Acronyms

CCR Expo	Climate Change Response Expo	
CEBA	Community Ecosystem Based Adaptation	
CFL	Compact Fluorescent Lamps	
CMP	Meeting of the Parties	
COGTA	Department of Cooperative Governance and Traditional Affairs	
COP	Conference of Parties	
CSIR	Council for Scientific and Industrial Research	
DEA	Department of Environmental Affairs	
DEFRA	Department of Environment, Food and Rural Affairs	
DIRCO	Department of International Relations and Cooperation	
DoE	Department of Energy	
DOT	Department of Transport	
FSC	Forest Stewardship Council	
GBCSA	Green Building Council of South Africa	
GEF	Global Environment Facility	
GHG	Greenhouse Gas	
ICC	International Conference Centre	
IDLC	Inter-Departmental Liaison Committee	
IMC	Inter-Ministerial Committee	
KfW	Kreditanstalt für Wiederaufbau	
LED	Light-emitting diode	
NCPC	National Cleaner Production Centre	
PET	Polyethylene Terephthalate	
PMT	Project Management Team	
PMU	Project Management Unit	
PRASA	Passenger Rail Agency of South Africa	
PSC	Project Steering Committee	
SACBC	Southern Africa Catholic Bishops' Conference	
SACN	South African Cities Network	
SALGA	South African Local Government Association	
SANBI	South African National Biodiversity Institute	
SAPS	South African Police Service	
SMMEs	Small, Medium and Micro Enterprises	
TAFTA	The Association for the Aged	
UN	United Nations	
UNDP	United Nations Development Programme	
UNFCCC	United Nations Framework Convention on Climate Change	
UNIDO	United Nations Industrial Development Organisation	

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Foreword



The event greening consciousness emerged explicitly in the organisation of the World Summit for Sustainable Development (WSSD) in 2002. This was the foundation of our event greening philosophy, which was very much in keeping with the spirit of the event. We honed our approach and applied it fervently to the organisation of the 2010 FIFA World CupTM with outstanding documented results. This provided a springboard for the organisation of a sustainable COP17/CMP7, once again complimenting the foundation of the conference and putting into effect our commitment to the United Nations to organise a low carbon event as well as to showcase our national priorities.

As the Department of Environmental Affairs, it is our responsibility to maintain the integrity of the environment, a role we approach within the broader socio-economic context of the country. We are ever mindful of the fact that South Africa is a developing country with skewed, historical patterns of spatial development leading to widespread pockets of poverty. It is well known that South Africa ranks high up in the list of emitters of global greenhouse gases, largely due to our fossil fuel driven economy.

Our role is thus, as custodian, to seek that balance between development, job creation, social upliftment and environmental integrity and finding that balance embodies our approach to sustainable development. From a policy point of view, the Department has both a framework and strategy for sustainable development, which guide the approach to our mandate to promote environmentally-friendly development. Given the severity of climate change and as a signatory to the United Nations Framework Convention on Climate Change, we have also embarked on an intensive policy development process to address climate change. The White Paper on Climate Change Response was strategically gazetted a couple of months before the hosting of COP17/CMP7, central to the formulation of the South African position in relation to the negotiations to take place during COP17/CMP7. The White Paper seeks a balance between climate change mitigation and adaptation in line with an approval by Cabinet in 2008 of the Long Term Mitigation Scenarios (LTMS).

In the next five years, the Department has committed itself, *inter alia*, to develop long-term adaptation scenarios and prepare disaster risk management tools by working through established consultative fora and advocacy groups. To strengthen mitigation interventions, we are to design and implement analytical, economic and regulatory instruments to manage and contain carbon emissions. We have also committed to improving our greenhouse gas monitoring capacity through the establishment of an annual Greenhouse Gas Inventory, which will require mandatory monitoring, evaluation and inventory of carbon emissions.

In view of our pledge to address climate change, our everyday practices must echo the conviction of this pledge. Thus when undertaking to host a low carbon event, we had to ensure that we put this commitment into practice. Greening is a process that requires the understanding and support of various role-players. It is cross cutting through all sectors. Accordingly, a COP17/CMP7 Greening Programme was established with support and buy in of all role-players in the process of planning and implementing COP17/CMP7. Every opportunity to introduce and apply event greening principles and practices was applied.

We have also utilised the event to promote as much awareness as possible on climate-friendly development and created the space to host and facilitate dialogue at all levels. This was all achieved through the Climate Change Response Expo, an extraordinary space that integrated every element that would need to be considered in a holistic climate change response. Whilst the UN Precinct was intended for delegates only, the Expo provided a complementary and universal space for all those wanting to immerse themselves in the spirit of the event. We also did not overlook impoverished communities that typically find themselves at the coalface of the climate change impacts. Key initiatives were explored to demonstrate how to address their vulnerability in climate-friendly ways. These initiatives presented the much needed link between policy-makers and the intended beneficiaries of the policy development process.



The hosting of the event has left a positive legacy with investment in infrastructure and communal facilities, capacity-building and enhanced awareness about climate change and sustainability.

Ultimately, we managed to host a carbon neutral event as all the emissions created have been avoided through a generous donation of renewable energy from Eskom as well as the carbon savings generated through a range of carbon reduction initiatives implemented in the run up to COP17/CMP7. We applaud all those who worked tirelessly to achieve this outcome and we restate our commitment to apply greening practices when hosting future events.

Ms Nosipho Ngcaba, Director-General of the

Department of Environmental Affairs



Executive Summary

South Africa hosted the 17th session of the Conference of Parties (COP) of the United Nations Framework Convention on Climate Change (UNFCCC) and the Seventh Meeting of the Parties (CMP) to the Kyoto Protocol (UNFCCC COP17/CMP7, commonly referred to as COP 17/CMP7) from 28 November to 11 December 2011.

It committed to hosting a low carbon event by calculating the emissions associated with the event and avoiding, reducing and offsetting these emissions through the implementation of various greening initiatives. This report documents the approach to hosting a low carbon event and the outcomes of the initiatives put in place to contain carbon emissions associated with the event. The report has been prepared in accordance with G3.1 Sustainability Reporting Guidelines and Event Organisers Sector Supplement and is consistent with Application Level C.

The process was initiated through the establishment of the COP17/ CMP7 Greening Programme, comprised of the main role-players who could influence the greening of the event and was thus a stakeholder driven process. The scope of the report thus reflects the activities and outcomes of the main role-players other than the host city which has produced its own report (Durban COP 17/CMP 7 Green Event Programme Report).

Initially, an estimated 25,000 delegates were expected to participate in COP17/CMP7. Subsequently, the number of delegates who attended was considerably lower with 12,489 official registered delegates and 17,417 active badges for the UN Precinct (the latter number is more comprehensive as it inclusive of support staff).

The overall management of the process was a shared one between the Department of Environmental Affairs (DEA) and eThekwini Municipality. The DEA took responsibility for the national carbon footprint and greening of events leading up to COP17/CMP7, the CCR Expo and associated side-events. The eThekwini Municipality was primarily responsible for local greening initiatives such as event venues and the accommodation sector as well as determining and offsetting the local carbon footprint.

The sustainability approach required the formulation of a greening strategy based on several key principles that amplified the role and involvement of stakeholders. The articulation of the greening strategy led to the formulation of the greening programme, which was based on event greening aims and objectives, sought to conserve and promote the country's social, economic and environmental resources. The programme also defined key focus areas including venues, the accommodation sector and inter-city passenger transport. The programme of activities was typically guided by the nature of the support required. This was informed by the identification of stakeholders requiring greening support; development of guidelines that could be used by a variety of stakeholders; awareness-raising and capacity-building initiatives; tracking and monitoring of side-events; determining the national carbon footprint of the event; and communications and awarenessraising initiatives.

The execution of the greening programme relied upon the establishment of a Greening Workstream, which was located within a broader governance arrangement established to oversee the logistical preparations for COP17/CMP7. The main role of the Greening Workstream was to ensure that the greening programme was effectively implemented, monitored and reported on.

The DEA organised a spectacular expo bringing to life the ways in which South Africa and other countries could be responding to climate change adaptation and mitigation. Apart from the riveting array of exhibitions and side-events, the way in which the Climate Change Response Expo (CCR Expo) was organised promoted the most sustainable options available for an event of this kind.

An exhibition stand, which was situated in the Forest Olive Marquee, showcased the greening of the CCR Expo, with live monitoring of energy usage and a map of the various green initiatives. Some of the highlights of the greening of the CCR Expo included:

Green Design and Energy Efficiency: Energy efficient lighting was used throughout the expo. A Wild Banana Leaf canopy provided shade across a large section of the CCR Expo. After the event, the gum-poles were redistributed for further use and the leaves were composted.

Green Procurement: Environmentally friendly products for exhibitors were on offer and the networking marquees were soundproofed with environmentally-friendly, soundproof board. Suppliers made use of environmentally-friendly and locally sourced products only and the organisers used as many local suppliers as possible.

Green Exhibitions: Green stand packages were on offer to exhibitors. These included reusable fabric branding and biodegradable carpeting. All other elements of the shell scheme, namely the aluminium frames, boards and furnishings, were reusable products supplied locally.

Water Management: Rainwater harvesting was promoted through the installation of ten rainwater tanks and guttering to redirect water to these tanks. Visitors to the Expo were encouraged to drink Durban's Blue Drop certified potable water. There were water coolers branded with water conservation messaging throughout the venue, with cool, clean drinking water filled from the taps. **Protecting and enhancing biodiversity:** All plants used in the CCR Expo were sourced locally and were distributed to Inanda after the event to be used in the creation of a park.

Waste Management: The waste management hierarchy was successfully put into effect.

- Waste Minimisation: Bottled water was banned from the exhibition space and suppliers were asked to minimise the packaging they used. Unsold, safe food was redistributed to NGOs supporting vulnerable people.
- Waste Re-use: Discarded branded substrates were donated to the Hillcrest AIDS Centre Trust where they were to be creatively re-purposed into various products by people affected by HIV/AIDs.
- Waste Recycling: Twin-bin systems were available throughout the CCR Expo to encourage the recycling of recyclable consumer waste. Recyclable plastic cups were supplied to drink with. In addition, bins for biodegradable waste were made available in the food areas and later used for compost. The waste management staff sorted recyclable waste on-site into the different waste streams. The organic waste went to an onsite worm farm and to compost. A demonstration recycling area was set up where visitors could see how waste was sorted.

Socio-economic upliftment: The cleaning of the CCR Expo was undertaken by unemployed women from local communities. They received training beforehand, earned an income and acquired work experience while at the CCR Expo.

Education: Schools tours were organised by the Earth Organisation. The CCR Expo funded disadvantaged schools to take these tours, while schools that were more privileged attended at their own cost. There were six educational landscape displays replicating the different KZN biome and the marquees were named after different indigenous trees.

Legacy: All the items that were procured for the CCR Expo that had use of after the event such as the plants, the wheelie and recycling bins, and the carpeting were distributed to public institutions in need.

In ensuring compliance with the UNFCCC-RSA Host Country Agreement, South Africa undertook to to determine the overall impact of the event by establishing the event's carbon footprint and developing a carbon reduction and offset programme, which comprised of various greening initiatives.

Event Carbon Footprint

There were three components to the COP17/CMP7 carbon footprint:

- 1. The eThekwini Municipality measured the **local carbon footprint**, with a focus on activities that happened in the Durban geographical area during COP17/CMP7;
- 2. The National Government measured the international travel footprint based on the UNFCCC registration list; and
- The National Government also measured the footprint of national events and activities initiated by national government in support of COP17/CMP7, such as the Climate Change Response Summits, the Climate Train and other events.





Table 1 below summarises the verified carbon footprint estimate for COP17/CMP7 based on17,423delegates.

Table 1. Verified carbon footprint for COP17/CMP7

Component	Activity	Carbon(t CO ₂ e)
Local footprint	Energy and water relating to venues and accommodation, as well as travel within Durban (people and products)	9,289tCO ₂ e
International travel	Travel to Durban including international flights and land based travel for 17,423 delegates	36,000.17tCO ₂ e
National Events	Provincial Summits, Climate Train, and other official events and activities as arranged by DIRCO and DEA	808.61tCO ₂ e
Total estimated tCO ₂ e		46,097.78tCO ₂ e

Managing the quantum of emissions relies on avoidance, reduction, sequestration and offsetting. Avoidance and reduction are the preferred approaches and are considered first and foremost. However, where unavoidable greenhouse gases are emitted due to the nature of the event, the eventorganisers reduce emissions through appropriate mechanisms.

Table 2 highlights the initiatives that were put in place and the carbon savings yielded as a result.







Table 2. Carbon savings

		Once-off / duration of event	10 years	20 years
Carbon Project Type	Project	Estimated Carbon Saving	Estimated Carbon Savings	Estimated Carbon Savings
Avoided emissions				
Green energy for the event	Hydro energy donated by Eskom	460,288 tCO ₂		
Hazelmere Solar PV Farm	32 solar photovoltaic tracker systems		13,789 tCO ₂	
Demonstration Solar PV Unit	1 solar photovoltaic tracker system at the CCR Expo	2 tCO ₂		
Subtotal		460,290 tCO ₂	13,789 tCO ₂	
Emission Reductions				
Energy efficiency in and around the Durban ICC			485 tCO ₂	
Climate Change Response Expo	Energy efficient lighting	5 tCO ₂		
Climate Change Response Expo	2 SWHs	0.1 tCO ₂		
SWH Clinics	69 Solar Water Heaters at Clinics and 2 SWHs at schools		1,123 tCO ₂	
Sustainable Energy Access for All	School retrofit: perimeter lighting		13 tCO ₂	
Sustainable Energy Access for All	Energy efficient cookstoves		816 tCO ₂	
Sustainable Energy Access for All	Decentralised solar lighting		125 tCO ₂	
Cato Manor Green Street			1050 tCO ₂	
Subtotal		5.1 tCO ₂	3,612 tCO ₂	
Carbon Sequestration				
Greening of the Enyokeni Royal Palace	Planting of 35,000 trees			6,731 tCO ₂
KZN Integrated Greening Programme	294 672 trees will be grown			23,120 tCO ₂
Subtotal				19,850 tCO ₂
Total		460,295.1 tCO ₂	17,401 tCO ₂	19,850 tCO ₂

Table 3 presents the carbon balance for the event based on emissions created from international and domestic travel and pre-COP events and carbon savings that arose as a result of savings accrued during the event.

Carbon emissions emitted	International and domestic travel to reach Durban and National Events	36,808.78 tCO2e
Carbon savings	Once-off savings	460,295.1 tCO2e
Balance		-423,486.32tCO2e

Table 3. Carbon balance based on once-off carbon saving

A donation of renewable energy from Eskom and its Southern African Power Pool members of 464,937.09MWh primarily derived from hydro sources was the primary source of carbon avoidance.

Several carbon reduction initiatives were undertaken and comprised the following:

- A solar PV farm with a capacity of 500kW was installed to the north of Durban to supplement the energy requirements of the UN Precinct during the hosting of the COP17/CMP7. The project included the installation of a demo solar tracker at the Transport Hub.
- The ICC and DEC buildings underwent an energy efficiency retrofit programme, which included advanced lighting technology. This retrofit aimed to reduce the energy requirements of the complex by approximately 7% of the current total demand.
- Through a partnership project between the eThekwini Municipality, Philips Lighting Southern Africa, and Eskom, 149 streetlights in the ICC precinct were retrofitted with energy efficient Iridium Light-Emitting Diodes (LED) streetlights.
- Sixty-nine solar water heaters were supplied installed and maintained in a selection of rural clinics in KwaZulu-Natal.
- Thirty households in Cato Manor were retrofitted and energy savings were achieved through the installation of energy efficient Compact Fluorescent Lightbulbs (CFL) light bulbs; insulated ceiling boards; LED street lights and heat-insulation cookers known as Wonderbags.
- Thirty households in proximity to the Groutville clinic were recipients of renewable energy and energy efficient technologies. Phillips, one of the project sponsors, donated energy efficient cook stoves together with the solar powered torches, lanterns and energy efficient indoor lighting. Two schools received solar water heaters and energy efficient perimeter lighting.
- As part of the implementation of the first phase of eThekwini's Non-Motorised Transport Plan, nine bicycle routes were developed prior to COP17/CMP7. A bicycle rental system was established to record incoming and outgoing bicycles.

 Several initiatives were put in place to reduce the amount of energy consumed by the Expo from the grid. These included energy efficient lighting throughout the Expo, the use of solar water heaters and the deployment of biodiesel back-up generators.

Carbon sequestration was achieved through two initiatives. The first initiative was the Nongoma Biodiversity Conservation Programme, which entailed the planting of approximately 35,000 trees in and around the Enyokeni Royal Palace in KwaZulu-Natal. The second initiative was the KZN Integrated Greening Programme, which involved the reforestation of areas of the province thereby creating jobs for unemployed community members in the growing, planting and maintenance of seedlings. In 2011, the Greening Programme employed 8,400 community facilitators and 25,200 greenpreneurs. Approximately 116,400 trees have been planted, 232,800 propagated, and 23,800ha secured for carbon farmers.

In terms of the offset strategy, eThekwini Municipality developed its own climate adaptation and mitigation project, the Durban Community Ecosystem Based Adaptation (CEBA) Initiative. The Durban CEBA Initiative involves communities in the restoration of their natural ecosystems, creating cleaner and greener neighbourhoods that are less dependent on costly utilities and services. As South Africa's official COP 17-CMP 7 Voluntary Offset project, delegates and non-delegates were able to contribute towards this by purchasing 'CEBA credits' to offset the environmental impact associated with their attendance at COP 17/ CMP 7. A total of 5,801 credits were purchased during the event.

South Africa's official national government delegation offset its participation in the COP17/CMP7 by purchasing 550 CEBA credits, valued at R100 per credit.

With regard to resource management, key areas of support were energy, water, waste and biodiversity. These included each area required interventions for their conservation and or sustainable usage.

On energy consumption, the event consumed approximately 6,878MWh of electricity based on primary venues alone. Measures to promote awareness about the conservation of energy and renewable sources as well as the application of technologies to achieve energy savings were put in place in the UN Precinct, the





CCR Expo and the accommodation sector. Furthermore 69 solar water heaters were installed in rural clinics in KwaZulu-Natal.

On water consumption, all the primary venues promoted the conservation of water through awareness messages and the consumption of potable water. Diversifying the water mix was promoted at the CCR Expo through a rainwater harvesting demonstration. The use of indigenous plants also promoted the theme of water-wise landscaping.

Various interventions were put in place to effect the waste management hierarchy. Waste minimisation was promoted at both the UN Precinct and CCR Expo through the banning of bottled water. Recycling was promoted at all the major event venues through the provision of recycling bins and on-site recycling centres. Safe, unsold food was redistributed to those in need and organic waste was composted at the Expo. As many useful products were redistributed post the event for further use. Several initiatives were effected to protect and enhance both the province and Durban's biodiversity. Mentioned previously were the landscaping of the CCR Expo, the creation of the Inanda park, the CEBA initiative, the Nongoma Diversity Conservation Programme and the KZN Integrated Greening Programme. The Living Beehive, which was large living art installation in the shape of a traditional Zulu Beehive hut erected at the Durban Botanical Gardens with a smaller replica at the CCR Expo, played an important role in communicating the links between natural systems and cultural values, and embodied an ecosystem approach to environmental management and 'climate proofing'.

A comprehensive set of low-carbon measures were put in place to manage and ease the transportation of several thousand delegates and visitors to the city. Motorised and non-motorised transport plans were put in place as represented in Table 4. Overview of Transportation Options for COP17/CMP7.

Table 4. Overview of Transportation Options for COP17/CMP7

Motorised transport	Description
Airport shuttle service	Transport delegates and non-delegates from airport to accommodation
City-Wide Congress Shuttle	Transport delegates from accommodation to Central Transport Hub
VIP transportation	Transport dignitaries to the UN Precinct
Media transport	Transport media from the Mustering Field to the UN Precinct
People Mover System	Transportation of non-delegates around the City and the different venues
Non-motorised transport	Description
Pedestrian walkways	Nine walkways developed to support pedestrian activity and cycling
Bicycle rental system	650 rental bicycles for delegates (for free) and non-delegates



No event can be successfully hosted in the absence of the implementation of widespread communication and awareness raising campaign. Thus an overwhelming focus of the host country was the opportunity to raise awareness about climate change, and defining and promoting appropriate climate-friendly responses. Different methods aimed at specific target audiences were applied to great effect ensuring the widespread permeation of the messaging.

A component of the awareness drive focused on instilling greening measures in the various work streams and at times entering unchartered territory such as the Safety and Security workstream. The key outcome was awareness-raising on how this workstream could be greened for the sake of sustainably managed events as well as the implementation of a mini-recycling hub and awareness posters at the venue for the National Joint Operations Centre. The eThekwini Municipality engaged the accommodation sector in a robust manner, providing it with useful resources and support to initiate resource management measures within their operations and to comply with the National Minimum Responsible Tourism Standards.

Publications were a popular means of communicating the various initiatives put in place on a spatial and sectoral basis as well as the event's legacy. Two outstanding publications were the Green Passport and the Greening Legacy Guideline. The DEA also ensured that journalists were properly supported and made provision for a media centre at the CCR Expo. The publication of useful information on various websites including the official COP17/CMP7 website was also a feature of the communications approach. Information was also communicated through the Environmental Volunteers and DEA interns, who also played a role in distributing the aforementioned publications.

In addition to the more traditional means of communication, there were a range of innovative projects that communicated their messages in a very practical manner. They offered the human face of the climate change negotiations. As mentioned earlier, two projects in impoverished communities demonstrated the role of climate-friendly development solutions through the application of simple and emerging technologies. Side events were hosted at these sites, which further elevated the themes of green building design and infrastructure.

In the run-up to the hosting of COP17/CMP7, DEA and the provinces organised a series of provincial, local and community climate change summits to raise awareness about climate change and the pending conference, and promoting appropriate practical responses to climate change. In tandem with these summits, two unique projects were launched: the SA Agulhas and the Climate Train. The SA Agulhas targeted coastal towns, which are vulnerable to sea-level rising, and the Climate Train largely reached small towns in the hinterland that are equally vulnerable to changing weather patterns and extreme weather events. Both initiatives offered an

array of activities reaching out to different target audiences and engaged them using different media depending on the messaging and the profile of the respective target audiences.

The establishment of the Clean Technology Competition, which both served to raise awareness on the role of technology in the transition to a low carbon economy as well as putting in place measures to support entrepreneurs, who have technology solutions that can be brought to the market place in support of the transition to a low carbon economy. On 8 December 2011, the winners of the competition were announced at an event that also raised the profile of the competition, which is to be a legacy of COP17/CMP7.

Stakeholders' awareness and opinion of the various initiatives described earlier were explored during a Visitor's Survey. Overall, the COP17/CMP7 delegates were familiar with and positive about the initiatives when compared to non-delegates. At the same time, it became apparent that communications campaigns for particular initiatives require strengthened and sustained application before, during and after an event.

The organisation of COP17/CMP7 and the vision for the most sustainable outcomes possible were influenced by the following four factors: degree of planning that took place which was largely dependent on lead-in times; the level of support and cooperation received by stakeholders including political will; the availability of financial resources; and closely related, the ability to influence procurement to support sustainable choices and alternatives. A number of opportunities that would have enhanced the sustainability of the event were not realised due to any one of these factors or a combination thereof. Nonetheless, the initiatives that were put in place were effective, appealing and typically had the desired effect.

In conclusion, the opportunity to host COP17/CMP7 not only reinforced the country's logistical prowess in managing a large international event but also confirmed its ability to organise a sustainably managed event coupled with a lasting positive legacy.