



**DEPARTMENTS OF  
ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING,  
AGRICULTURE,  
TRANSPORT AND PUBLIC WORKS AND  
HOUSING**

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**Creating an Open Opportunity Society for All in the Western Cape**

**1 Strategic Objective 7**

**Mainstreaming Sustainability and Optimising Resource-use Efficiency**

**1.1 Defining the Strategic Objective**

The objective is to ensure that the Provincial Government of the Western Cape PGWC integrates sustainability and resource-use efficiency and into the activities and sphere of influence of all Departments. Sustainability is not just something done in addition to normal business. Sustainability requires a different approach to doing normal business. It requires not just 'doing things right' but also 'doing the right things'.

For the purpose of this strategic objective, the following definitions apply:

**'Resource-use'** is used in a wide sense to include use of renewable and non-renewable natural resources as well as use of technological and infrastructure resources among others.

**'Efficiency'** refers to the optimal utilisation of resources.

**'Sustainability'** refers to the concept and practice of Sustainable Development (and includes sustainable agricultural production). Sustainable development aims to meet human needs while preserving resources and optimising the use thereof so that these needs can be met not only in the present, but also for future generations.

**'Mainstreaming'** refers to the integration of resource-use efficiency and sustainability into the core sectoral or cross-sectoral policies, programmes, plans and activities of PGWC and all the sectors in the Province.

Climate change is considered to be one of the biggest challenges facing communities locally and internationally. Its influence on the Province's natural resources namely, land, water, air, soil as well as biodiversity and ecosystem goods and services will have a major impact on vulnerable economic sectors, such as agriculture, and communities (especially the poor communities) within the Province.

## 1.2 Six key policy priorities inform the actions to be taken by the Western Cape Government to ensure the efficient use of provincial resources and the sustainability of the province:

- **Climate Change Mitigation<sup>1</sup>:** To reduce greenhouse gas emissions and improve air quality management. This includes measures to promote energy efficiency, renewable energy production, and to reduce the burning of fossil fuels;
- **Water Management:** To improve agricultural, industrial, commercial and household water use efficiency, planning and management;
- **Pollution and Waste Management:** To improve pollution and waste planning and management;
- **Biodiversity Management:** To improve biodiversity planning, management and conservation;
- **Land-Use Management and Agriculture:** To ensure the optimal and wise management and use of land, including the utilisation of land and natural resources for productive purposes, taking into consideration conservation imperatives and preventing the fragmentation of land, and to optimise the use of these resources (for example in agricultural production and to develop new and alternative crops, improved and new production practices and methodologies to support an increase in agricultural production through the optimal and sustainable utilisation of resources against the background of food security in agricultural production);
- **Built Environment:** Mainstreaming resource-use efficiency and sustainability into land-use management and development as well as into rural and built environment<sup>2</sup> planning and management.

## 2 Problem Statement

The rapid development of the Western Cape, as well as general water, energy, pollution and waste, transport and other resource-use inefficiencies is leading to extensive environmental degradation and biodiversity loss and agricultural production decline with concomitant deterioration in social and economic conditions. Climate Change will exacerbate the above and poses significant adaptation challenges to retain societal and economic resilience.

It's important to be cognisant that most environmental outcomes are not under the direct control of the Department of Environmental Affairs and Development Planning. Numerous provincial government and other role players, within and outside the other two spheres of government, are responsible for achieving sustainability outcomes and the Department's primary role is to regulate, advocate and facilitate sustainability and resource-use efficiency in order to change human and organizational behaviour patterns.

- **Climate Change Mitigation**

Climate change predictions indicate that it is necessary to mitigate (reduce) greenhouse gas emissions, particularly since air quality related health problems are predicted to increase by 20% over the next decade.

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<sup>1</sup> Apart from climate change **mitigation** measures it is important to note that many of the activities recommended in the 2<sup>nd</sup> through 6<sup>th</sup> policy priorities above are climate change **adaptation** activities

<sup>2</sup> Including settlements

Approximately 95% of the energy use in the Province is generated by the burning of fossil fuels (coal and oil). This scenario is entirely unsustainable in the medium to long term due to the fact that fossil fuels are non-renewable resources.

- **Water Management**

The Province faces a climate change scenario that predicts drying conditions, together with increasing economic and population growth. There is a limited availability of water and the current provincial water resources are over-allocated. An increase in the frequency and intensity of extreme weather events and disasters, with related impacts on agricultural production and other economic sectors, will undoubtedly negatively affect the provincial economy.

Water resource quality in the Province ranges mostly between fair and poor, and continues to decline as pressures from human activities increase. This exacerbates the demands placed on the limited availability of water for use.

- **Pollution and Waste Management**

An increase in the demand and production of goods has led to an increase in the amount of pollution and waste generated. Due to the absence of, or limited waste minimised at source, landfills in the Province have become overfilled and have become synonymous with 'reduced landfill life expectancy'. The current maximum rate of waste diversion from Cape Town landfills is 13%, which is below the landfill-to-airspace target required to extend landfill lifespan. In addition, not all waste facilities in the Province are licensed, nor do all facilities comply with permit conditions. This situation is exacerbated by issues such as inappropriate spatial planning, lack of available land, lengthy license approval time-frames, and increased waste transport costs.

Inefficient technologies, inappropriate management of waste, poor effluent quality from industry and wastewater treatment works, and the increase in the number of emergency incidents has resulted in unacceptable levels of air, land and water pollution in the Western Cape.

- **Biodiversity Management**

The conservation of the Province's globally significant biodiversity resources is under threat due to the rapid rate of urban and agricultural development. Continued degradation of ecosystems and ecosystem services in the Province will have a devastating effect on the agricultural and other sectors. Climate change, as an additional challenge, places provincial biodiversity at extreme risk.

- **Land-use Management and Agriculture**

Agriculture (and ultimately food security) is dependent on the utilisation of the three major natural phenomena (land, water and climate). If any of these three phenomena are threatened, the negative impact reverberates throughout the Province causing food insecurity, in-migration to towns, increased unemployment and reduced foreign earnings, for example. Linked to climate change, the agricultural production patterns and opportunities will change over time, and alternative crops and livestock options must be explored to ensure food security and employment.

- **Built environment planning and management**

Current land-use development and management practices in the built environment (in both the rural and urban areas) are unsustainable. This is exacerbated by the lack of true integrated planning and action and a coherent spatial perspective for the Province resulting in fragmented and uncoordinated development patterns, policies, programmes, plans and action. This results in the built environment footprint being resource-use inefficient and having an unnecessarily large carbon footprint. Large tracts of land are consumed placing increasing pressure on environmental and agricultural resources. Sprawling human settlements and the existing intermodal transport system are inefficient and result in excessive greenhouse gas emissions and resource-use inefficiencies. The current legal framework is outdated and exacerbates the problem.

### **3 Obstacles to addressing the problem**

The wide scope of environmental management coupled with typically compartmentalised government organisational structure, policy and legislation will always pose challenges relating to jurisdiction (organisationally, legislatively and spatially). The following were identified as obstacles to addressing the problem:

- *Policy and Legislative-related*  
Key challenges in this area include: unclear areas of jurisdiction; fragmentation of environmental management and land-use control functions and legislation; gaps in legislation to deal with particular sectors of the economy that have large environmental impacts; gaps in our legislative framework to address general resource-use efficiencies and sustainability matters and existing poorly structured human settlements and infrastructure;
- *Institutional and Governance-related*  
Key challenges in this area relate to: limited integration of functions between levels of government; limited departmental resources and operational systems to address strategic environmental challenges; limited funding and some perverse incentives and systems that are not conducive to achieving solutions to strategic challenges;
- *Resource-use challenges (Capacity / Skills)-related*  
Key challenges here include limited public awareness on the effects of climate change and other environmental challenges, such as pollution and waste challenges, as well as knowledge about appropriate behavioural responses and limited appropriately skilled and qualified persons. Additional challenges include over-consumption, wastage and unwise use of resources and a lack of will to change consumption patterns and behaviour.

## 4 Plan to Achieve Outcomes

The key programmes for each of the 6 key policy priorities are:

### **Policy Priority 1: Climate Change Mitigation.**

#### **Theme 1A - Energy Efficiency Programme**

The most inexpensive approach to mitigate climate change is to reduce energy consumption through energy efficiency behavioural changes and technologies. Key measures include promotion of energy efficiency in households, commerce, industry and in all provincial offices, hospitals and schools; a green building programme and a green low cost housing programme to increase the resilience of the poor against climate change impacts.

#### **Theme 1B - Renewable Energy Production Programme**

To enhance the sustainability and energy security of the Province to meet economic, social and environmental objectives, and to ensure that it remains an attractive destination for investment, renewable energy must urgently become a significant component of the provincial energy mix. It is critical to replace and supplement energy produced by burning fossil fuels with clean renewable energy. Key elements of a renewable energy programme include: development of a wind energy sector and energy production from alternative sources such as sewerage sludge, biogas and agricultural and alien vegetation waste for example, as well as net metering supported by a small scale feed in tariff to encourage small scale renewable energy production.

#### **Theme 1C - Air Quality Programme and Climate Change**

To reduce the emission of greenhouse gases and other noxious pollutants in the atmosphere the Province needs to develop an Integrated Air Quality Management System. The system needs to include inventories on greenhouse gases and other gases; Provincial and Municipal Air Quality Management Plans and an effective and efficient Provincial Air Quality Monitoring Network.

#### **Theme 1D - Transport and Climate Change Programme**

Reduce greenhouse gas emissions from this sector by the promotion of energy efficient public transport systems through increasing the use of all modes of public transport as well as a shift of freight haulage from road to rail. Similarly, assessment of options to reduce greenhouse gas emissions from the Provincial government vehicle fleet will be undertaken.

### **Policy Priority 2: Water Management.**

Current regional climate change models predict a drying and warming trend in our Province. This highlights the need for improved water supply and demand management. Key initiatives in this regard include improved catchment management and restoration, water efficiency measures such as recycling and reuse of wastewater, as well as retrofitting and grey water reuse options. The development of a Provincial Integrated Water Resource Management Plan, which mandates the development of sectoral water management plans for agriculture, industry, commerce and residential sectors for example, is a priority policy instrument. In line with the Provincial Integrated Water Resource Management Plan, a water management plan for Agriculture will be

developed, keeping farmers at the forefront of technology, with the specific objective of increasing agricultural production per unit of water used.

### **Policy Priority 3: Pollution and Waste Management Programme**

Key pollution and waste management initiatives include: implementation of pollution and waste management legislation and resource efficiency programmes; selected legislative reform; pollution and waste minimisation and recycling strategies; facilitation of energy production from waste, as well as landfill gas, and the facilitation of chemicals and waste management in industry and agriculture. A key intervention will be the compilation and implementation of Integrated Waste Management and Air Quality Management Plans by Municipalities with the assistance of Province.

### **Policy Priority 4: Biodiversity Management Programme**

Key biodiversity management initiatives will include: legislative reform to align with national biodiversity management and protected areas management legislation; implementation of the National Protected Areas Strategy in the Western Cape; a strong focus on job creation through environmental remediation and restoration programmes; expanding the Protected Area Biodiversity Corridors with, among other, the Conservation Stewardship Programme; a building and infrastructure maintenance and expansion programme; a programme to quantify the value of ecosystem services and participation in the national initiative to investigate rationalization of nature conservation in South Africa.

### **Policy Priority 5: Land Use Management and Agriculture**

The Province will actively focus and promote agricultural practices that assist farmers to adapt to climate change and as appropriate mitigate further climate change. The service delivery agenda will include decision making support with regards to the choice of farming activity, the optimal use of natural resources (water and land), the promotion of conservation agricultural practices and the generation of appropriate and sustainable technologies and practices that contribute to improved environmental quality (air, water and land). In this regard, several programmes and projects will be redirected and initiated to give effect to the above, including the compilation of a plan to address the adaptation and mitigation strategies for agriculture.

The provincial government will minimise the impact of inappropriate land use change and mainstream sustainability and optimize resource-use efficiency in land-use management and agriculture with a view to minimising negative impacts of development and climate change on productive agricultural land and our irreplaceable biodiversity and ecosystem services.

Climate change will impact on the agricultural production patterns of the Province. The development of new and alternative crops and livestock will be key in responding to climate change impacts on the economy and also towards the long term objective of ensuring food security. A four-pronged approach will be followed to ensure continued agricultural production:

- Develop a climate change plan for the agricultural sector;

- Initiate research on new and alternative crops, disease complexes, resource utilisation;
- Raise awareness and share technical information with farmers, farm workers and other agricultural stakeholders; and
- Promote environmental best practice within the agricultural sector. For example the Rooibos Tea and Potato best practice initiatives in the Sandveld area of the West Coast.

### **Policy Priority 6: Built Environment**

Key focus areas will include; spatial planning, policy, legislative reform and design and control of integrated human settlements and elements of the built environment (in the rural and urban areas) to optimise resource-use efficiencies and developments that are sustainable and responsive to climate change. The Department of Environmental Affairs and Development Planning is also busy with a project to ensure that resource-use issues and sustainability are better addressed during EIA and planning application processes and decision-making.

Notwithstanding that certain competencies constitutionally fall outside the sphere of provincial government the province will support particular initiatives such as urban densification, promotion of public transport and renewable energy development and usage due to the direct environmental, societal and economic benefits thereof.

## **5 A minimal list of the primary targets/outcomes which can be attributed to the departments outputs, actions etc.**

The Table below lists the provincial government's policy priorities relating to resource-use efficiency and sustainability with a minimum set of high level indicators which would be subject to periodic review.

It is recognized that climate change is a key sustainability issue. The Provincial Government intends to increase its efforts to promote energy efficiency in four key sectors, residential, commercial and government buildings, transport and industry. The failure of world leaders to agree on binding global greenhouse gas emissions cuts at the Copenhagen COP15 in December 2009 makes important that the Province unilaterally pushes ahead as rapidly as possible to improve its energy efficiency and take immediate actions that don't require global agreement and that bring economic and energy security benefit in their own right. In terms of the National Long Term Mitigation Scenario (LTMS) commitment South Africa has committed to a deviation in greenhouse gas emissions, below the business as usual projection, of 34% below business by 2020 and 45% by 2025. This level of effort would enable emissions to peak between 2020 and 2025, plateau for approximately a decade and then decline in absolute terms thereafter.

It is clearly to our advantage to maximise voluntary greenhouse gas emission reductions through improving energy efficiency and promoting the development of renewable energy technologies in the province. These measures will also promote energy security in this time of energy price escalation and supply uncertainty.

Policy Priority	Strategic Targets/Outcomes
<p><b>Climate Change Mitigation</b></p>	<p><b>ENERGY EFFICIENCY:</b></p> <p>Reduce the current Gross Provincial Product (GPP) to Carbon Emission<sup>3</sup> ration by 10% by 2014;</p> <p>Achieve a 5 - 10% electricity reduction in selected provincial buildings including schools and hospitals;</p> <p><b>RENEWABLE ENERGY PRODUCTION:</b></p> <p>Facilitate and promote processes which will contribute to a target of 15% of the electricity used in the province being generated from renewable energy sources by 2014.</p> <p><b>AIR QUALITY:</b></p> <p>Implement the Provincial Air Quality Management Plan by:</p> <ul style="list-style-type: none"> <li>a) establishing a Provincial greenhouse gas and air pollutant inventory; and</li> <li>b) developing, implementing and maintaining a fully operational Provincial Air Quality Monitoring Network to establish baseline values, to reduce greenhouse gases and other priority air pollutants in line with national and international targets.</li> </ul> <p><b>TRANSPORT:</b></p> <p>Achieve a 13% modal shift (based on the modal split inbound to the City of Cape Town Central Business District) from private to public transport by 2014;</p> <p>Tonnage freight transported by rail, rather than road increased by 10% by 2014;</p> <p>10% of existing public buildings retrofitted with respect to energy and water consumption by 2014;</p>

<b>Water</b>	<b>WATER RESEARCH AND INFORMATION</b>
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<sup>3</sup> As an index of carbon emissions, use the MW of coal based electricity imported into the province and the diesel and petrol usage in the province.

<p><b>Management<sup>4</sup> (climate change adaptation)</b></p>	<p>Develop a real-time web application to provide irrigation scheduling information by March 2011;</p> <p><b>WATER EFFICIENCY</b></p> <p>Develop and implement a Provincial Integrated Water Resource Management Plan (in consultation with Department of Water Affairs) to improve agricultural, industrial, commercial and household water use efficiency by 5-10% by 2014;</p> <p>Achieve a 5 – 10% water use reduction in selected provincial government buildings, including schools and hospitals;</p>
<p><b>Pollution and Waste (primarily climate change adaptation)</b></p>	<p>Increase the percentage of waste diversion from landfill from the current 13% to 15% by 2014 (Metropolitan Municipality – City of Cape Town) through the following initiatives:</p> <ul style="list-style-type: none"> <li>• Develop by 2011 and implement the Provincial Integrated Waste Management Plan by 2014;</li> <li>• License applications for waste management activities;</li> <li>• Co-ordinate, assess and monitor 30 'second-generation' municipal and selected industry first-generation waste management plans by 2014;</li> <li>• Complete and Implement the Health Care Waste Management Amendment Act and Regulations by 2012;</li> </ul> <p>Reduce environmental quality impacts on environmental resources (land and water) by:</p> <ul style="list-style-type: none"> <li>• Approving 50% of received remediation applications;</li> <li>• Implementing the Action Plan of the Western Cape Provincial Programme of Action (PPA) to reduce marine pollution from land-based pollution sources;</li> <li>• Co-ordinating chemicals management action plans in 3 industry sectors;</li> </ul>
<p><b>Biodiversity (climate change adaptation)</b></p>	<p>Increase the conservation status of biodiversity in the province focusing on:</p> <p>Increase the maintenance of the current 50 (64%) conservation stewardship sites to 78 (100%) stewardship sites by 2012 and maintenance of these 78 stewardship sites according to the contractual agreements;</p>

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<sup>4</sup> Water management is an exclusive national competency but relates directly to environmental quality, health, economy and agriculture which are provincial competencies.

	<p>Rehabilitate land infested with alien vegetation through initial clearing of 40 000ha per annum and follow-up clearing of 98 000ha per annum (NB: these targets are dependent on funding from DWAF. Fires also determine how much initial vs follow-up clearing is carried out per year);</p> <p>By 2014, on formally conserved land managed by Provincial Government, 20% of the area burned in any year is due to prescribed burns and only 80% of the area burned is due to wildfires<sup>5</sup>.</p>
<b>Land Use and Agriculture (climate change adaptation)</b>	<p>Develop and implement a Climate Change Response Plan for the agricultural sector to mitigate and adapt to climate change, set mitigation and adaptation baseline values and targets with a view to a 5% improvement in conservation farming practices by 2014;</p>
<b>Built Environment (climate change mitigation and adaptation)</b>	<p>Increase the responsiveness of land development to resource-use efficiency and sustainability focusing on:</p> <p>Promulgation of responsive planning legislation;</p> <p>The determination set-back lines for the entire Western Cape coast;</p> <p>The development of a Provincial Spatial Plan;</p> <p>The development of credible Spatial Development Frameworks for 12 Municipalities by 2012.</p>

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<sup>5</sup> The current statistic for land burned due to wildfires is of the order of 99%.

## 6 LINKAGES WITH OTHER PROVINCIAL STRATEGIC OBJECTIVES

STRATEGIC OBJECTIVE	BY MAINSTREAMING SUSTAINABILITY AND OPTIMISING RESOURCE-USE EFFICIENCY THE DIRECTIVE WILL:
Maximising economic and employment growth	<ul style="list-style-type: none"> <li>o Create opportunities for employment through the environmental and conservation (green) economies;</li> <li>o Support economic growth through the facilitation of development applications;</li> <li>o Maximise economic, employment and related opportunities arising from climate change response for example renewable energy technologies and new agricultural production practices and crops.</li> </ul>
Improving school education outcomes	<ul style="list-style-type: none"> <li>o Improving the learning outcomes of the curriculum through environmental education and awareness.</li> </ul>
Transport	<ul style="list-style-type: none"> <li>o Require energy efficient transport to be operated;</li> <li>o Monitor the emissions of public transport vehicles through contractual targets;</li> <li>o Increase the volume of freight moved by rail as opposed to road transport;</li> <li>o Reduce emissions and congestion by providing viable alternatives for people to move from private transport to public transport.</li> </ul>
Maximising health outcomes	<ul style="list-style-type: none"> <li>o Progressive realisation of the environmental right to a clean and healthy environment;</li> <li>o Ensure food security.</li> </ul>
Reducing crime	<ul style="list-style-type: none"> <li>o Reducing environmental crime through compliance monitoring, compliance promotion, enforcement and awareness of the value of natural resources and the environment.</li> </ul>
Optimising human settlement integration	<ul style="list-style-type: none"> <li>o Improve the planning and climate resilience of human settlements by promoting integration, densification, resource and infrastructure efficiencies etc.</li> <li>o Increase the value of the human settlements</li> <li>o Increase the financial, health and security status of the human settlements</li> </ul>
Increasing social cohesion	<ul style="list-style-type: none"> <li>o Use environmental issues, events and</li> </ul>

	<p>opportunities to promote social cohesion and an understanding of the relationship between people and their environment;</p> <ul style="list-style-type: none"> <li>o Create access to environmental resources and opportunities.</li> </ul>
Reducing poverty	<ul style="list-style-type: none"> <li>o Create jobs through the environmental and conservation economy (environmental remediation and rehabilitation);</li> <li>o Reduce the cost of living through access to renewable energy and environmental technologies (e.g. recyclables, solar water heaters, etc);</li> <li>o Support poor communities to access land and water to farm productively.</li> </ul>
Clean, value-driven, efficient, effective and responsive government	<ul style="list-style-type: none"> <li>o Progressively ensure the rights of citizens to: <ul style="list-style-type: none"> <li>• an environment that is not harmful to their health or well-being; and</li> <li>• to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that <ul style="list-style-type: none"> <li>- prevent pollution and ecological degradation;</li> <li>- ensure access to sufficient and safe food;</li> <li>- promote conservation; and</li> <li>- secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.</li> </ul> </li> </ul> </li> <li>o Allow citizens to participate in consultation processes organised by government;</li> <li>o Build the awareness and empower citizens to participate in processes and the management of their own environments.</li> </ul>