



NATIONAL GREENING 2010 FRAMEWORK



**environment
& tourism**

Department:
Environmental Affairs and Tourism
REPUBLIC OF SOUTH AFRICA

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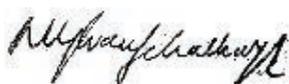
Foreword by the Minister of Environmental Affairs and Tourism

Recent severe storms, flooding and drought are giving South Africans a foretaste of how climate change will impact on our lives. Rising fuel prices have highlighted the consequences of unsustainable utilisation of finite resources. Evidence of deteriorating air and water quality highlight the risk of 'business as usual' growth and development: rising consumption tends to go hand in hand with depletion and contamination of our natural environment, and generation of ever greater volumes of waste. It is imperative that South Africans understand and commit to realistic strategies for climate change action and improved environmental sustainability.

The 2010 FIFA World Cup™ offers South Africa immense opportunities, through the prestige that comes with being associated with an event of this magnitude, and through the infrastructural, sporting and skills development spurred by our preparations. The World Cup™ also has potentially significant environmental impacts, both positive and negative, which must be managed. Because this event will be a major item on the local and global stage, it also provides unique opportunities for furthering the sustainable development agenda, through showcasing good environmental practices in areas such as waste reduction and processing, energy efficiency, efficient public and non-motorised transport, carbon emission reduction, efficient use of water, protecting and enhancing biodiversity, and responsible tourism. Greening 2010 forms an integral part of our response to adapting, as a nation, to the challenges of global climate change and more sustainable growth and development.

There are already many encouraging examples of initiatives which have been put in place by all three spheres of government to manage the environmental impact of the event and to take advantage of the opportunities for using the event to further our sustainable development objectives. My department has developed this framework with the aim of building on this existing work, as well as drawing on past local and international good practice related to the greening of major events, to assist all the role players to identify and implement appropriate actions. Key role players include government, state-owned enterprises, the hospitality industry and other suppliers and service providers, and NGOs. The framework identifies the areas in which there is a need for co-operation amongst these role players, to enable us to learn from each other and to achieve the lasting impacts which come with collaboration.

Let us seize this opportunity to leave a positive legacy of environmental good practice, through adopting greening principles in preparing for and hosting the 2010 World Cup, and motivating others to do the same.



Martinus van Schalkwyk
Minister of Environmental Affairs and Tourism

Foreword by the Chief Executive Officer of the Local Organising Committee

South Africa is committed to integrating environmental principles into the planning and organisation of the 2010 FIFA World Cup™. This follows a similar commitment of the 2006 FIFA World Cup™ in Germany, which resulted in the sensitization of the local and international football community to ecological issues and the securing of a long-term foundation for environmental concerns in national and international football.

To this end the FIFA Local Organising Committee has set up an Environmental Forum to plan, co-ordinate and monitor national Greening 2010 activities related to the stadia, fan parks, training grounds, accommodation facilities and the networks and amenities that service and connect them. The Environmental Forum brings together representatives from the 2010 FIFA LOC, national and provincial government departments, the nine host cities, and United Nations agencies, amongst others. Through the Environmental Forum, we will ensure that South Africa continues where Germany left off in using the profile of the event to promote the theme of sustainable development through showcasing local good environmental practices.

This document provides a clear indication of the areas on which we need to focus and the actions we all need to take in order to achieve our objectives in these focus areas. It is a precursor to a more detailed document that outlines specific greening requirements for official venues. The document on greening requirements sets targets to be met in a particular venue and greening measures that will lead to attainment of these targets.

The framework document therefore provides an overarching roadmap and a reference for all stakeholders in the 2010 FIFA World Cup™ with regard to the successful greening of the event. It sets the tone for action in the focus areas and provides a guide for coordination and collaboration with relevant stakeholders.

Dr Danny Jordaan
Local Organising Committee CEO
2010 FIFA World Cup™

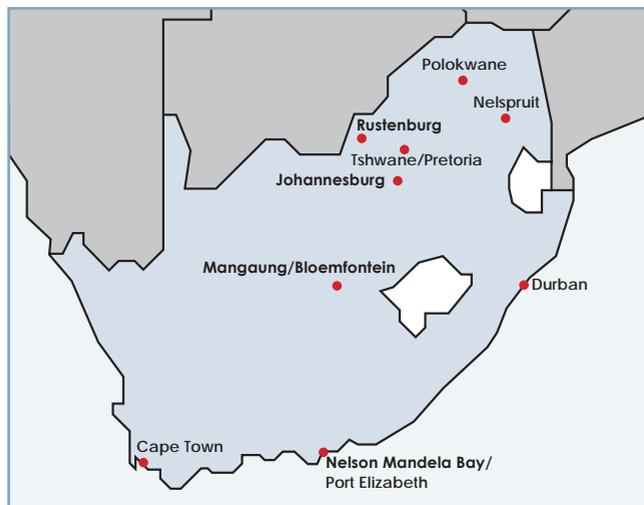
Acronyms

BMS	Building Management System
BRT	Bus Rapid Transit
CER	Carbon emissions reductions
CFL	Compact Fluorescent Lighting
DANIDA	Danish International Development Agency
DEAT	Department of Environmental Affairs and Tourism
DSM	Demand Side Management
EMP	Environmental Management Plan
EMS	Environmental Management System
FIFA	Fédération Internationale de Football Association, or International Federation of Association Football
IUCN	International Union for Conservation of Nature
LOC	Local Organising Committee
MW	Megawatt
NGO	Non government organisation
PET	Polyethylene terephthalate
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
SRPP	Social Responsibility Policy and Projects
tCO ₂	Tonnes of Carbon Dioxide
TREC	Tradable Renewable Energy Certificates
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
VER	Verifiable carbon emissions reductions
WSSD	World Summit on Sustainable Development

1. Introduction

1.1 Context

Throughout the world, major sports events are being recognised as having a global environmental impact. Large numbers of people travel to and from these events, spend money, consume resources and generate waste. Food, water and energy consumption rise significantly. These impacts raise concern about the total environmental footprint of such events, particularly in relation to carbon, water and waste. This concern must be translated into responsible action to minimise and mitigate the impacts, and build awareness of why this is necessary.



The 2010 FIFA Soccer World Cup™ offers South Africa a unique opportunity to demonstrate to the world its commitment to responsible environmental management, whilst improving the living environment and livelihoods of South Africa's people. The event offers important opportunities to showcase how we can respond to the challenges facing our region and our planet, and what each of us can do differently. Equally, greening programmes developed in the context of the 2010 World Cup™ will build South Africa's experience in hosting events in environmentally responsible ways, and contribute to future expanded greening programmes across the country.

Greening the World Cup™ has its roots in the increasing success of greening activities at the Winter and Summer Olympic Games since 1994. Inspired by the successful greening of the 2000 Sydney Summer Olympic Games, Germany's bid to host the 2006 World Cup™ included an environmental management component for the first time at a FIFA event. When Germany was awarded the right to stage the World Cup™, it strengthened its initial environmental management proposals into comprehensive objectives and guidelines to minimise the negative environmental impacts of the event. FIFA branded this greening approach as Green Goal 2006.

This document provides the strategic framework for greening the 2010 World Cup™ in South Africa. It outlines core principles and themes and draws on the learning from greening international events since the early 1990s. In particular, it builds on the successes of Green Goal 2006 in Germany. It recognises that many greening initiatives are already underway, and that construction of most stadia is far advanced. It highlights the huge potential to strengthen planning and implementation of the 2010 World Cup™ through an emphasis on sustainability and responsible use of resources.

"Although South Africa has contributed, and continues to contribute, a relatively small amount to the global greenhouse gas emissions that are the cause of climate change, we are far from blameless. Emissions from our coal-based electricity production are substantial. We have not used the privilege of cheap electricity responsibly. We have become one of the most energy-inefficient countries in the world and we are Africa's largest contributor to greenhouse gas emissions. If our country and the rest of the world had to do nothing, it would be disastrous, most significantly for us in Africa."

Marthinus van Schalkwyk, Minister of Environmental Affairs and Tourism, Budget Speech to the National Assembly, 20 May 2008

This framework outlines a wide range of strategies and technologies to reduce consumption of natural resources whilst preparing for the World Cup™ and during the June-July 2010 match period itself. The framework also describes the opportunities to promote biodiversity, support conservation and enhance the natural environment through rehabilitation of degraded areas and planting new trees.

The national Greening 2010 programme¹ has the following objectives:

- To create a model for hosting international sporting events and conferences and events in an environmentally sustainable manner in developing countries
- To minimise the negative environmental impact of events associated with the 2010 World Cup™ by reducing resource consumption and waste production
- To build national capacity to host green events and translate this capacity into new economic opportunities and livelihoods for South Africans
- To improve environmental management performance by upgrading infrastructure used during 2010 World Cup™ events
- To raise awareness about environmental best practice in all sectors involved in planning and hosting the 2010 World Cup
- To raise awareness about sustainable development in South Africa.

Greening the 2010 World Cup™ involves :

- Entrenching the idea of sustainability in every dimension of the football programmes and its associated events and support infrastructure
- Encouraging FIFA and its partners to promote and implement greening principles in their practices, within and beyond South Africa
- Leveraging the benefits into legacy projects that live on, beyond 2010
- Highlighting the consequences of high carbon emissions, while demonstrating viable alternatives to fossil fuels.

Greening 2010 is about thinking through the environmental, economic and social consequences of the choices we make in hosting the event:

- How can we use the opportunity to shift our thinking, innovate and do the right thing?
- How can we minimise the negative impacts, and offset them through mitigation strategies to correct imbalances?
- Who reaps the benefits, and who suffers the negative impacts?
- What will be the trade off between short term higher capital costs and longer term savings?
- Will our grandchildren thank us for the environmental choices we made in preparing for this magnificent opportunity?
- What legacies will we leave behind?

1.2 Learning from international good practice

Internationally it is now widely recognized that major sporting events generate a variety of environmental impacts, both positive and negative, that must be identified, mitigated or enhanced and managed. In doing this, many international sporting organizations and governments have managed to turn around activities that potentially pose threats to the environment into examples of best practice. The 2010 framework described in the following chapter is informed by these international experiences, and some of them are described briefly below.

1.2.1 The Olympic Games

The 1994 Lillehammer Winter Olympic Games was the first major sporting event to take up the sustainability challenge and attempt to host a 'green games'. Since then, organising committees of the respective Olympic Games have progressively increased their focus on environmental and sustainable development issues in preparing for and staging Olympic Games. All cities bidding to host the Games are required to present plans for a comprehensive environmental programme and for leaving a sustainable legacy through the Games. The City of Cape Town played a key role in 'raising the bar'. Before bidding to host the 2004 Olympics, the City undertook a Strategic Environmental Assessment of the likely impacts of the Games, and its bid included a number of environmental commitments which responded to issues identified in the assessment. Cape Town's approach led to a decision by the International Olympic Committee that similar assessments would be required from all bidding cities in future.

¹ It is likely that the national Greening 2010 programme will become known as Green Goal 2010 following the launch of FIFA's Green Goal 2010 brand.

Beijing's bid for the 2008 Olympic Games went far beyond the immediate concerns of planning for the Games, to an ambitious programme for greening and cleaning China's capital. This programme was necessary both to win the bid to host the games and to raise environmental quality standards for the benefit of participants.

The programme included:

- Improving air quality standards by reducing the use of coal
- Introducing tougher fuel quality and emission standards
- Show-casing zero-emission hydrogen/natural gas buses
- Using solar energy to generate electricity and heat swimming pools
- Developing a protective green belt, planting trees in the city, and rejuvenating rivers in and around Beijing.

1.2.2 The World Summit on Sustainable Development

The 2002 World Summit on Sustainable Development (WSSD) in Johannesburg was the first major United Nations event to include a significant greening component. Good environmental practice was integral to the planning and implementation of the event, including waste management, water and energy efficiency, sustainable procurement, transportation, hospitality industry initiatives and a carbon offset campaign. A strong emphasis on waste minimisation, sorting and recycling resulted in approximately 27 percent of waste being recycled, with jobs created for 450 temporary workers.

An intensive public waste awareness campaign was conducted during the Summit. The organizers devised a Consumption Barometer – a novel, pictorial public awareness tool that measured waste generation, energy use and water consumption at the main venues, as well as all carbon emissions associated with WSSD transportation and energy use. The Consumption Barometer was updated and displayed daily to encourage participants to reduce their consumption.

One important outcome of the Summit was a comprehensive guide, "Leaving a Green Legacy: Guidelines for Event Greening", which documented the wide range of greening approaches and initiatives adopted at the WSSD in a detailed practical manual of good practice to guide the greening of future events. It is now used and cited widely.



During WSSD, the Sandton Convention Centre reduced kitchen water use by 70% in two weeks by creating staff awareness about water efficiency and installing a water meter in the kitchen to monitor use.

1.2.3 The 2006 FIFA World Cup™ in Germany

The integration of environmental principles into the planning and organisation of the 2006 FIFA World Cup™ in Germany was recognized as a unique opportunity for sensitizing the local and international football community to ecological issues and for securing a long-term foundation for environmental concerns in national and international football.

The Organising Committee set, amongst other, the following environmental management targets:

- Waste reduction: 20% reduction in waste volumes in and around the stadia, compared to pre-event levels, through minimising packaging – for example, using large-size catering packs rather than single-portion condiment and sugar packets, and minimising the use of disposable food and drink containers; and through separating different types of waste, promoting the re-use and recycling of waste material, and reducing the volumes discarded to landfills
- Increase in the share of local public transport: 50% of all spectators to travel to and from the stadia with public transport
- Reduction of energy consumption: 20% reduction in stadium energy consumption through efficient design and energy use – such as energy saving lighting, pumps and ventilators - and substitution of conventional energy sources with renewable energy wherever possible, using solar power, wind and biomass energy.
- Conservation of resources: 20% reduction in stadium water consumption. The Berlin stadium, for example, captured rainwater in a 1 400 m3 underground cistern and used it to irrigate playing fields.

Environment messaging included a short film containing environmental messages which was shown on giant screens as part of the pre-match warm up. However, the extent to which greening messages reached the general public was limited because of low-key integration into overall World Cup™ communications. This remains a challenge as well as an opportunity for future World Cup™ tournaments.

Germany developed a national waste management strategy for 2006 World Cup™ events, which included waste minimisation and waste separation for re-use and recycling. Returnable polypropylene beakers were used throughout FIFA venues, and drinks were poured into the beakers from re-usable PET (polyethylene terephthalate) bottles and returnable beer barrels. A refundable deposit of one Euro was paid on return of the beaker; beakers were then washed and re-used. Food packaging and paper-based promotional materials were kept to a minimum.

The 2006 World Cup™ also set 'Green Goal' targets to reduce resource utilization by 20 percent, including plans to put in place renewable energy projects in developing countries to offset the 100,000 tons of carbon dioxide emissions resulting from increased traffic volumes. All 2006 World Cup™ stadiums in Germany adopted ecological principles, including rainwater storage, waste reduction, and the use of construction waste for foundation materials. A series of voluntary offset programmes were also introduced to mitigate greenhouse gas emissions it could not avoid. The German Football Association and its partners raised 1.2-million Euros (R14.7-million) to fund two carbon offset projects.

One of the two 2006 World Cup offset projects is in South Africa. The Letaba Citrus Biomass Fuel Switching Project aims to replace the old coal fired boiler, used for creating steam to process fruit, with a new multi-fuel boiler. This will burn sawdust, a waste product, which is readily available from the nearby forestry industry. Dumped sawdust left to decompose on the forest floor produces methane gases which contribute to global warming; by switching from coal to sawdust, and by removing potential greenhouse gas-emitting agents, the fuel switching project saves approximately 19 000 tonnes of CO₂ annually.

2. The Framework

2.1 The core framework

South Africa's National Greening 2010 Framework has six environmental focus areas (see Figure 1 below):

- Waste reduction and processing
- Energy efficiency
- Maximum use of efficient public and non-motorised transport, with the emphasis on reducing carbon emissions
- Water use efficiency and minimisation of water contamination
- Protecting and enhancing biodiversity
- Promoting responsible tourism

FOCUS AREAS	CROSS CUTTING THEMES	OUTCOMES	IMPACTS
Waste Energy Transport Water Biodiversity Responsible tourism	Communication and outreach Job creation Sustainable procurement Carbon offset and emission reduction programmes	<ul style="list-style-type: none"> • Environmental footprint for 2010 World Cup™ is reduced • Legacy projects take forward the benefits of Green Goal 2010 • Citizens see the benefits and understand the value of responsible environmental management • Reduced carbon emissions 	<ul style="list-style-type: none"> • Impact of the event on global warming is reduced • SA's long-term development path becomes more sustainable
Monitoring, Reporting, Evaluation and Impact Assessment			

Figure 1: South Africa's Framework for Greening 2010

Implementation approaches in these six areas are strengthened by four cross-cutting themes:

- Communication, outreach, awareness-raising and education
- Job-creation and skills development
- Sustainable procurement through contracting suppliers who practice responsible environmental management
- Carbon offset and emission reduction programmes to offset unavoidable carbon emissions with carbon sequestration and emission reduction projects

Overall outcomes of the Greening 2010 programme will be:

- A reduced environmental footprint for the 2010 World Cup™
- Legacy projects which take forward the benefits of Greening 2010, including being a catalyst for a national greening strategy, and informing future FIFA World Cup™ events
- South Africa's people experience the benefits and understand the value of responsible environmental management
- Reduced carbon emissions

The intended impacts of greening the 2010 World Cup™ event are:

- The contribution of the event to global climate change is reduced
- SA's long term development path becomes more sustainable

The extent to which these outcomes are achieved will be determined partly by the extent to which all the relevant stakeholders are able to mobilise resources for Greening 2010 initiatives.

Comprehensive monitoring, reporting, evaluation and impact assessment will be carried out for all focus areas, cross-cutting themes, outcomes and impacts.

These focus areas are reflected in the guidelines for minimum environmental standards for Green Goal 2010, which have been developed by the FIFA Local Organising Committee. DEAT is committed to supporting the host cities in striving to achieve these minimum standards.

2.2 Unpacking the six focus areas

Reduce waste generation and improve collection, sorting, re-use and recycling

- Minimise waste generation
- Maximise waste sorting, re-use and recycling

Small changes in waste management strategies can lead to measurable reductions in the demand for natural resources and the amount of waste going to landfill, reducing material and disposal costs and curbing environmental degradation.

Identifying ways to avoid generating waste is the essential starting point. Significant reductions in waste volumes can be achieved through negotiating with suppliers and service providers to reduce packaging wherever possible, and to require vendors to minimise the use of disposable promotional items.

Waste minimisation reduces the volume of waste that is disposed to landfill. Waste processing and recycling creates jobs and can reverse the depletion of resources used to produce goods that are used just once and then discarded.

The 2010 World Cup™ offers important opportunities to improve waste servicing in areas affected by 2010 events, strengthen waste processing and sorting, and forge partnerships to grow the recycling industry. Stadium precincts, fan-parks and public viewing areas are obvious priority areas for strengthening collection, sorting and recycling initiatives, but increased waste volumes will be experienced in all areas visited by World Cup™ guests.

Waste management, collection and processing from fan parks and public viewing areas require special attention as these will draw large crowds throughout the mid-June to mid-July 2010 World Cup period.

Cape Town's greening strategies have a strong emphasis on waste minimisation – from encouraging a reduction in unnecessary packaging, through to promoting separation of waste at source through a two-bin system to support recycling of material that can be re-used.

Further information on waste avoidance, management and recycling is provided in Appendix 1.

Improve energy efficiency and increase the use of renewable energy

- Minimise consumption of energy
- Maximise use of renewable energy

Building energy efficient stadia is essential to reduce the energy demands of lighting, heating and ventilation during 2010 World Cup™ events and beyond, and contributes to managing demand for energy nationally. More broadly, energy efficiency reduces the carbon emissions associated with burning fossil fuels, and lowers the running costs of facilities.

Significant energy savings are achievable through passive heating and cooling as a result of smart building design, through installing improved insulation, switching to solar-powered geysers or lighting, using Compact Fluorescent Lighting (CFL) or Light Emitting Diodes, or taking advantage of the heat energy generated by air-conditioning systems to heat water.

Sound operation is as important as smart installations. Each host city will perform an audit of energy consumption at different points within its stadium precinct to identify areas for improving energy efficiency. A sound Stadium Building Management System (BMS) can reduce energy consumption and running costs significantly through switching off geysers, air-conditioning and lighting when not required, and introducing energy-saving modes for escalators, lighting and office equipment.

Eskom will partner with DEAT and FIFA's Local Organising Committee to promote energy efficiencies. Its Demand Side Management (DSM) strategy to reduce energy consumption can sponsor up to 50% of the cost of implementing more energy efficient systems, including those associated with hosting the 2010 World Cup. It will also partner with the hospitality industry and explore a range of energy saving interventions in tourist accommodation venues, focusing on 2010 and beyond, including heating, ventilation and air conditioning systems; escalators; building management plans to reduce energy consumption; and installation of CFLs and other forms of energy efficient lighting.

Cities consume three quarters of the world's energy and account for 75 percent of global carbon emissions. The fight against climate change will therefore be won or lost in cities.

The City of Tshwane is working with the Central Energy Fund to improve the energy efficiency of their street lighting by 2010 by retrofitting energy efficient light bulbs, and with Eskom to increase the distribution of CFL light bulbs to residents.

Ethekwini Metro has incorporated a range of energy efficiency measures for lighting, heating and ventilation into its stadium design, and anticipates a 30% overall saving on stadium energy consumption. It is promoting energy reductions in broadcasting, hospitality and catering service sectors and local buildings, and, along with Cape Town, will be showcasing the use of renewable energy through iconic solar water heating installations at the stadium retail area.

Mbombela stadium will tap the heat generated by its air conditioning system to produce hot water for the showers in the changing rooms.

Promotion of responsible tourism can achieve significant energy savings, but increased energy consumption is, nonetheless, inevitable during the 2010 World Cup, because of the sheer number of visitors anticipated. South Africa does not yet have the option of substituting local renewable energy for coal-based electricity on the scale required during the 2010 World Cup, although Cape Town will buy green credits from the Darling windfarm to power its energy needs associated with hosting the World Cup. South Africa is currently expanding its renewable energy generating capability, with plans far advanced for a new 115 MW windfarm north of Lamberts Bay on the West Coast to augment the 3 MW Darling windfarm. Developing a local and export market in Tradable Renewable Energy Certificates (TRECs) will also stimulate additional investment in renewable energy.

The Kuyasa Retrofit Project in Khayelitsha is retrofitting existing low-income houses with solar water heaters to provide hot water on demand, insulated ceilings to improve the thermal efficiency of the housing, and compact fluorescent light bulbs (CFLs) to provide energy efficient lighting. Kuyasa was South Africa's first registered Clean Development Mechanism (CDM) project. Savings in electricity consumption will reduce CO₂ carbon emissions by about 2.85 tons per household per year over the 21 CDM crediting period. The retrofit is paid for through a carbon offset fund, with part of the cost contributed by the organisers of the 2006 ICLEI (International Council for Local Environmental Initiatives) World Congress in Cape Town in recognition of that event's contribution to increased carbon emissions.

Improve transport efficiency and reduce emissions

- Minimise use of private vehicles to access 2010 events and games
- Maximise availability, accessibility and efficiency of public transport systems
- Reduce carbon emissions from public transport systems
- Maximise access for pedestrians and cyclists, and provide appropriate surfacing and lighting

Upgrading public transport infrastructure is essential to convey visitors efficiently and reliably between matches and events, and the national Department of Transport is making substantial funding available to municipalities to assist in this regard. It is also important to ensure that the transport enhancements will carry South Africans safely, reliably and sustainably to their destinations well beyond 2010, while reducing traffic congestion caused by single-occupancy cars and carbon emissions from their exhaust fumes.

The City of Johannesburg's evolving Rea Vaya Bus Rapid Transit (BRT) system, with dedicated bus lanes and frequent energy-efficient buses, is an excellent example of harnessing the momentum of 2010 World Cup™ planning to implement more widely-impacting improvements. The first dedicated BRT bus lane, in Pat Mbatha Drive along the Soweto Highway, is open and the BRT has begun operating. It is estimated that if 15% of existing car users who live within 500 meters of the Rea Vaya BRT corridors switch to the new system, there will be savings of 383 000 tons of carbon dioxide equivalent emissions by 2013.

This is nearly four times the total carbon emissions associated with the 2006 World Cup™.

Similar projects are also being explored in eThekweni Metro and Cape Town. Cape Town is also investing heavily in upgrading its public transport system to accommodate 2010 visitors, with long-term benefits for Cape Town residents. It is upgrading stations, purchasing new trains and buses, long-distance bus and taxi stations, improving commuter safety and security, introducing a single ticket public transport system, increasing park and ride facilities, and improving cycling and pedestrian routes.

Rustenburg, Mangaung, Polokwane and Mbombela are upgrading their road infrastructure to accommodate the increased volumes associated with 2010 activities, with lasting legacy benefits to their residents.

Improve water conservation and water use efficiency

- Minimise consumption of water
- Maximise rainwater capture and greywater recycling
- Protect wetlands
- Minimise pollution of water resources

Developing water efficient stadia, with rainwater harvesting and greywater recycling for pitch irrigation, push-button (demand-type) taps and low-volume flush toilets, is essential, given the evidence of growing water scarcity in South Africa. Johannesburg's stadia will have grey-water toilets and waterfree urinals, and the soccer pitches will be irrigated exclusively with non-potable water. eThekweni has procured water-saving systems to maximise water use efficiency, particularly for pitch and landscape irrigation. Mbombela is installing porous surfacing in the stadium precinct to ensure stormwater flood peaks are not increased as a result of hard surfacing, and has installed stormwater filtration systems from the stadium precinct to prevent water resource pollution.

Eco-sensitive environments, particularly wetlands, must be protected from property developments associated with 2010 developments; wetlands are the natural sponges and filter systems which feed our rivers and underground water reservoirs, and which remove contaminants which degrade our water sources. Comprehensive water demand management and conservation strategies will be developed across every town and city in the country impacted by the 2010 World Cup™, with a particular focus on the hospitality industry.

Effective strategies for improving water use efficiency require reliable quantitative assessment of current water utilisation and consumption. Host cities will undertake a comprehensive audit of water utilisation and consumption in key event venues, and members of the hospitality industry will be encouraged to do the same at their establishments. Particular attention should be paid to identifying water leaks, as the cumulative impact of leaking toilets, dripping taps and cracked pipework is substantial

Waterfree urinals can save well over 100 kilolitres of water per unit per year. Over and above direct water savings, this reduces the volume of wastewater that must be treated, and saves on energy needed to pump and treat water and wastewater.

The quality of drinking water in South Africa's host cities is excellent, and no visitor needs to buy bottled water out of fears that the tap water is unsafe. Several cities are planning campaigns to promote awareness of the negative environmental consequences of buying bottled water – including the by-products of manufacturing plastic containers, the carbon emissions associated with transportation, and waste disposal challenges.

Funds permitting, Cape Town will invest in a scheme to tap run-off from Table Mountain, which otherwise drains away to the sea, to irrigate Green Point Stadium. This will release potable water currently used for irrigation for other purposes.

Protect and enhance biodiversity

- Maximise protection and enhancement of biodiversity and ecological systems
- Maximise recreation and tourism experiences associated with biodiversity

Beautifying city parks and road-ways and greening urban spaces is an essential part of sharing our pride in our beautiful country with World Cup™ visitors and increasing awareness of the rich diversity of South Africa's fauna and flora. The host cities are giving strong emphasis to promoting indigenous landscaping and enhancing biodiversity, and several are expanding their nurseries to supply indigenous plant stock for landscaping stadia and urban spaces.

Preparations for 2010 have provided a valuable spur to local environmental rehabilitation projects. The City of Johannesburg is currently finalizing its plans to rehabilitate 120 kms of river-bank along the Klipspruit, which runs through Soweto and close to the Orlando Stadium, and drains some of the most heavily polluted catchments of the West Rand and southern Johannesburg. The improvements will enhance the appearance of Soweto, both for residents and 2010 visitors. Part of the rehabilitation includes replacing water and sanitation networks running through the Diepkloof hostel complex, which contributes significantly to water losses and sewage pollution into Soweto's river systems. eThekweni Municipality is establishing a 'green precinct' around the Mgeni Estuary, which will include a host of eco-tourism facilities directly adjacent to the Moses Mabhida Stadium Precinct and Durban Beachfront.

Large-scale tree-planting offers a range of benefits, including sequestration of a portion of the carbon emissions associated with hosting 2010 events (provided projects are monitored and reported on over a least a thirty year period). All the host cities have embarked on tree-planting initiatives associated with 2010. Johannesburg has already planted 70 000 of a target of 200 000 trees along the streets of previously disadvantaged areas, and the KwaZulu-Natal Department of Agriculture and Environmental Affairs plans to plant 100 000 fruit trees in gardens across five municipalities in the province, including eThekweni, combining this with job creation and skills development projects. Polokwane plans to plant baobab trees widely as part of its 2010 greening activities.

Promote responsible tourism

- Maximise energy and water use efficiency in all hotels, guest houses and B&Bs
- Minimise waste generation in hotels, guest houses and B&Bs, and maximise waste sorting, re-use and recycling
- Establish an environmental rating system based on clear criteria and standards
- Maximise opportunities to sensitize visitors to the need to conserve water and energy

Visitor accommodation accounted for 14% of total carbon emissions at the 2006 World Cup™ in Germany, despite a wide range of initiatives to promote energy, water and transport efficiencies in the hospitality industry. This highlights the importance of strong partnerships with South Africa's hospitality industry to achieve efficiencies across a range of measures: energy efficient lighting, heating, ventilation and catering; water-efficient guest bathroom fittings (aerated taps, dual-flush toilets, low-flow shower heads) and re-use of towels and bed-linen instead of daily replacement with freshly laundered items; water-wise landscaping and gardening, within minimal use of pesticides; fuel-efficient transport of guests; comprehensive building management systems to limit energy use in areas of low utilisation – and so on, combined with messaging inviting visitors to play their part in limiting the environmental footprint of the World Cup™.

DEAT, together with the Tourism Grading Council of South Africa, is introducing a new environmental rating system for the hospitality industry, to give recognition to establishments that conduct their business in an environmentally responsible way, and to enable them to market themselves to visitors who share their values. Appendix 2 describes an environmental rating initiative which will be implemented nationally after pilot projects in KwaZulu Natal and the Western Cape have been assessed. Eskom, meanwhile, is setting up a partnership with the hospitality industry to bring a Greening 2010 focus to its demand side management (DSM). It is able to offer significant subsidies to enterprises willing to invest in energy efficient installations.

2.3 The four cross-cutting themes

As important as the focal areas outlined above – waste, energy, transport, water, biodiversity and tourism – is the way in which interventions in these areas are implemented, to extend their reach and socio-economic benefit.

Communication and awareness

- Inclusive information sharing about what is being done through Greening 2010 and why it is being done
- Outreach to residents and visitors beyond matches, fan parks and events
- Sensitisation of vendors and service providers to Greening 2010 objectives
- Involvement of schools and the youth
- Showcasing and explanation of water-wise technologies, energy-efficient appliances, and waste recycling initiatives
- Communication to the FIFA Family, including sponsors

Building awareness and understanding of the importance of environmental management is a critical element of 2010 legacy projects. Contractors, service providers and vendors, as well as visitors and the FIFA Family, need to be sensitised to the objectives of national and local greening objectives, through systematic communication programmes. This is particularly important at public viewing areas where traders and service providers are not bound by FIFA regulations.

Host cities and other role-players will make every effort to inform local residents about what it is they are aiming to achieve through their greening programmes and, where possible, to involve them in appropriate actions. For example, eThekweni and Cape Town are already planning to promote understanding of the eco-friendly technologies being used in its 2010 initiatives. Wherever possible, local residents will be offered opportunities to contribute to or participate in greening events. Schools form particularly valuable entry points for reaching the broader community. Visitors attending events will be alerted to the host city's environmental management initiatives through creative media, including signage, billboards and screening of short videos before major events. Sophisticated social marketing techniques are available to communicate public interest messages, particularly where behaviour change is desired – for example, to use the appropriate bin to discard waste materials.

With support from the Government of Denmark, DEAT has commissioned a 'green review' to assess the sustainability of the stadia used to host the 2010 World Cup. Detailed investigation is focussing on four stadia; Green Point and Athlone Stadia in Cape Town; Moses Mabhida Stadium in eThekweni; and the Royal Bafokeng Stadium in Rustenburg.

Findings from this 'green review' will be published, and will be used to develop a toolkit to support green building design and construction and more sustainable building management for stadia and sports facilities in South Africa. The toolkit will contain a checklist to guide assessment of current facilities and practices, and will promote possible practical interventions that will improve energy efficiency, bolster sustainability and reduce running costs. The review used a 'Sustainable Building Assessment Tool', developed by the CSIR, and an electronic version of this tool is being developed to enable widespread application in the building and construction sector.

Sustainable procurement

- Procurement from suppliers who practice responsible environmental management
- Maximise use of local products and local enterprises

The experience of the 2002 World Summit on Sustainable Development in Johannesburg suggests that 'green procurement' is the most effective method of reducing resource consumption, minimising waste and pollution and promoting environmental best practice. Putting emphasis on greening during procurement provides incentives for suppliers to meet environmental and other requirements, and creates a market for green goods, making them cheaper and more widely accessible.

Sustainable procurement will be promoted in all aspects of planning, operation, management and decommissioning of the event. Opportunities to re-use existing goods will also be explored. Where new goods are required, the actual quantities required will be assessed carefully, to minimise inefficient production or wasteful consumption. Suppliers will be asked to provide information on their environmental management policies, as well as their contribution to social and economic development. The use of locally produced goods and services with low transport costs, as well as the use of those with low environmental impacts, will contribute to effective greening. Purchasing re-usable products and those with minimal packaging will also assist with waste reduction and reduce costs. An emphasis on water, energy and waste efficient practices in the hospitality industry will also inform the selection of venues (accommodation and conference facilities) and modes of transport.

Job creation

- Maximise job creation and skills development
- Link to the Expanded Public Works Programme

Greening offers significant opportunities for job creation, particularly in labour intensive areas such as waste collection, processing and recycling. Sourcing goods and services locally is environmentally beneficial, because it reduces the impacts of fossil-fuel based transportation, and it is socially beneficial because it supports local economic development and assists in local job creation. DEAT will be working with the host cities and provincial governments to identify opportunities for implementing Expanded Public Works Programme projects in this regard, and the utilisation of local resources and local suppliers will also be written into contractual documents wherever feasible.

Carbon offset programmes and carbon emission reduction

- Minimise carbon emissions
- Where carbon emissions cannot be eliminated, maximise the benefits to South Africa by setting up carbon-offset programmes located within South Africa or in African countries

Spurred by sobering new evidence of the likely impacts of green house gases on weather patterns, the natural environment and people's livelihoods throughout the world, the South African government and its Country partners are exploring initiatives to offset the carbon emissions resulting from the 2010 World Cup™.

Exploration of options on a national basis was spurred by a workshop on carbon offsets in Cape Town in December 2007, attended by DEAT, the Local Organising Committee (LOC) and a range of stakeholders. A Carbon Offset Working Group has been established as a sub-committee of the LOC's Environmental Forum.

The City of Johannesburg is exploring a landfill gas-to-energy project, and recently completed an evaluation of eight proposal bids for gas extraction. The project entails trapping the methane gas generated as a result of landfill decomposition, into gas wells and then flaring or using the gas to generate electricity.

Through collaboration between DEAT, the United Nations Development Programme, the Local Organising Committee and host cities, a Terms of Reference for a feasibility study to assess possible carbon offset projects in South Africa has been produced. The Norwegian government is funding a national baseline assessment of the the carbon footprint in each host city, to inform mitigation strategies and offset options. Additional areas of support are also being considered by the Norwegian government. The German government has been providing support through capacity and skills transfers to leverage the learning from the 2006 World Cup, and has expressed interest in supporting climate change-related carbon offset projects related to the 2010 World Cup. In addition, the government of Finland has indicated its interest to purchase carbon credits and cover the costs of certification for a project, and a number of other governments are scoping their involvement.

Four open landfill sites, at Goudkoppies, Robinson Deep, Marie Louise and Ennerdale, and six closed landfill sites at Linbro Park, Kya Sands, Mapetla, Panorama, Waterval, and Meredale in Johannesburg have been identified as having good potential for gas extraction.



Potential off-set projects will not be confined to the host cities, and initiatives associated with the 2010 World Cup™ in South Africa may be extended to other SADC countries in future.

The value of the carbon management strategy for 2010 will also be in demonstrating action and leaving a positive legacy. This includes the enormous benefits of increased awareness and visibility of low emission technologies, and demonstrating that these technologies can provide for higher quality commercial buildings and public spaces, while having lower environmental impacts.

Carbon offset initiatives are gaining prominence internationally as a way of achieving the mandatory requirements of the Kyoto Protocol for developed countries, and as a voluntary measure for developing countries, but the requirements for developing viable projects should not be underestimated. Offset projects must extend for at least seven and generally ten years beyond the 2010 focal point, and institutional infrastructure is needed to administer funding, monitor and verify performance. Specialist companies have evolved overseas to manage the exacting requirements of the participants, and a similar approach is likely to be needed in South Africa.

DEAT will set up dedicated capacity within the Department to drive a carbon offset programme partnership, and will establish a common methodology for determining the carbon emissions of the different host cities. To reduce the high transaction costs of preparing, negotiating, administering and managing individual accredited carbon offset projects, DEAT will explore the feasibility of bundling together a combined offset programme to address the combined carbon emissions of all 2010 World Cup™ activities in South Africa.

Green Goal 2006 in Germany excluded any carbon emissions associated with international air travel to the event in developing its offset projects, as it maintained that travel outside of Germany lay beyond the scope of the Organising Committee's mandate. Yet international air travel is by far the highest source of World Cup™-related carbon. DEAT will explore the feasibility of approaching representatives of some of the visitors' home countries to make a funding contribution to projects within the region to offset the carbon emissions of visitors' air travel to South Africa; this project will be used to raise awareness of the significant contribution made by international air travel to green house gases.

3. Institutional Arrangements and Implementation

3.1 Institutional arrangements

The institutional arrangements for Greening 2010 are co-ordinated through sub-structures of the FIFA Local Organising Committee (LOC), as shown below in Figure 2. The Environmental Forum, a sub-structure of the LOC's Legacy Committee, functions as a steering committee where national Greening 2010 activities are planned, co-ordinated and monitored. It is co-ordinated and chaired by the LOC representative, with support from DEAT.

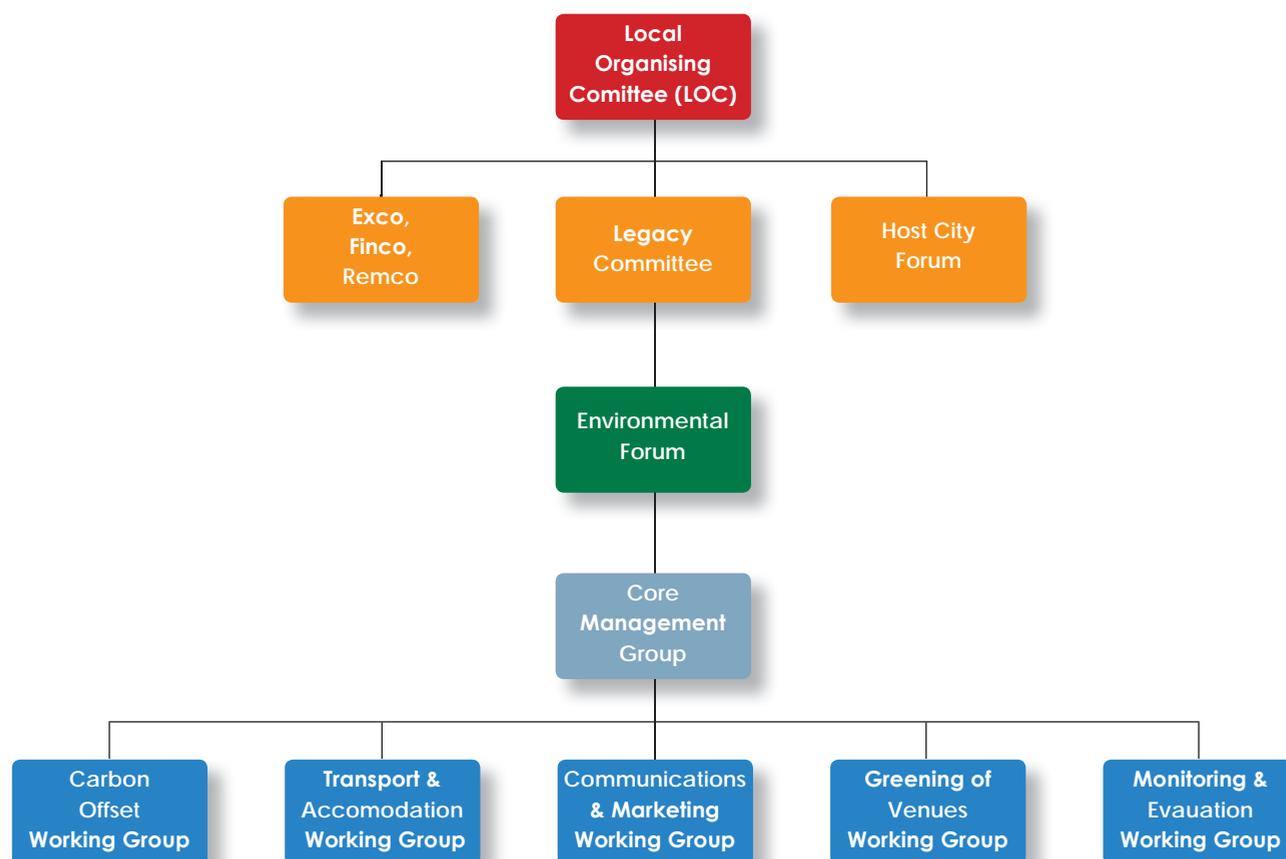


Figure 2: Relevant structures of the 2010 FIFA Local Organising Committee

The Environmental Forum brings together representatives from the FIFA LOC, DEAT, DWAF, provincial government, the nine host cities, resource agencies such as the IUCN, UNEP and UNDP, and Indalo Yethu (a joint initiative of DEAT and the Wildlife and Environment Society of South Africa (WESSA) to promote environmental awareness and activism amongst South African communities, the business sector and government). There is scope to widen the membership of the Environmental Forum, subject to the agreement of Forum members.

The Environmental Forum has five Working Groups, each tackling a different work stream, and a Core Management Group co-ordinates and oversees the work done in the Work Groups.

3.2 Implementation

The focus areas and cross-cutting themes described in Chapter 2 are being taken up and implemented by a wide range of role-players, including local, provincial and national government departments and their partners and support teams; state-owned enterprises and government agencies; the hospitality industry; entrepreneurs; private companies; and NGOs. Their activities centre on stadia, fan parks, training grounds, accommodation facilities and the networks and amenities that service and connect them.

3.2.1 The Local Organising Committee (LOC)

The LOC is responsible for setting objectives and overseeing the performance of all LOC sub-structures in preparing for and implementing the 2010 World Cup™, in alignment with its Memorandum of Agreement with FIFA. The LOC co-ordinates the Environmental Forum, which oversees the implementation of the Greening 2010 programme. The LOC has the following specific responsibilities in relation to Greening 2010:

- Ensure that greening is given a high profile in communication of the objectives and achievements of the 2010 World Cup™
- Chair the Environmental Forum, with support from DEAT
- Develop guidelines for minimum environmental standards for Greening 2010
- Develop a standardised national approach to waste source separation in the stadium precincts for the host cities, so that 2010 visitors moving between cities experience a common approach to two-, three or four-bin waste collection systems
- Co-ordinate communication, with support from DEAT around specific environmental components
- Co-ordinate the training of environmental volunteers
- In conjunction with DEAT, the host cities and other partners, devise monitoring and evaluation formats and outputs to assist the host cities in assessing their greening performance before, during and after 2010
- Compile a legacy report on the achievements and learning of the Greening 2010 initiative.

3.2.2 The role of DEAT

DEAT is represented on the Local Organising Committee. As the mandated custodian of environmental management nationally, DEAT has the following responsibilities in relation to Greening 2010:

- Provide support to the LOC Environmental Forum
- Provide guidance and coherence to the wide range of localised greening initiatives currently underway
- Mobilise and co-ordinate support from national government departments, donors and other greening partners
- Mobilise resources and funding to support and implement provincial and local plans
- Drive the carbon offset programme at a national level
- Ensure alignment of DEAT's communications initiatives with the overall communications strategy of the LOC
- Identify ways in which Greening 2010 can strengthen the development of DEAT's evolving national event greening strategy

In addition, and in conjunction with the LOC Environmental Forum, DEAT will undertake the following specific tasks:

- Provide informal support to each host city in assessing their environmental management objectives and performance
- In partnership with the Norwegian government, co-ordinate the investigation of the total carbon footprint associated with hosting the 2010 World Cup.
- Explore the feasibility of approaching representatives of some of the visitors' home countries to make a funding contribution to projects within the region to offset the carbon emissions of visitors' air travel to South Africa
- With support from DANIDA, develop a toolkit for designing and constructing 'green stadia', to promote the concept of Green Buildings and strengthen future greening initiatives. The toolkit will be based on the findings of the review of the greening status of the stadia which has been commissioned by DEAT
- Assist the LOC in producing a legacy report on Greening 2010, based on host city and LOC Forum reports assessments.

3.2.3 Provincial governments

Provinces will play an important role in supporting municipalities in their preparations for the 2010 World Cup, in supporting the greening of the designated practice stadia, and in supporting events in locations beyond the nine host cities where major public viewing facilities will be established. These events have significant greening implications, and close co-ordination among all role-players is needed. Some provincial governments are far advanced in their plans and programmes to support greening and beautification in designated areas – such as along major road networks linking the host cities. Provincial environmental management and tourism authorities have a particularly important role to play in supporting and promoting regional biodiversity and greening initiatives, and guiding initiatives to strengthen waste processing and recycling.

3.2.4 Municipalities

The primary task of implementing Greening 2010 lies with the nine cities which will host the 64 matches of the World Cup™ and their associated events. Each of the cities and towns involved in the event is responsible for designing and implementing initiatives related to the core focus areas and cross-cutting themes described in Chapter 2. As a starting point, each city or town should meter and audit water and energy consumption and waste generation at different points within its stadium precinct and other venues to identify areas for improving consumption efficiency.

To date the focus of preparations have been on these host cities and their stadia. However, a far larger number of towns and cities will play a role in hosting 2010 World Cup-related events, as fan parks and public viewing areas will be established within and beyond the host cities, to provide big-screen viewing opportunities for those without match tickets. Furthermore, the location of the training base camps for the different country teams, to be determined by FIFA and the Organizing Committee, will bring a new group of towns and municipalities into the greening framework.

Building on the findings of their Environmental Impact Assessments, where relevant, each city hosting a match, a training facility or fan park should develop an Environmental Management Plan (EMP) for the development of each stadium, theme park or fan park, and should develop an Environmental Management System (EMS) for their operation. On a location by location basis, host cities should assess what resource conservation and efficiency options are desirable, feasible and achievable, and seek to implement them. The host cities will carry out continuous assessment and review before, during and after the immediate World Cup™ activities. After hosting the 2010 World Cup, each host city will submit to the LOC a report on their achievements in greening 2010 World Cup events and facilities against the performance objectives outlined in Clause 6.7 of the Host City agreements, and detailed in their Greening 2010 Business Plans.

3.2.5 SANBI

The South African National Biodiversity Institute (SANBI) has been appointed by DEAT to co-ordinate the implementation of Expanded Public Works Programme-related national Greening 2010 projects aligned with SANBI's mandate. Based on its experience of its national Greening the Nation programme, SANBI can provide advice to municipalities regarding public awareness initiatives related to water utilisation and biodiversity.

3.2.6 SANParks

SANParks, in conjunction with the National Energy Efficiency Agency and the Central Energy Fund, is implementing a R575-million infrastructure upgrade of its 23 national parks, to showcase energy efficient installations to local and international visitors during the 2010 World Cup™ and beyond. The initiative provides both energy efficiency and carbon offset benefits. The Energy Efficiency Financial Support Project provides 'top-up' funding for each upgrade to buildings and other facilities within SANParks, to finance the specific technology improvements that will ensure sustainable and energy-efficient installations and providing solar geysers and CFLs in place of conventional lower-efficiency fittings. Energy audits and retrofitting of energy efficient fittings are being undertaken by emerging BEE Energy Service Companies (BESCos), as part of a strategy to build capacity to improve energy efficiency across the hospitality sector.

3.2.7 Other role-players

Effective implementation of Greening 2010 requires the co-operation and support of a wide range of role-players and stakeholders. The hospitality industry has a particularly important role to play in Greening 2010, through promoting and enabling responsible tourism. More than 300 000 visitors are expected and will require accommodation, food and laundry services. This industry therefore has a critical role to play in reducing negative environmental impacts associated with the 2010 World Cup™. The development of a national environmental rating system for the hospitality industry is outlined in Appendix 2.

Eskom, DWAF and the major water boards have a decisive role to play in supporting consumption efficiency programmes in each host city, particularly where detailed local audits of current consumption practices within different parts of stadia precincts and in key venues highlight areas for intervention. These audits will be used to inform detailed demand side management strategies which will be implemented as soon as possible.

4. Financing

The primary responsibility for funding Greening 2010 initiatives lies with the host cities, with funds sourced primarily from each city's overall capital and operating budget.

DEAT has committed R34-m from its Social Responsibility Policy and Projects (SRPP) programme to support Greening 2010, over a three year period. This funding will support initiatives aligned to the Extended Public Works Programme (EPWP) in at least three areas:

- waste minimisation and waste recycling projects
- energy efficiency (energy saving and demand side management), working in partnership with Eskom and other role-players
- labour-intensive development of small-scale infrastructure

DEAT is also actively seeking support from national and international bodies to help it achieve the objectives of this national framework, working in conjunction with the 2010 FIFA Organising Committee. In particular, donor support is required to assist with:

- baseline and environmental footprint assessments in each host city
- development of a carbon offset programme, including mitigation of the carbon emissions associated with international air travel to attend the 2010 World Cup™
- funding for host cities to implement their Greening business plans.

Interested donors are requested to contact the Chief Director: Planning, Co-ordination and Information Management, DEAT (dnteo@deat.gov.za).

5. Communications

The UNDP in collaboration with the LOC and DEAT has produced a draft Communications Strategy for the Greening 2010 Programme. As described in the strategy, football is the most popular participant and spectator sport in the world and Greening 2010 therefore offers opportunities for showcasing and advocating green issues and sustainable development, including to the estimated one billion people who will watch the games on TV.

Communications will be essential for the success of some of the Greening 2010 initiatives. For example, during the 2006 World Cup™, waste was reduced in and around the twelve World Cup™ stadia by nearly 20% by communicating a recycling message and providing recycling facilities, and by communicating with the tournament's catering suppliers. Large scale distribution of flyers and advertising material was discouraged by the creation of a commercial display area where advertising stands could be set up and a 'media channel' was set up so that necessary information could be accessed through computer screens, rather than by the distribution of printed material.

The Green Goal website (<http://greengoal.fifaworldCup™.yahoo.net>) was used as the central medium for informing the public about the campaign's on-going developments, objectives, background material and Green Goal personalities. Press conferences were organized for television, radio and the press and the services of former UNEP executive director Professor Klaus Töpfer were secured as Green Goal Ambassador. Official Green Goal partners and suppliers – those that had declared support for Green Goal objectives – became involved in communications, and were able to use the Green Goal programme in their own public relations and marketing activities.

Similarly, Greening 2010 initiatives and themes will be communicated to people working on the event, the media, policy makers, the corporate sector, the general public, event participants, suppliers, visitors, TV viewers, organizers of future sporting and cultural events. There will be a particular focus on communicating with the hospitality, travel, transport, hotel and catering, waste management industries. These communications will take place with the aim of impacting both on specific tenders or appointments related to the event, and on the industries' subsequent ongoing environmental management systems. Greening issues will be integrated into the overall World Cup™ communications. Well-known personalities will be engaged on a voluntary basis to assist in this regard. The LOC and DEAT will work closely to coordinate post-event communications initiatives, such as producing a legacy report, to maintain the momentum of advocacy for sustainable development and event greening. Local greening initiatives will be profiled and promoted as an integral part of the communications strategy of each host city. DEAT will relaunch its national Greening 2010 web portal to coincide with the launch of Green Goal 2010.

6. Monitoring, Reporting, Evaluation and Impact Assessment

The host cities will carry out continuous assessment and review before, during and after the immediate World Cup™ activities. Wherever possible, municipalities will develop environmental management plans for each stadium, theme park or fan park, and will assess on a location by location basis what resource conservation efficiency options are desirable, feasible and achievable. As mentioned earlier, this will be based on audits of current water and electricity consumption, to identify where savings can be made through more efficient operations. Johannesburg, Cape Town and eThekweni are already doing this.

The LOC and DEAT will liaise with each host city to provide guidance in assessing their objectives and performance targets. Once finalised, these will form the basis of performance monitoring and evaluation. The LOC and DEAT will collaborate in collating monitoring data nationally on 2010 greening initiatives, evaluating it and suggesting refinements to inform a national greening strategy.

Baseline studies

In order to assess the environmental and social impacts of events and initiatives associated with the 2010 World Cup™, it is desirable that each host city prepares an environmental assessment of the 'unimpacted' status quo pre-2010. This assessment would provide a baseline against which the impacts of preparing for and hosting the World Cup™ could be tracked and assessed, and would help to inform the national greening targets which will be set by the LOC. The LOC and other agencies will provide support to host cities to carry out baseline studies, as required.

Footprint studies

In addition to the baseline studies, the anticipated carbon footprint of the 2010 World Cup™ will be assessed, with support from the Norwegian government. All environmental impacts, costs and benefits should be evaluated across the entire life cycle of the service or facility. For example, where a stadium is being constructed for the 2010 World Cup™, but will be used repeatedly post-2010, its contribution to the 2010 World Cup™ footprint in that host city should be calculated as a proportion of its total life. Similarly, the impacts of upgrading public transport facilities to accommodate increased demand in mid-2010 will be written off over a far longer time frame than the immediate World Cup™ period. International travel to South Africa is excluded from host city footprint assessment, but separate initiatives are underway to calculate and possibly offset these impacts.

The LOC, DEAT, host cities and their partners will devise monitoring and evaluation formats and outputs to assist the host cities in assessing their greening performance before, during and after 2010.

The host cities will carry out continuous assessment and review before, during and after the immediate World Cup™ activities. By October 2010, each host city will prepare a report on their achievements in greening 2010 World Cup™ events and facilities against the performance objectives outlined in their Greening 2010 Business Plans, for submission to the LOC.

7. Conclusions

Greening 2010 forms an integral part of our response to adapting, as a nation, to the challenges of global climate change and more sustainable growth and development.

This document has set out the framework within which South Africa is going about greening the 2010 World Cup™. It has provided numerous examples of the greening work which is already being done by the host cities and other public bodies to prepare for 2010. Based on this work and drawing on past local and international good practice related to the greening of major events, the document has described a framework for planning and implementing greening approaches and activities, and outlines key roles and responsibilities for Greening 2010.

It is up to all of us to identify the best possible environmental practices in each aspect of our preparations for the 2010 World Cup, and to strive to implement them. Maximising the greening potential of the 2010 World Cup™ requires us to build on the resources, practices and partnerships that already exist. Integrating awareness-raising into each greening activity will contribute to leaving a positive environmental good practice legacy, with long-term positive impacts.

Appendix 1: Waste management

Waste avoidance, waste minimisation and recycling is a key focus area for Greening 2010, and calls for a strong emphasis on effective waste management. Although waste management and processing is an exclusive competency of local government, there are important opportunities for national and provincial government to assist municipalities to meet the challenges and seize the opportunities presented by the 2010 World Cup™.

The most essential requirement for waste management is effective daily street cleaning in all localities where there are 2010-associated events. An important consideration is international profiling of South Africa's towns and cities, because media coverage of 2010 events exceeds even that of the Olympic Games. DEAT is committed to working with municipalities who require support to assist in setting up systems to ensure effective collection and processing systems.

Waste minimisation is desirable, not least because the 2001 Polokwane Declaration set a goal of 50% reduction in waste disposal by 2012, and zero waste disposal by 2022. All 2010 World Cup™ role-players should give emphasis to minimising waste generation, particularly through reducing packaging and disposable promotional materials.

But it is inevitable that significantly increased volumes of waste will be generated, particularly during and just after the 2010 World Cup™. Waste collection offers significant job creation opportunities, not merely in street, stadium precinct and fan park cleaning, but in sorting and recycling the collected waste.

Waste generated at 2010 World Cup™ associated events will be collected in large volumes from concentrated areas, which greatly facilitate sorting and recycling and offers good returns. Glass, plastics, cans and paper are likely to be the main waste products generated at stadia and events; at a national level, the infrastructure exists to generate a good return on each of these. The success of these recycling initiatives locally will be influenced significantly by the strength of their partnerships with the recycling industry representatives across the different waste streams and the effectiveness of the local waste collection and sorting mechanisms developed to leverage these partnerships.

Product-specific recycling entities are willing to pay good prices for collected glass, PET (polyethylene terephthalate – the material most plastic cool drink bottles is made of) and cans; waste paper prices are more cyclical, as they are determined by international commodity prices, but even so the returns exceed the costs of collection.

There is immense scope to create jobs and support local entrepreneurs to turn waste into renewable resources which generate untapped income streams, while reducing litter and improving the appearance of South Africa's streets and meeting places. A coherent and comprehensive focus on waste separation and recycling could be one of the most important legacy projects for South Africa.

Appendix 2: Grading environmentally responsible tourism

Promotion of environmentally responsible tourism is one of the six focus areas of the National Greening 2010 Framework. Aligned with this objective is the development of a new environmental rating system for the hospitality sector in South Africa. The proposed system is designed to assist environmentally responsible visitors in selecting accommodation options from establishments whose values and practices align with their own. It is a public sector led initiative, initiated by the Provincial Government in the Western Cape and funded by the British High Commission, and now led by the national Department of Environment Affairs and Tourism and the Tourism Grading Council of South Africa. It is being piloted in hotels in the Western Cape and KwaZulu Natal, and will then be extended nationally.

The initial focus is on the accommodation sector, where the green grading system will complement the current star grading system of the Tourism Grading Council of South Africa.

Single-room B&Bs through to large hotels will be able to measure their environmental impacts in a way that can be monitored, enhanced through investments in energy and water efficient technologies and staff development and which can translate into targeted marketing strategies. The environmental rating system will consider three levels, ranging from compliance with basic environmental standards, through to committed excellence.

The implementation of the environmental rating system, once implemented, will be a legacy project of the Greening 2010 programme.

Appendix 3: Managing the carbon footprint of 2010 World Cup™ events in Durban

The eThekweni 2010 Greening Programme is committed to hosting a carbon neutral 2010 World Cup™ event, in line with its broader Climate Management Programme.

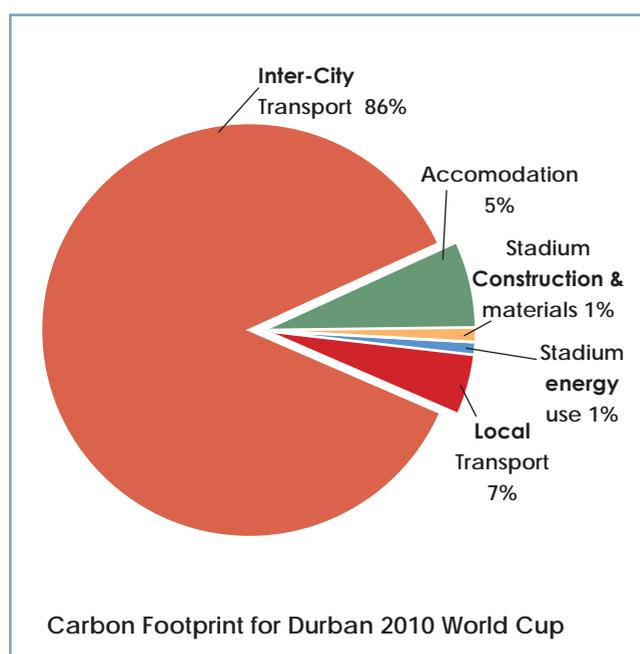
The city recently undertook a baseline carbon footprinting study for the 2010 FIFA World Cup™ events and associated activities to be held in Durban. Using the same methodology used to calculate the carbon footprint for the 2006 FIFA World Cup™ in Germany, the study considered five major carbon emissions areas:

- stadium construction materials
- stadium energy consumption
- in-country transport to eThekweni
- local transport within eThekweni, and
- energy consumption in hotels for accommodation of guests.

The study found that the single highest source of carbon emissions is the construction of the new Moses Mabhida Stadium, at 103 000 tonnes of carbon dioxide - primarily because of the enormous environmental costs of manufacturing cement; this comprises 68% of the total carbon footprint. But because the Stadium will ultimately service more than just the 2010 World Cup™, the emissions associated with construction of the stadium were spread across all events that the stadium will host during its lifespan. Eight matches will be played in Durban during the 2010 World Cup™, against an anticipated 1380 events over its life; emissions from stadium construction that can be directly attributed to the 2010 World Cup™ are thus 596 tCO₂.

Over 90% - 45,000 tCO₂ - of the carbon emissions during the 2010 event will come from domestic travel to the city and to local events, with a further 5% attributable to the accommodation needs of visitors. Energy use at the stadium - 1% of the total - already reflects a 30% reduction arising from the inclusion of energy efficient technologies in the stadium design.

eThekweni Municipality is developing a carbon management strategy involving both carbon sequestration and carbon emissions reduction projects, using both formal CDM (clean development mechanism under the Kyoto Protocol where carbon emissions reductions - CER's - are traded) and market-based verifiable carbon emissions reductions (VERs). All emissions related to the construction and operation of the new Moses Mabhida Stadium will be sequestered over a reasonable timeframe, along with the other carbon emissions directly associated with hosting the 2010 event in Durban.



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