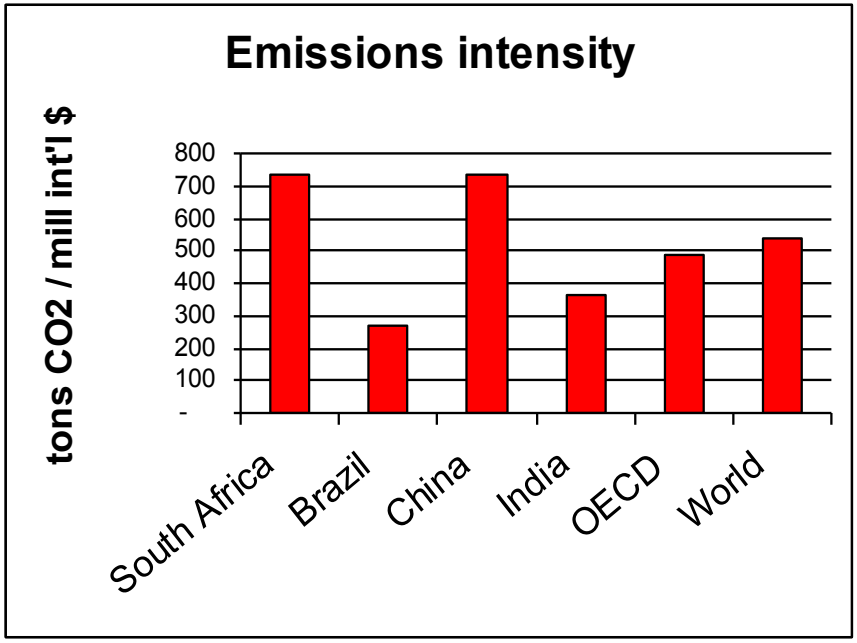
SA compared to other countries





- Relative to the size of our population, emissions 'per capita' are high
- Emissions-intensity due to dependency on coal and inefficient use of energy
- SA ranks between 15th and 64th in the world depending on what is measured

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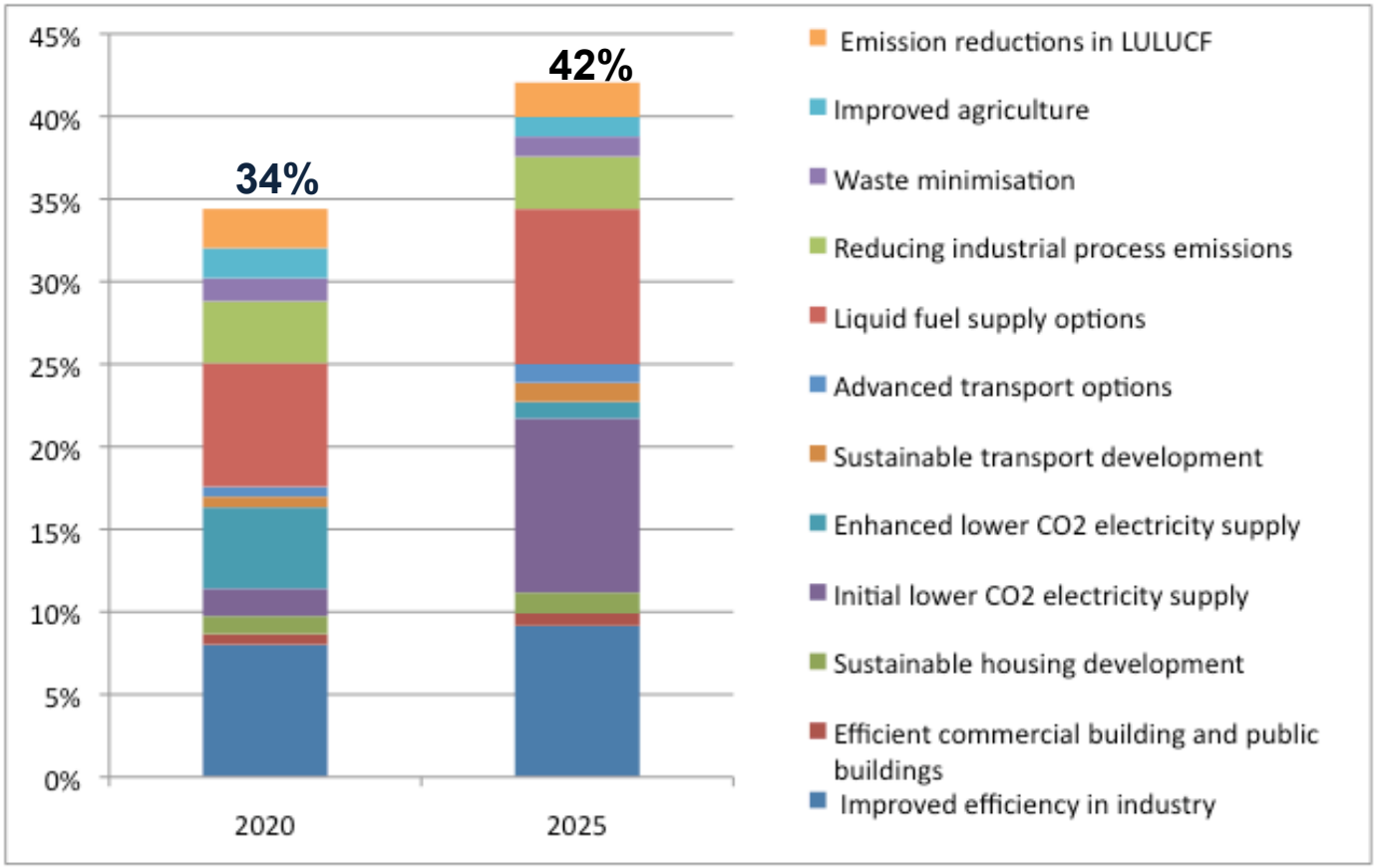
Long Term Mitigation Scenarios (LTMS)

- **Process** and **Research -** Robust and broadly supported results achieved through technical methodology and extensive stakeholder involvement.
- Four major areas with the largest mitigation potential:
  - energy efficiency
  - electricity generation
  - Transport
  - carbon capture and storage

South Africa's Copenhagen Pledges



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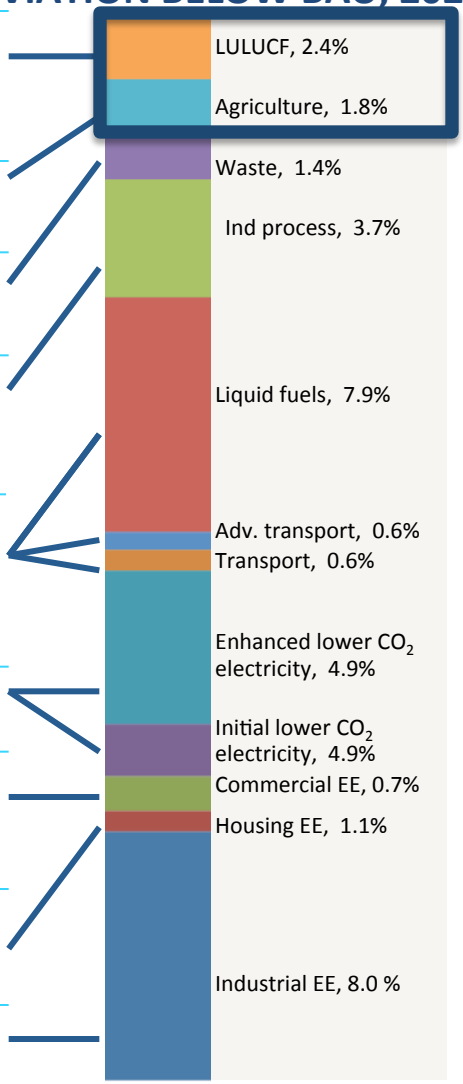
How to meet the GHG reduction targets

FOUNDATIONAL PROGRAMMES	2020 TARGET REQUIREMENTS
Emissions reduction /sinks in land use/ forestry – DAFF, DEA, Land Affairs, Forestry – **no current programmes**	Enhanced fire control, savannah thickening, increased forest cover
Improved agriculture – DoA – **no current programmes**	Progs to reduce tillage, reduce enteric ferm-entation & increase manure management
Waste minimisation – national & local govt –	Progs to minimise waste, promote composting
Industrial process emissions – DTI, DEAT, others –	CCS, methane capture for existing synfuel plants, GHG mitigation for aluminium plants, coalmine methane
Transport options – DoT, local govt, DTI, Transnet – rollout of public transport (Gautrain, BRT)	Vehicle efficiency prog, expanded public transport, shift freight to rail, promote hybrids & electric vehicles, no further CTL plants without CCS for all GHG emissions, promote biofuels
Lower CO_2 electricity supply – DoE, NERSA, Eskom –REFIT RE target	Expanded low-carbon electricity supply prog – regulation / incentives in electricity sector
Residential energy efficiency (EE): DoE, local authorities - current DSM prog, EE Strategy, EE Accord, NEEA	Full implementation of current EE strategy, plus other progs, eg sustainable housing facility
Commercial EE: DoE, Eskom, DPW, local authorities - current DSM prog, EE Strategy, EE Accord, NEEA	Full implementation of current EE strategy, plus additional accelerated progs
Industrial EE: DoE, Eskom - Current DSM prog, EE Strategy, EE Accord, NEEA	

DEVIATION BELOW BAU, 2020



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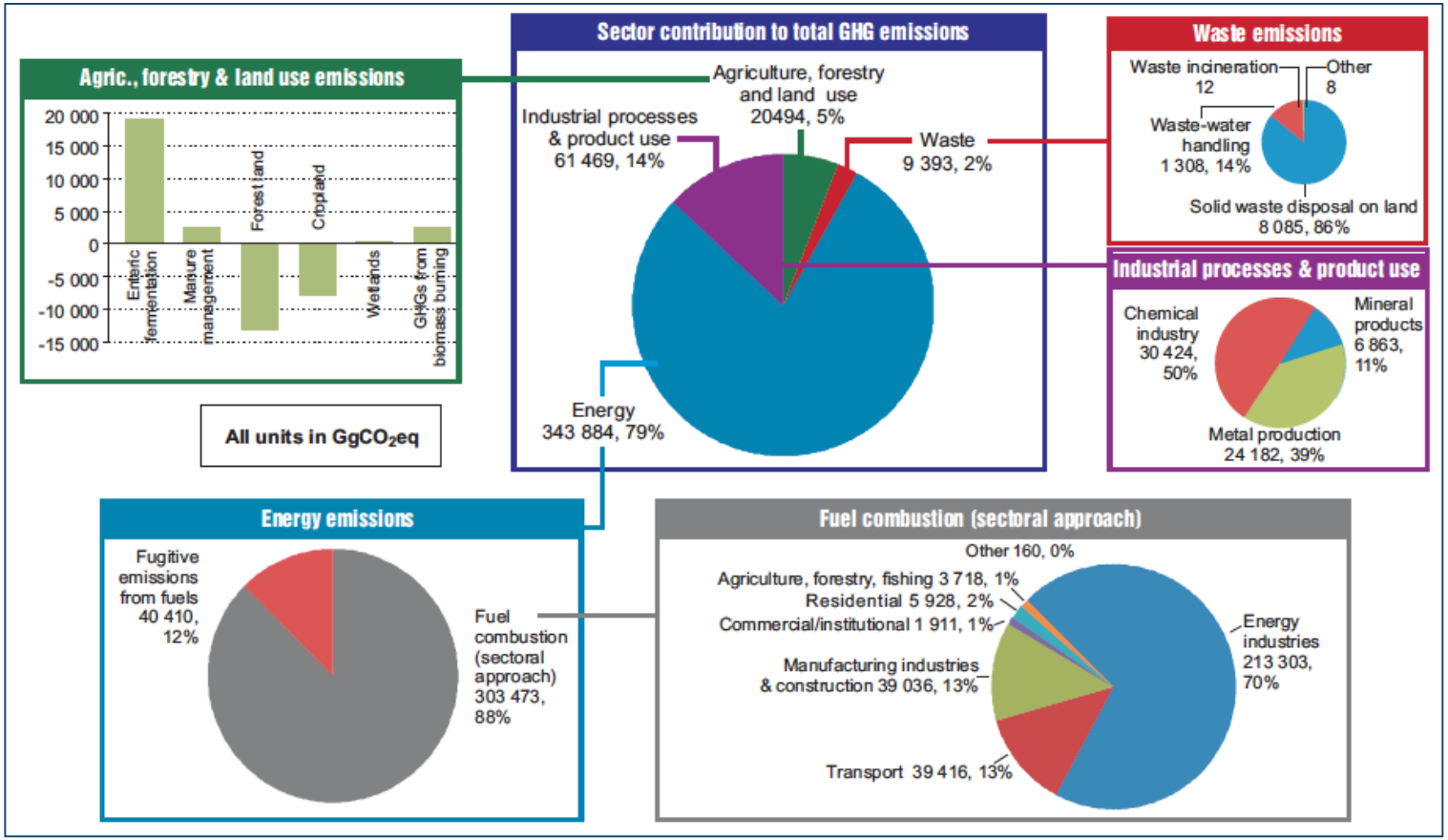
The GHG profile – 2000



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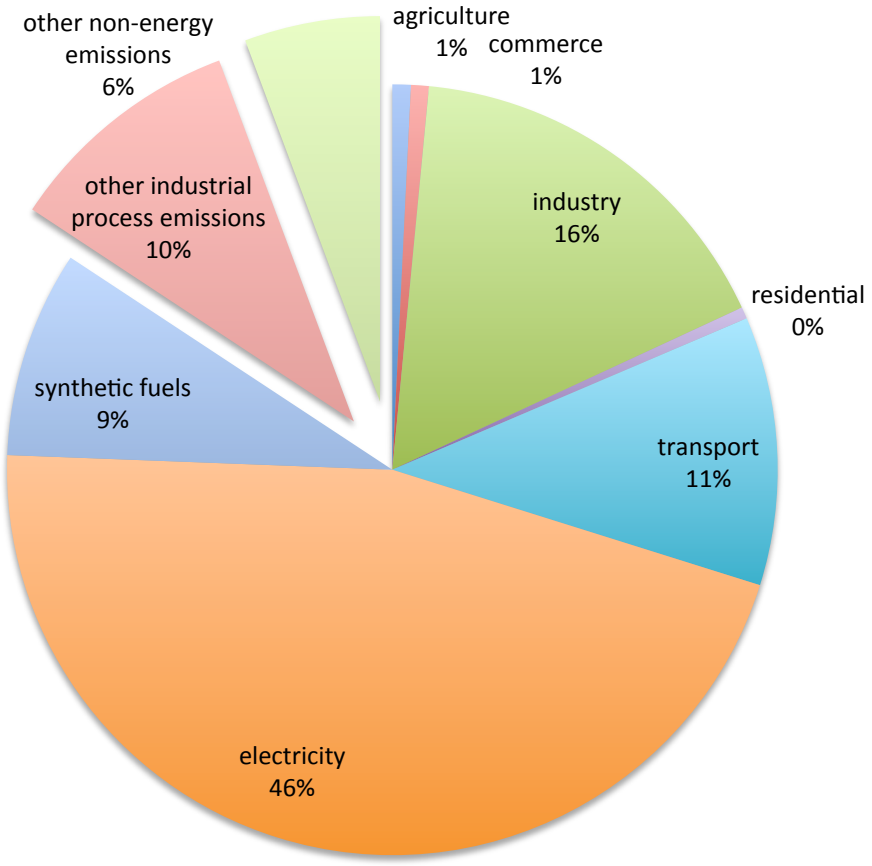
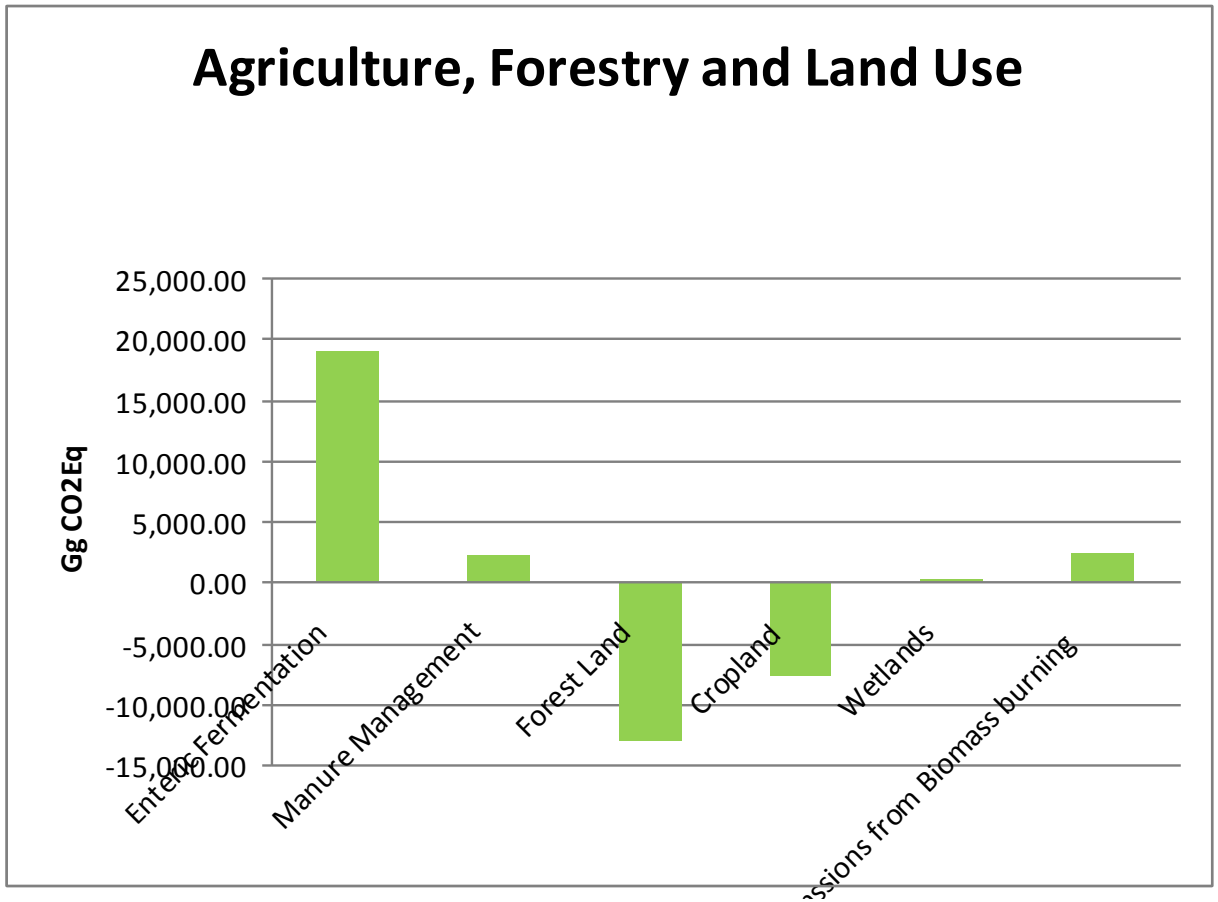
SA emissions profile (estimated shares, 2010)

- Majority of emissions from the energy sector
- Mainly from coal – electricity, industry, synthetic fuels manufacturing process
- Smaller share from crude-based liquid fuels
- Therefore, key mitigation problem is tackling coal, especially electricity





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LTMS and LULUCF

1. Emissions and sinks of carbon from LULUCF are very **poorly understood** in South Africa and subject to a **high degree of uncertainty**.
2. The LTMS made the first attempt to identify the potential for mitigation in the LULUCF sector, suggesting that the most potential lay in three areas:
   - **fire control**
   - **savanna thickening**
   - **afforestation**

LTMS analysis of mitigation actions in AFOLU

Mitigation action	Mitigation cost (R / t CO2-eq);	GHG emission reduction, Mt CO2-eq, 2003-2050	Rank by costs – (lowest cost is no.1)	Rank by emission reductions – (highest reduction is no.1)
Land use: fire control and bush encroachment	(R 15)	455	10	17
Waste management	R 14	432	15	20
Agriculture: enteric fermentation	R 50	313	21	24
Land use: afforestation	R 39	202	19	27
Agriculture: reduced tillage	R 24	100	18	31
Agriculture: manure management	(R 19)	47	9	34

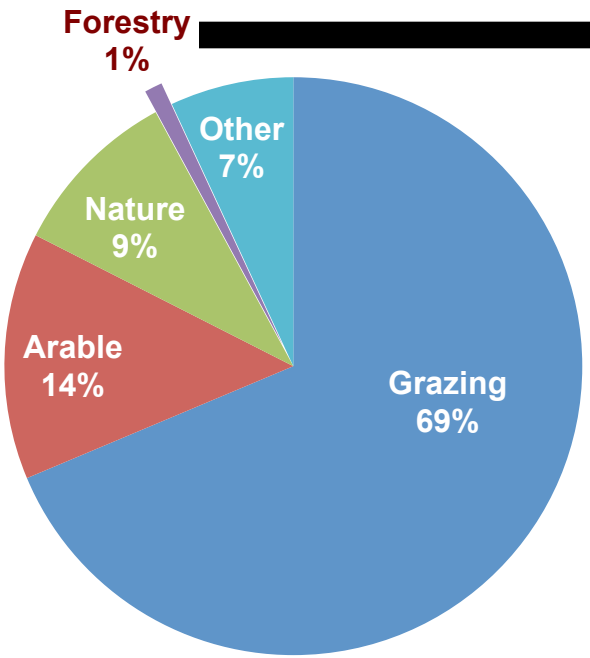
* *source: SBT, 2007*

Some of the challenges

- Post-1994 Land Reform Policy
- Commercial forestry
- Invasive alien species and water scarcity
- Cost benefit analysis – forest inventory
- Modeling capacity
- Data challenges

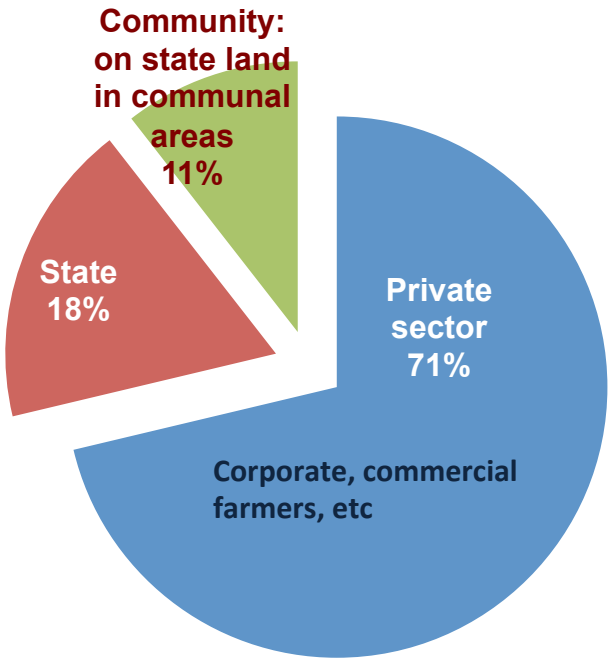
South Africa's land use stats

Land use



122.3 million ha

Forest ownership



1,3 million ha

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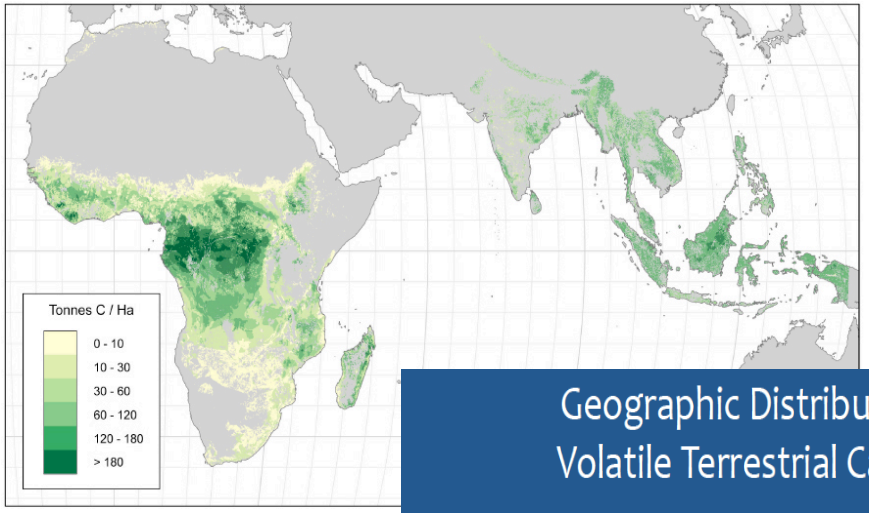
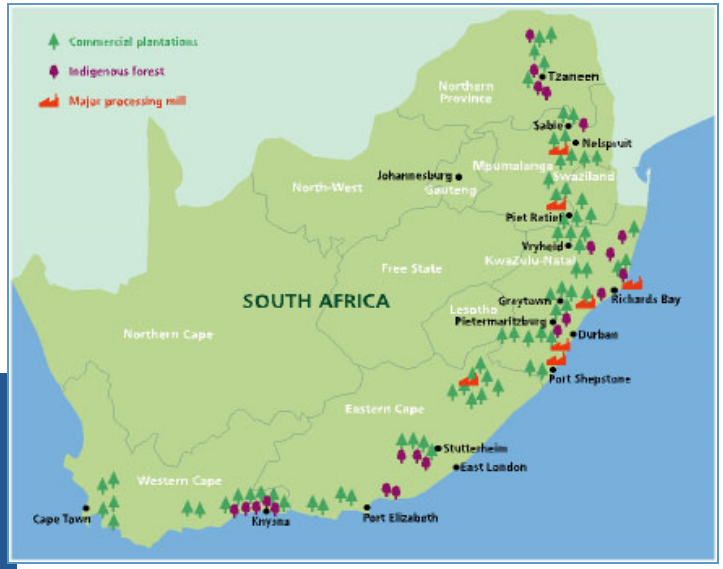
Carbon in S.Africa



Gibbs *et al*. 2007



Geographic Distribution of Volatile Terrestrial Carbon*

Top 10 Volatile Forest Carbon	GtC
Brazil	86.9
Democratic Republic of Congo	39.2
Indonesia	27.3
China	18.1
Peru	14.8
Angola	12.3
Colombia	11.8
Bolivia	10.0
Mexico	9.5
Venezuela	8.5
Total Top 10	**238.3**
Total All Non-Annex I Countries	**363.7**
Top 10 as % of all	66%

Top 10 Volatile Non-Forest Carbon	GtC
Brazil	19.3
China	19.1
India	10.8
Indonesia	10.4
Argentina	9.4
Mexico	7.8
Sudan	6.8
Kazakhstan	6.7
Democratic Republic of Congo	4.1
South Africa	4.1
Total Top 10	**98.5**
Total All Non-Annex I Countries	**207.1**
Top 10 as % of all	48%

The Terrestrial Carbon Group

* Carbon that would be emitted in the event of land use change => 100% vegetation & 25% soil

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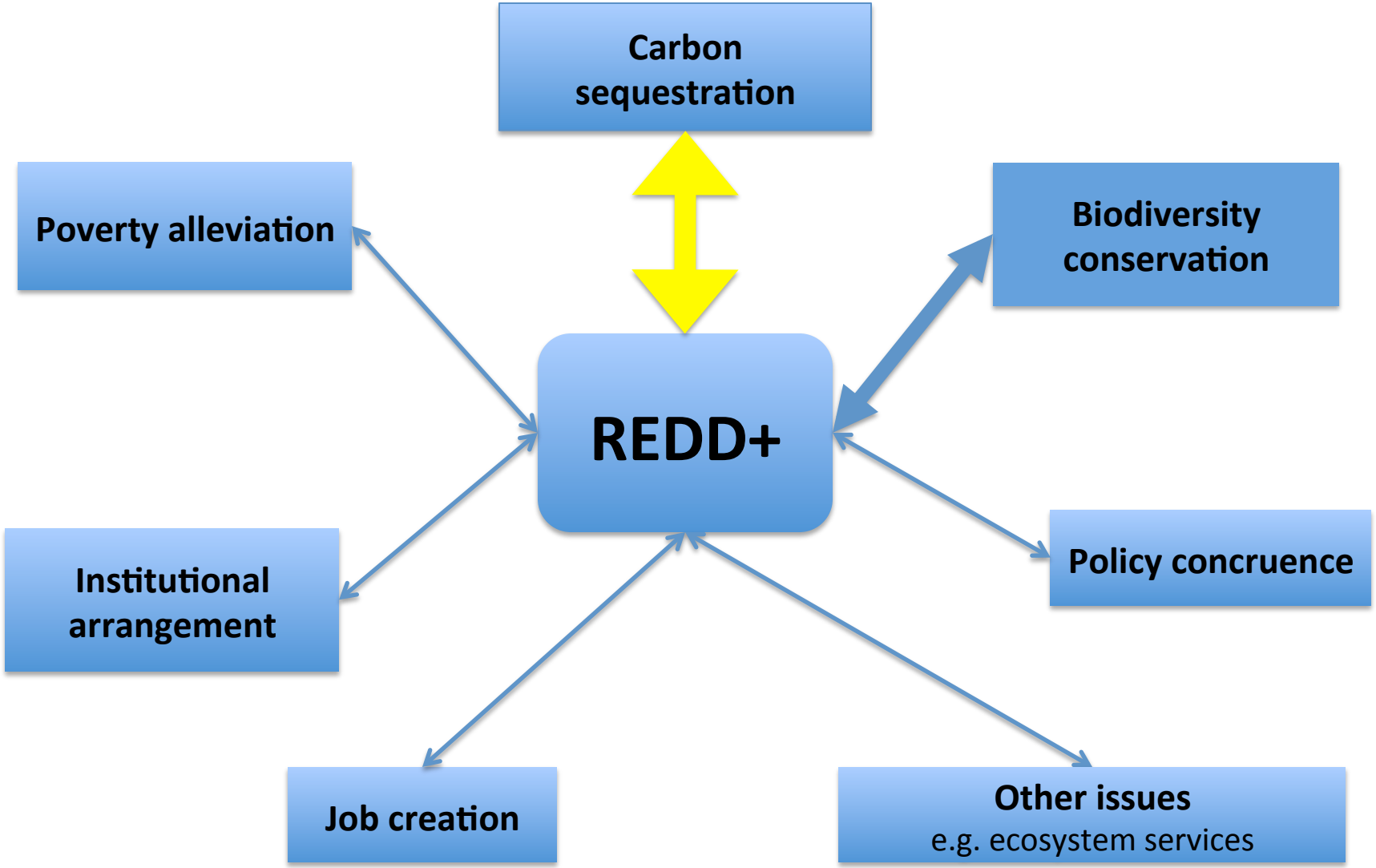
Promising initiatives

- National Climate Change Response Strategy
- Establishment of Climate Change Response Monitoring and Evaluation System – MRV
- GHG inventory update – forest inventory
- National carbon sinks assessment
- SADC ecosystem approach to REDD+
- Expanded Public Works Programmes



Rahlao *et al* 2012

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South Africa's national REDD+ initiative: assessing the potential of the forestry sector on climate change mitigation

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Thank you all!

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