



Ministry for Environment, Planning and Economic Development
Ministerie van die Omgewing, Beplanning en Ekonomiese Ontwikkeling
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Climate Change

Putting Knowledge into Practical Action: What's happening in the Western Cape

by

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Outline

- **Global Context**
- **Western Cape – our changing climate**
- **Government’s Response Strategy**
- **Provincial Energy Picture**
- **Government Interventions**
- **Conclusion**





What the world leaders are saying

"Climate change poses at least as big a threat to the world as war"

UN Secretary General Ban Ki-Moon

"Parties have recognized the urgency of action on climate change and have now provided the political response to what scientists have been telling us is needed."

UNFCCC Executive Secretary Yvo de Boer



Global context

- UNFCCC ratified by SA in 1997
- Kyoto protocol ratified by SA in 2002
- UNFCCC and Kyoto sets targets for developed nations to reduce carbon emissions (mitigation)
- Developing countries have no carbon reduction commitments (**YET...**) while they focus on poverty eradication
- It embodies a number of principles that SA should adhere to, particularly the principle of “common but differentiated responsibilities”, for example,
- Developed countries assume a leading role in emissions reductions,
- Developing countries feature the coordination between economic growth and environmental protection while expanding the economy and eradicating poverty AND
- Slow down Climate Change by formulating and implementing favourable policies and measures



Western Cape's International Involvement

- Western Cape signatory and committed to Montreal Climate Leaders Agreement
- Western Cape playing a leading role in nrg4SD
- Participates with National Government in UNFCCC conferences
- Western Cape, through nrg4SD, is co-operating with The Climate Group
- Western Cape involved in bi-lateral actions with other regions e.g. Bavaria



And how is the world responding?

- There are two key ways of responding to our changing climate
 - Through **Adaptation** - I.e. recognising that we are in climate change and that we need to adapt to these changed and changing conditions = behavior change (alternative farming practices, demand side management practices, development planning)
 - And through **Mitigation** - I.e. recognising that in the longer term we can stem the tide of climate change through activities that reduce our carbon footprint on the globe = technology changes and activities that actively reduce our carbon emissions (cleaner fuel burning, energy efficiency, efficient vehicles, methane capture on livestock farms)
 - BOTH require leadership by government - driving behavior change and action through informed policy and incentive instruments



Background to Western Cape

- Mediterranean climate region, unique in southern Africa, supporting specific agricultural activities, species-rich ecosystems
- Diverse economy, significant dependence on exported agricultural products, nature-based tourism
- Rapid urbanisation rate, demand for services
- Vulnerability to extreme climatic events – recent drought and floods
- SA Country Study (2000) identified the western and Northern Cape as vulnerable to first effects of climate change

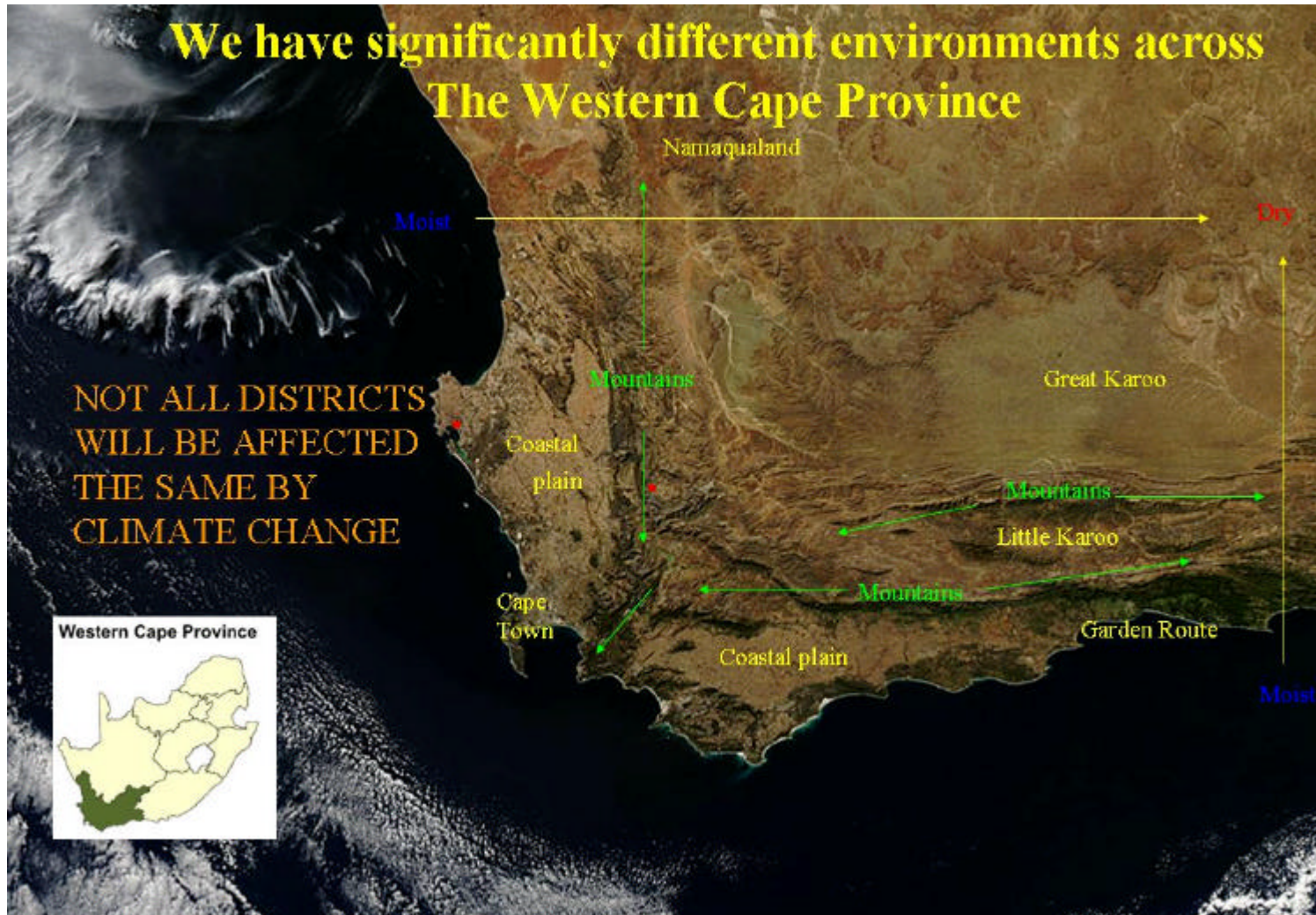


Our key vulnerabilities due to Climate Change

- Human health (dehydration, skin cancers, water borne disease)
- Agriculture & food security biodiversity
- Water security & resources
- Urban air pollution – an increase in health care
- Fire management
- Waste management
- Livelihoods – Human settlement patterns
- Ecological reserves
- Energy security
- Human settlement patterns (fire and flood prone areas)
- Communities dependent on natural resources
 - subsistence fisheries and
 - farmers



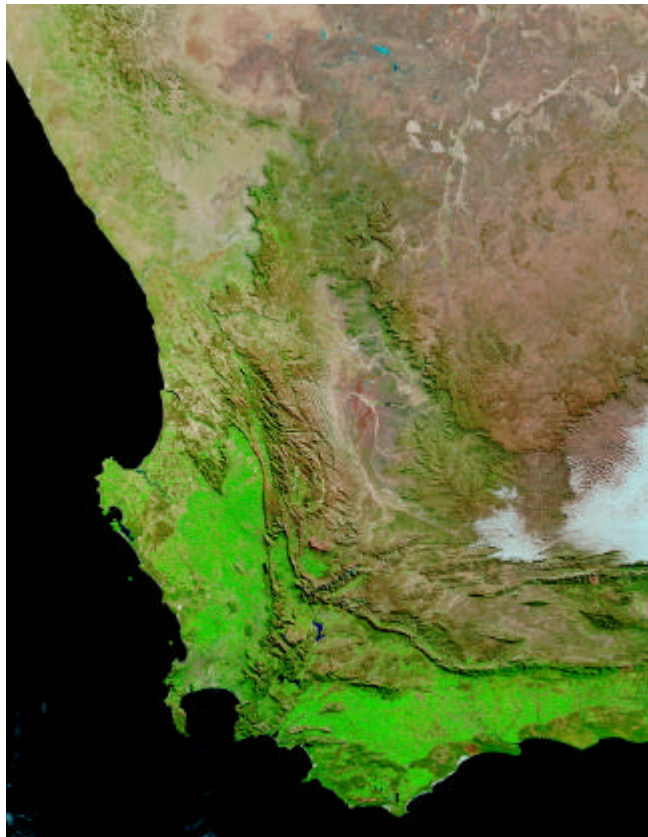
Western Cape – our changing climate



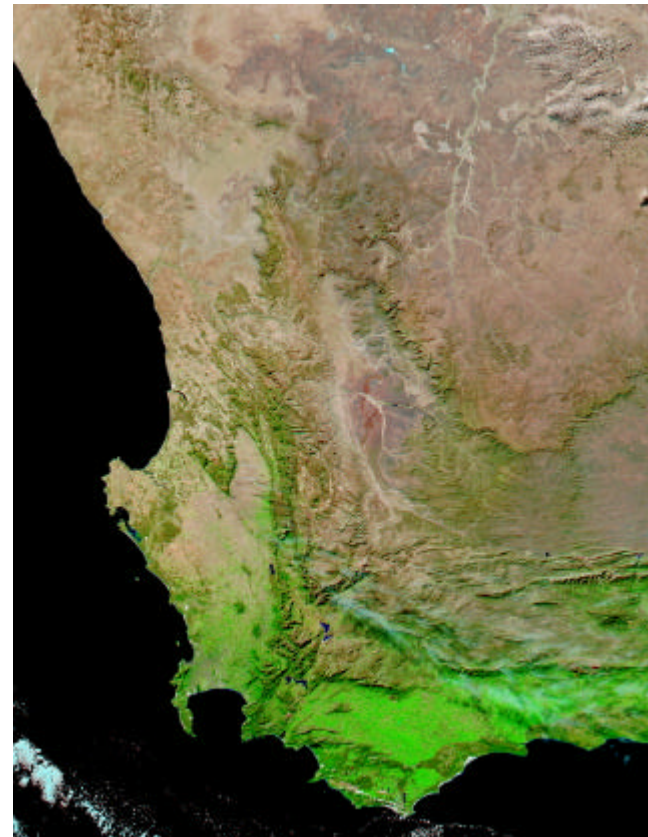


Climate related risks and extreme events – **drier summers**

21 July 2002 - Normal



21 July 2003 - Drought





Climate related risks and extreme events - storms





Climate related risks and extreme events - fire

Signal Hill – Jan 2006



Shack fire Stellenbosch
Dec 2004



Table Mt – Jan 2006





Climate related risks and extreme events – **rising sea**





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Climate related risks and extreme events – livelihoods





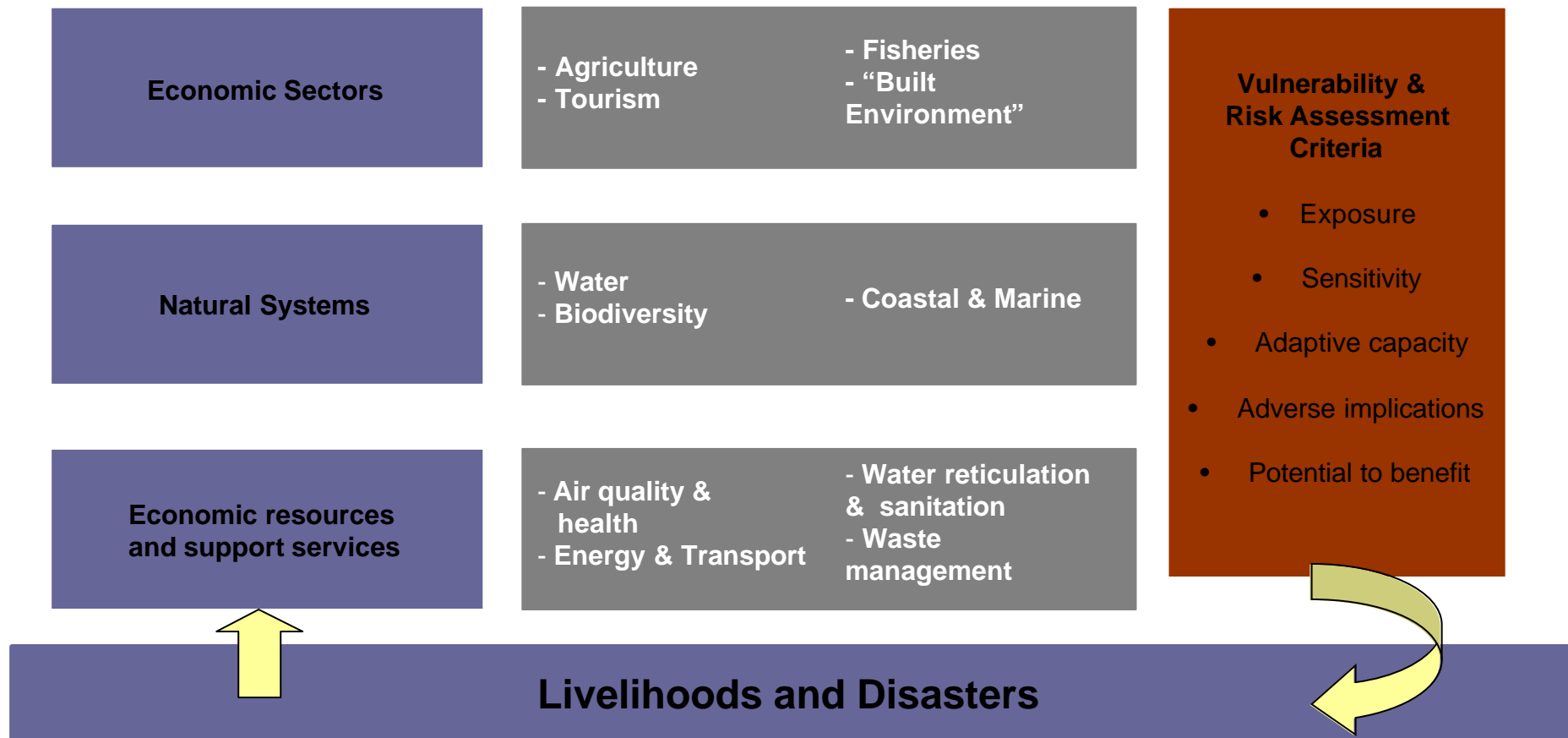
Western Cape approach to climate change

- **1990's** - The South African Country Study on Climate Change
 - Identified the Northern and Western Cape Provinces as being most at risk from projected climate changes in South Africa.
- In **2004** the Provincial Cabinet tasked the Dept of Environmental Affairs and Development Planning to research the potential impacts of climate change on the Western Cape – report completed in June 2005
- **June 2005** - DEADP commissioned an “Adaptation Assessment of the Physical and Socio-Economic Effects of Climate Change in the Western Cape”
 - Dr Guy Midgley of the South African Biodiversity Institute and a leading member of our UNFCCC national negotiating team led the study.
- **Dec 2007** - Western Cape Climate Change Strategy and Action Plan finalised
- **Q2 2008** - Western Cape climate change response strategy and action plan to be tabled to Provincial Cabinet



Strategy Approach

Certain sectors have been identified as high risk and extremely sensitive to climate change...





Climate change is a **poverty** issue

- The Western Cape faces the real possibility of socio-economic impoverishment as a result of climate change over and above the negative impact on poverty alleviation programmes
- The Western Cape faces the challenge of unintended consequences of international mitigation actions
- Low income communities are the most vulnerable!

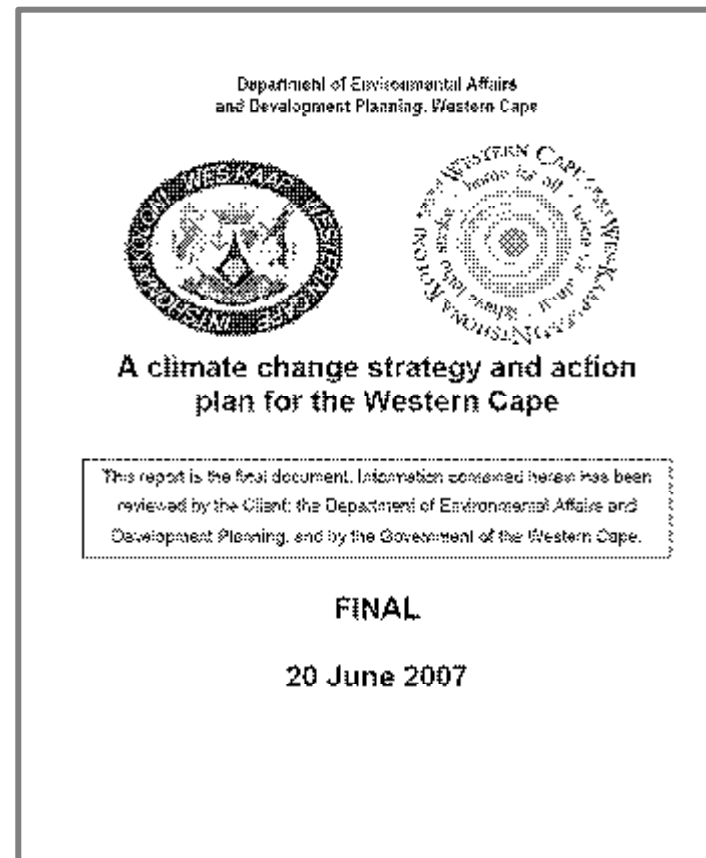


Government's Current Policy Response

- Climate Change Strategy and Action Plan
- Guidelines on integrating climate change in development plans
- Sustainable Energy Strategy
- Clean Energy Governance Programme
- Renewable Energy Sector Cluster in the Western Cape
- Renewable Energy Act for the Western Cape
- Carbon Development Mechanism funding



A Strategy and a Plan



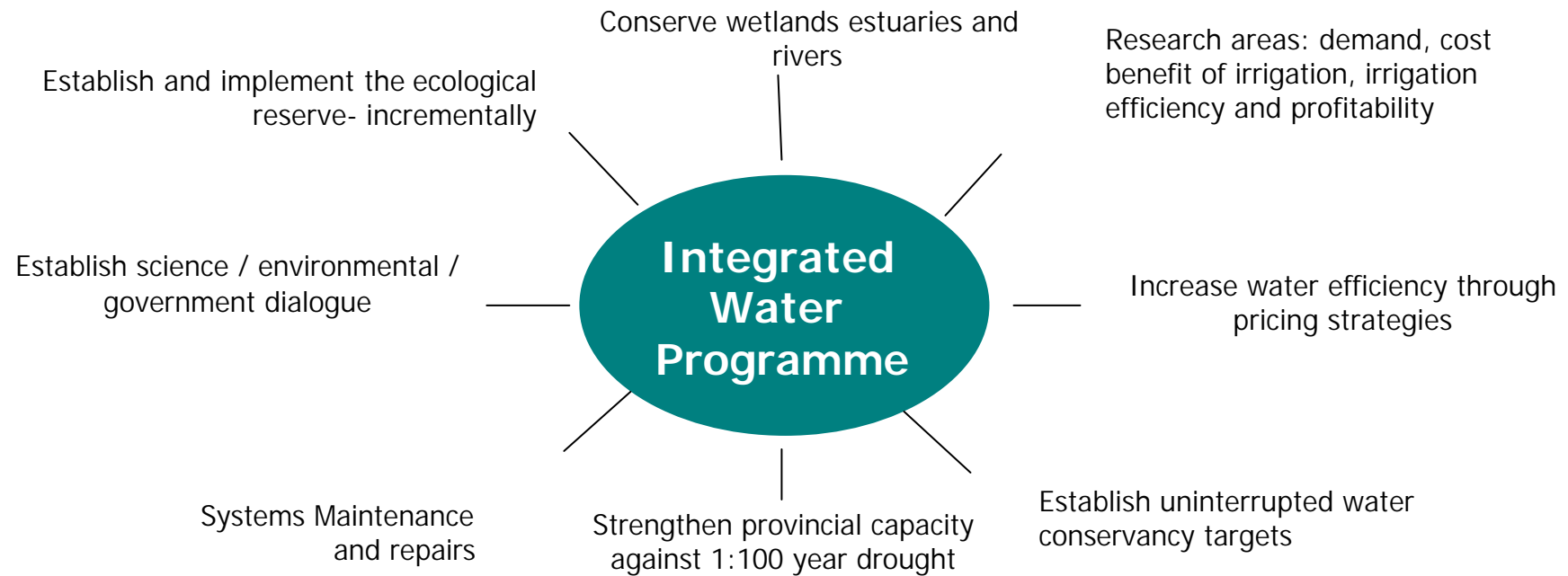


The Western Cape Climate Change (CC) Response Strategy and Action Plan

1. The Provincial CC Cabinet Work stream Committee
 - Co-ordination of departmental projects, timeframes, budgets, implementation
2. Three Adaptation Programmes:
 - Integrated water supply and infrastructure;
 - Climate change research and monitoring;
 - Linking livelihoods, land stewardship and economic growth
3. One Mitigation Programme:
 - Reducing our carbon footprint and maximising energy efficiency opportunities



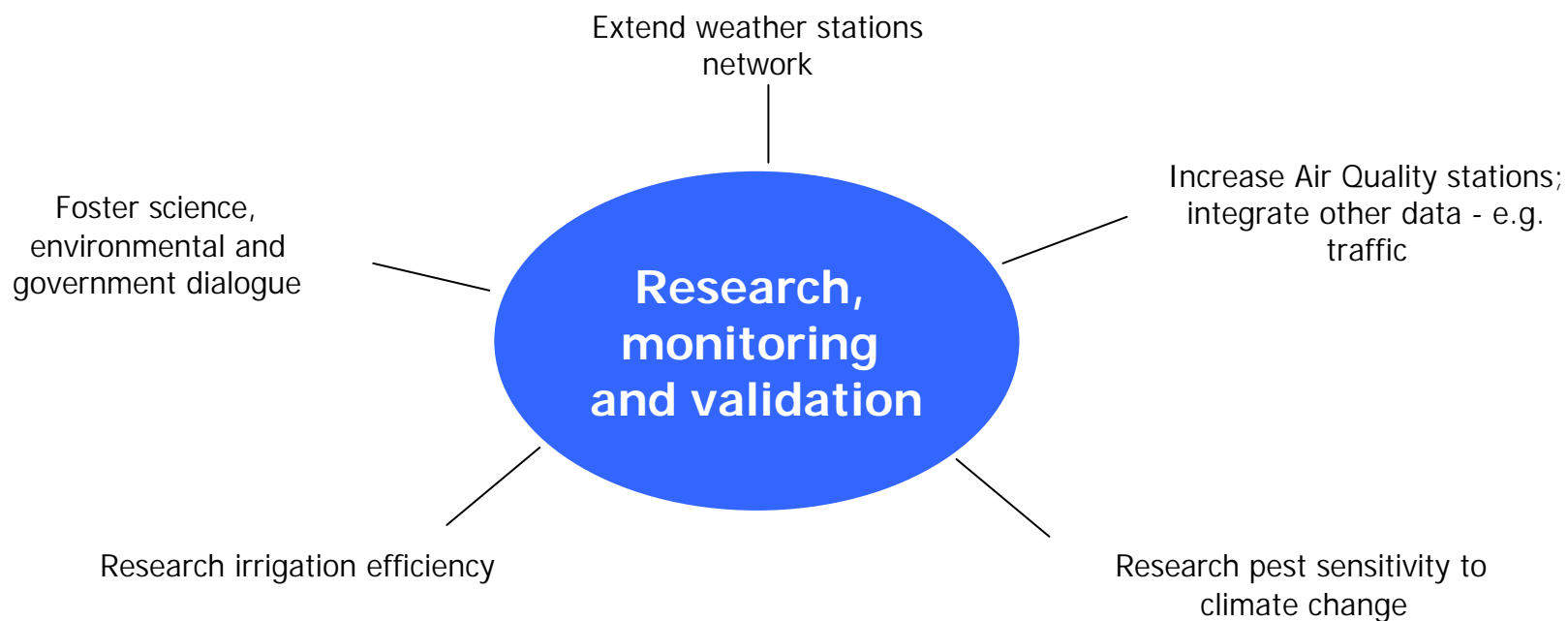
Programme 1: Integrated water supply and infrastructure



Programme custodian: DWAF



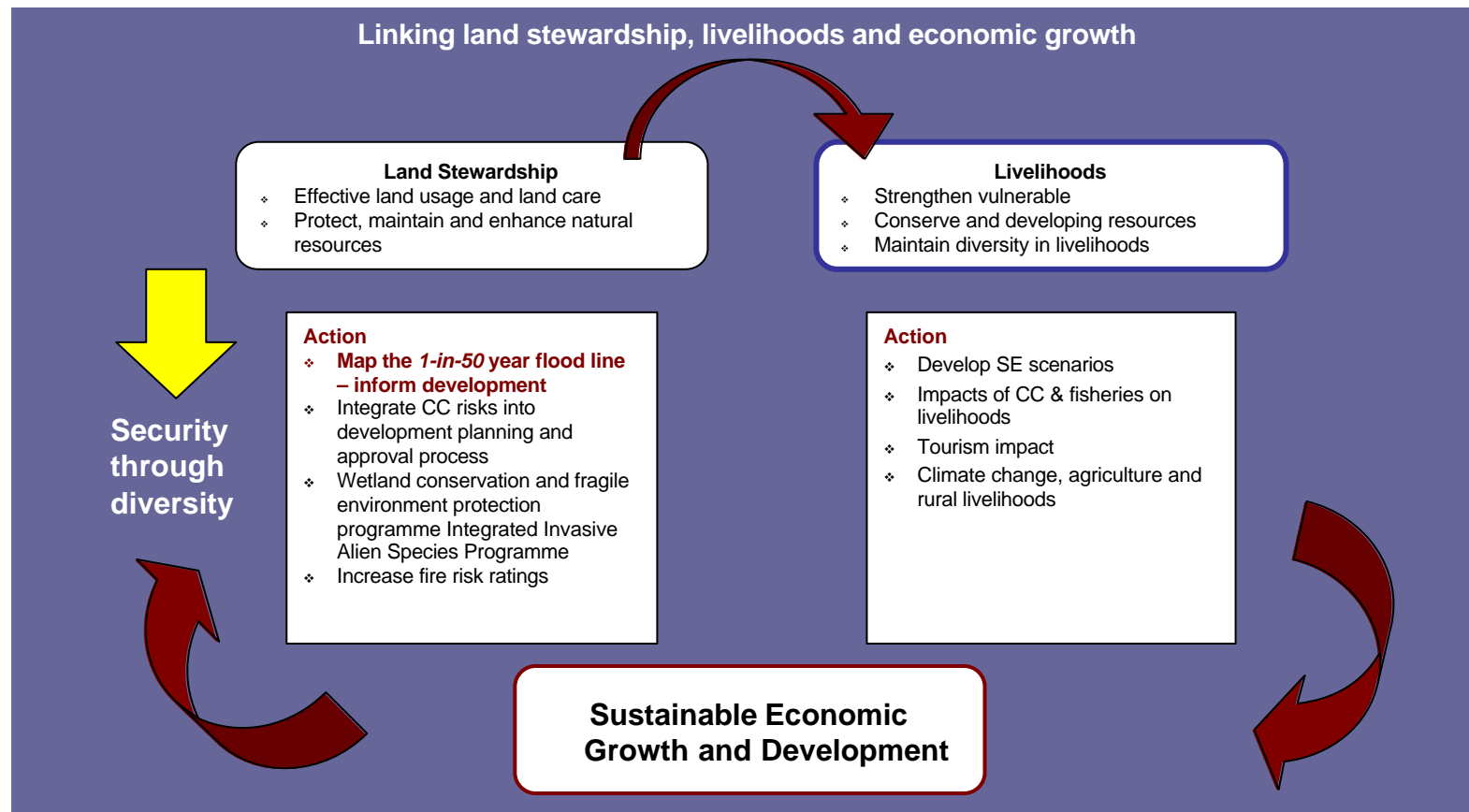
Programme 2: Climate change research and monitoring



Programme custodian: PCCC / DEA&DP

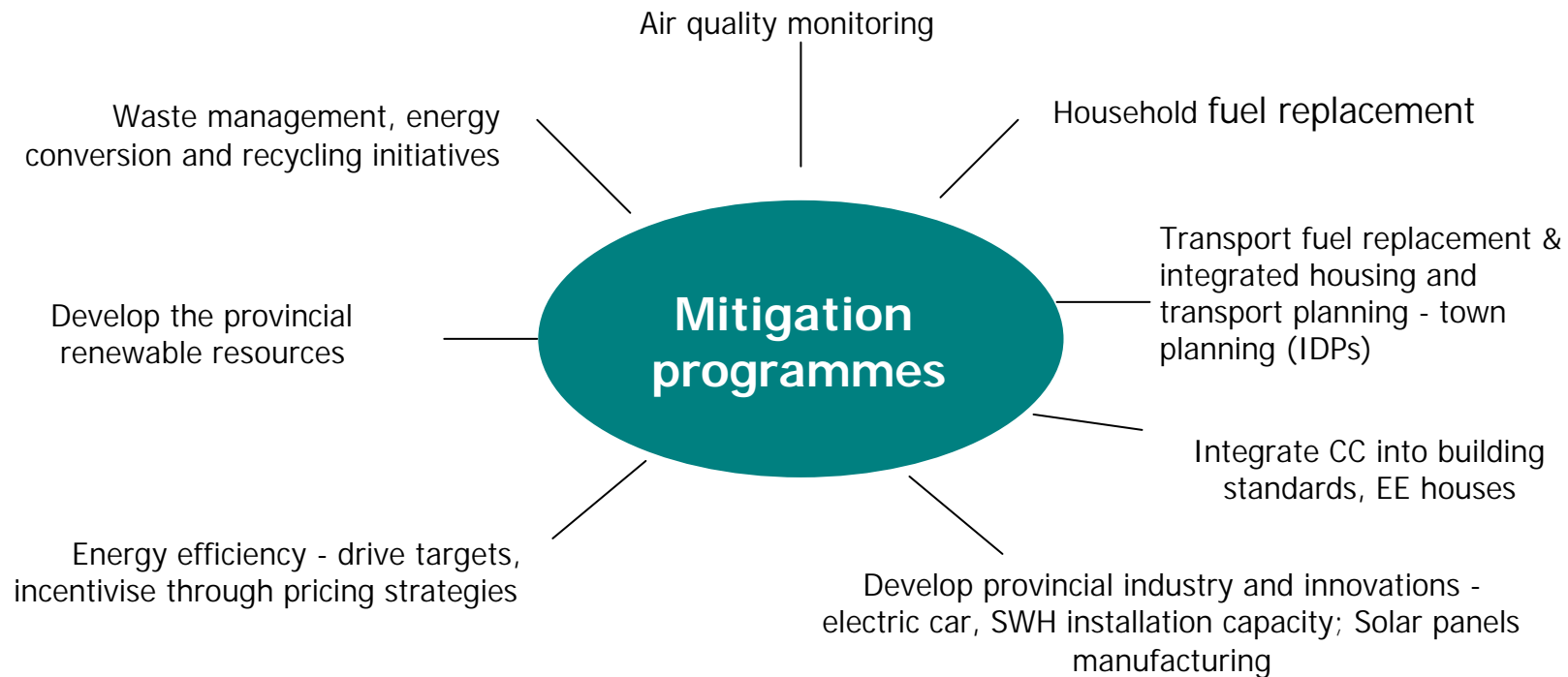


Programme 3: Establish clear linkages between land stewardship, biodiversity, livelihoods and the economy





Programme 4: Reducing our carbon footprint and maximising energy efficiency opportunities

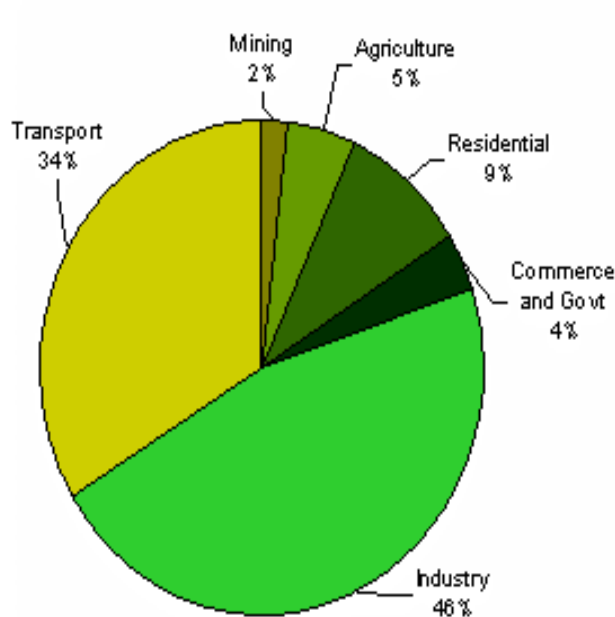


Programme custodians: DEA&DP; DME; CTC; DoT; Housing

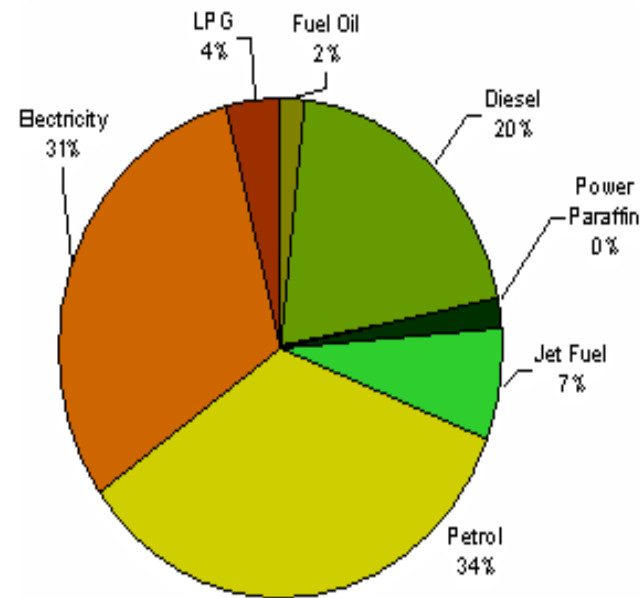


Provincial Energy Picture

The Western Cape's energy demand is approximately 249.621 GJ (2004). Expected to grow to 420 million GJ over next 20 years under current growth patterns.



Western Cape Energy Consumption by Sector



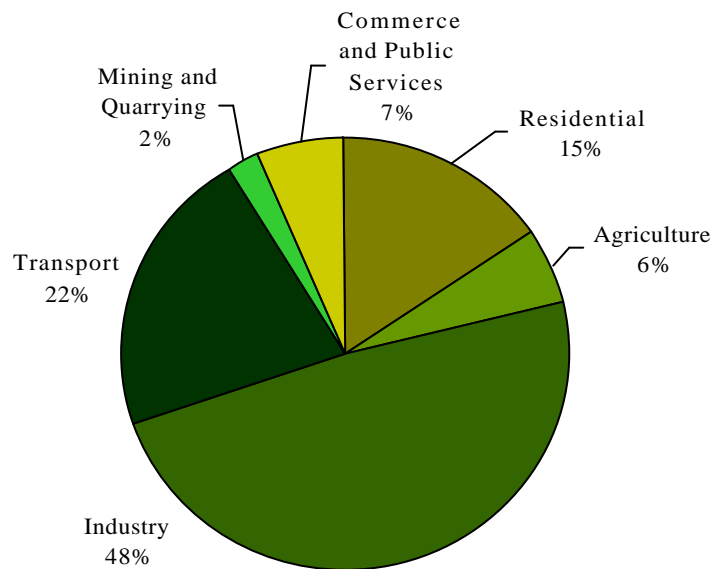
Western Cape Energy Consumption by fuel type

- Industry and transport are the main energy consumers and account for 80% of the energy consumption. Transport heavily dependent on petrol. Industrial sector reliant on electricity and also 2nd largest petrol consumer

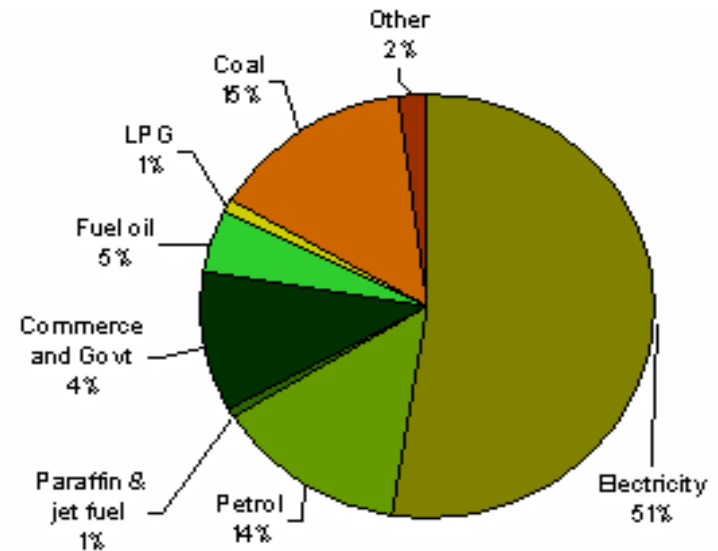


Provincial Carbon Footprint

Western Cape produces 30 536 000 tonnes of Co2 per year. Half from the industrial sector and a further 22% from transport sector.



Carbon footprint by sector based on electricity use



Carbon footprint - energy use by fuel

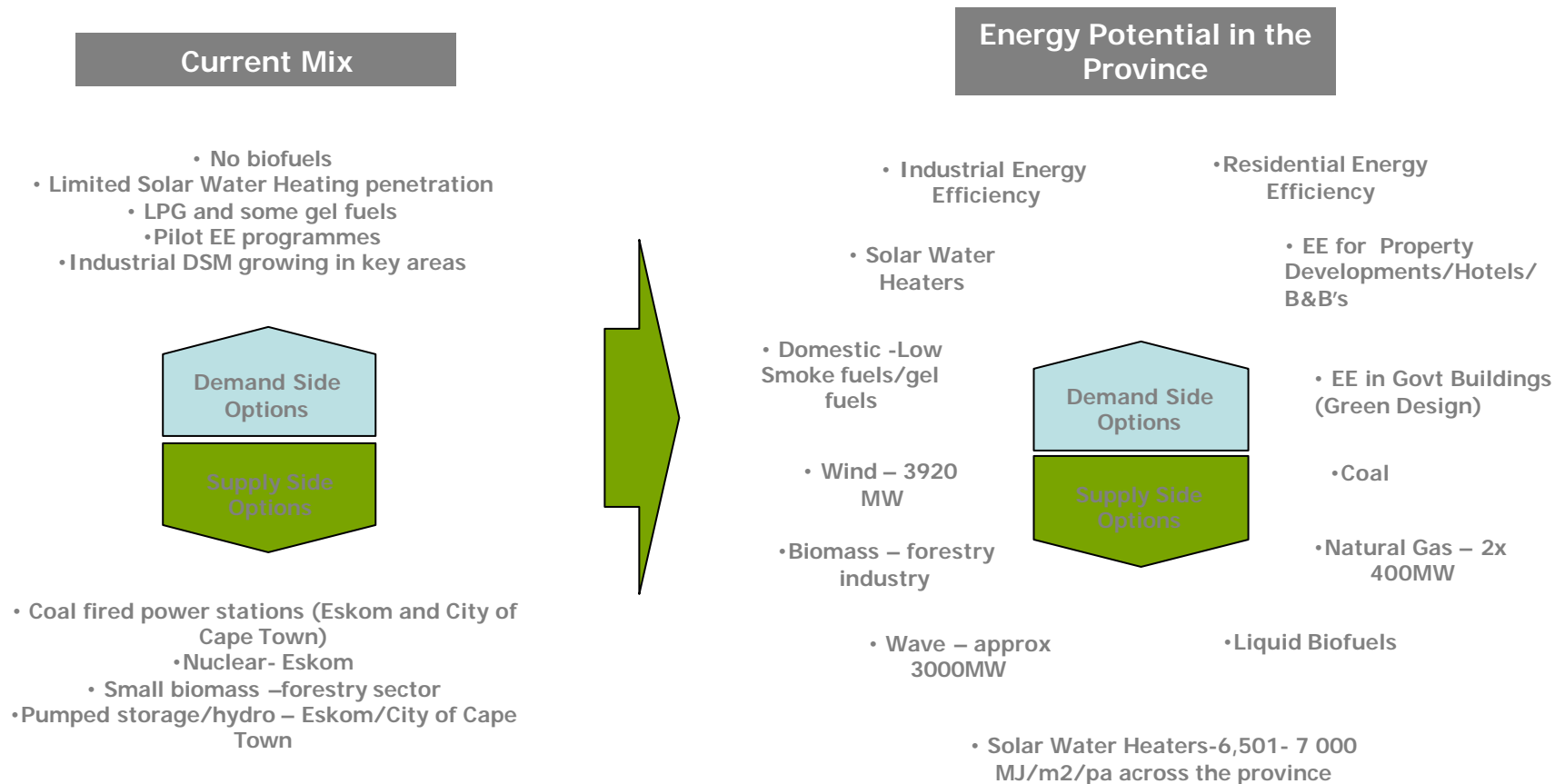
- Most of the carbon dioxide released from energy use within the province comes from electricity production, with petrol and diesel use contributing significantly as well
- Industry is the largest user of electricity in the province, followed by the residential sector and then commerce and government.



Future Scenarios

Understanding Our Clean Energy Potential

- The Western Cape possesses significant potential to address the challenge of providing cleaner energy for sustainable development and addressing the climate change challenges

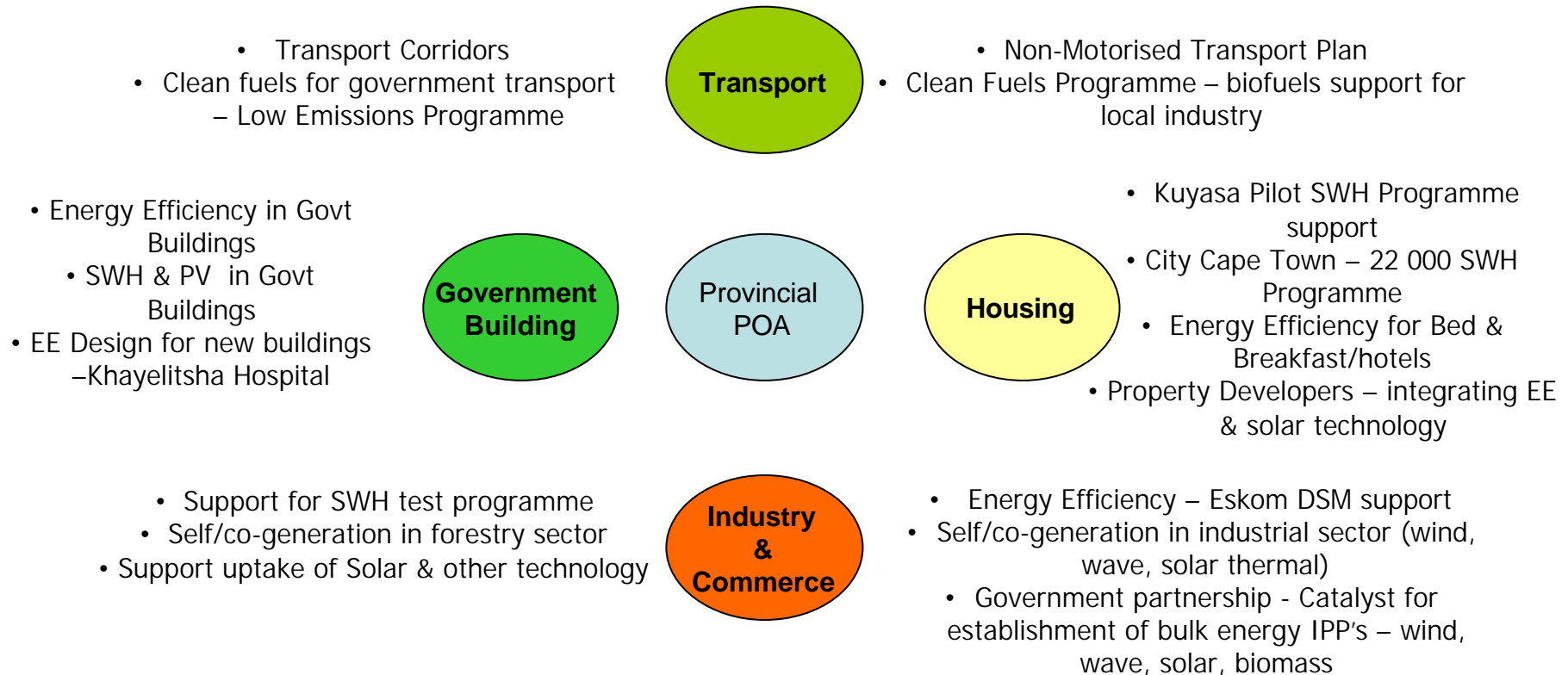




Energy Scenarios

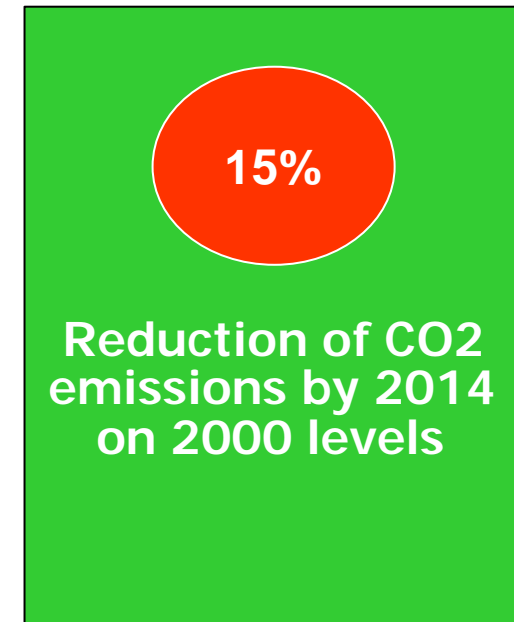
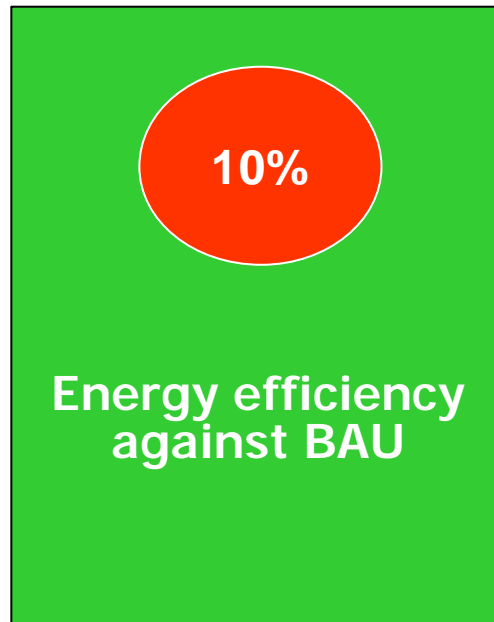
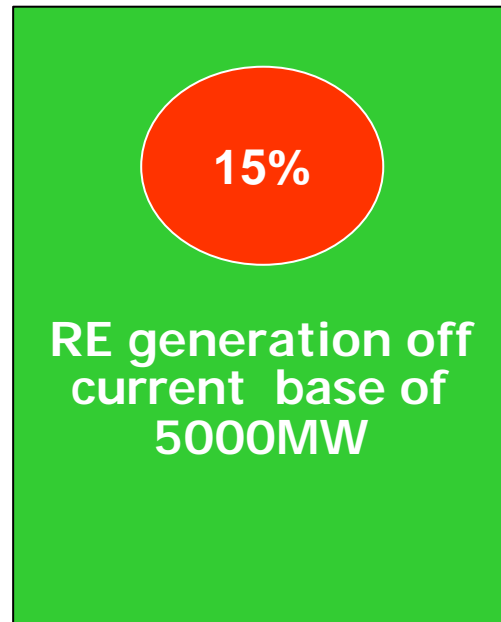
Developing Key Policies, Targets & Programme of Action

- Provincial Government's is in the early stage of formalising its energy programme. Kick-starting the process by supporting Solar Water Heating across low, medium and high income users





2014 Western Cape energy savings targets





??





Government Interventions

- **Solar Water Heating in low to medium income households**
 - Develop financing model
 - Access finance – NEF, ESKOM, CDM
 - Develop partnerships
 - Implement pilot projects in SOPA areas
- **Efficient lighting and appliance projects (3000MW)**
 - Low income households
 - Solar PV stations
 - Learning, community centres
 - Fuel replacement
 - Energy efficient appliances



Government Interventions (cont)

- **Government Interventions**
 - Guidelines for Retrofitting Buildings
 - Fleet fuel change
 - SWH in govt institutions
 - Public transport
 - FIFA 2010
 - Legacy projects – Hessequa etc...
- **Facilitate private sector initiatives (The Polluter Pays Principle)**
 - Generations and supply
 - Appliances – ratings, labeling
 - Technology – best practice
 - Green Energy trading (TRECS)
 - Feed-in Tariffs, incentives, subsidies



Environmental Authorisations (RoDs)

- Reducing the cumulative impacts on water sources;
- Water and energy efficiency measures;
- Transport focus on public transport measures;
- Development setbacks in coastal zones and flood prone areas;
- Avoiding damage to wetlands, aquatic systems, forests, other fragile environments and biodiversity hotspots and corridors;
- Avoiding development of high potential agricultural land;
- Avoiding impacts and promoting environmental rights of socio-economically disadvantaged communities

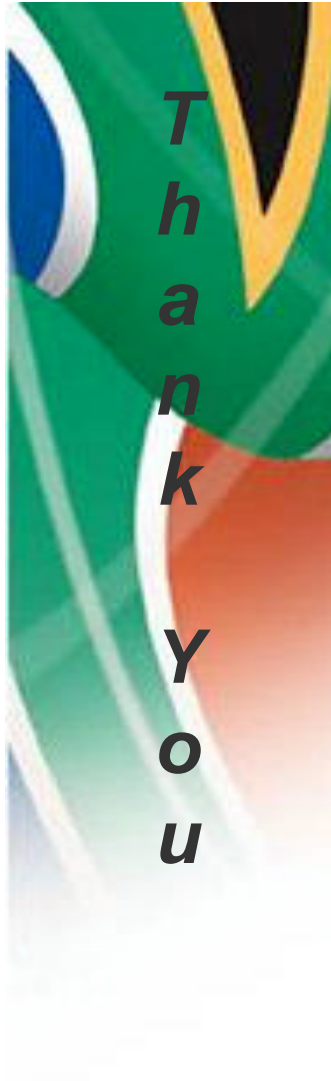


Conclusion

- Climate change poses a real threat to sustainable development in the Western Cape
- Key adaptive strategies to reduce pressure on natural resources and protect economic activities make sense both now, and into the future
- Key imperative is to adapt our provincial development initiatives and activities to minimise the impact of adverse climate trends on our citizen's socio-economic development and on natural resource conservation
- Broad-based commitment and holistic planning are needed to cope with this threat and its impacts
- Integrated and innovative land-use planning and management – key to changing the status-quo
- Risk assessments, projections and adaptive strategies must be based on good science, & this capacity is critical for the Province



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Useful Climate Change sources

Provincial Government Western Cape:

- Climate Change Response Strategy and Action Plan www.wc-climatechange-response.org.za

South African

- SANBI Research: www.sanbi.org/frames/researchfram.htm
- SA Weather Service: www.weathersa.co.za/References/Climchange.jsp
- Climate Systems Analysis Group (UCT): www.csag.uct.ac.za

United Nations

- The Intergovernmental Panel on Climate Change (IPCC): www.ipcc.ch
- Convention on Biological Diversity – UNEP (CBD): www.biodiv.org
- Millennium Ecosystem Assessment: www.millenniumassessment.org
- United Nations Convention to Combat Desertification (UNCCD): www.unccd.int
- United Nations Environment Programme (UNEP): www.unep.org
- United Nations Framework Convention on Climate Change (UNFCCC): <http://unfccc.int/2860.php>

Other International

- Famine Early Warning Systems Network (FEWS Net): www.fews.net
- G8: 2005 Gleneagles Summit: www.g8.gc.ca/sumdocs2005-en.asp

