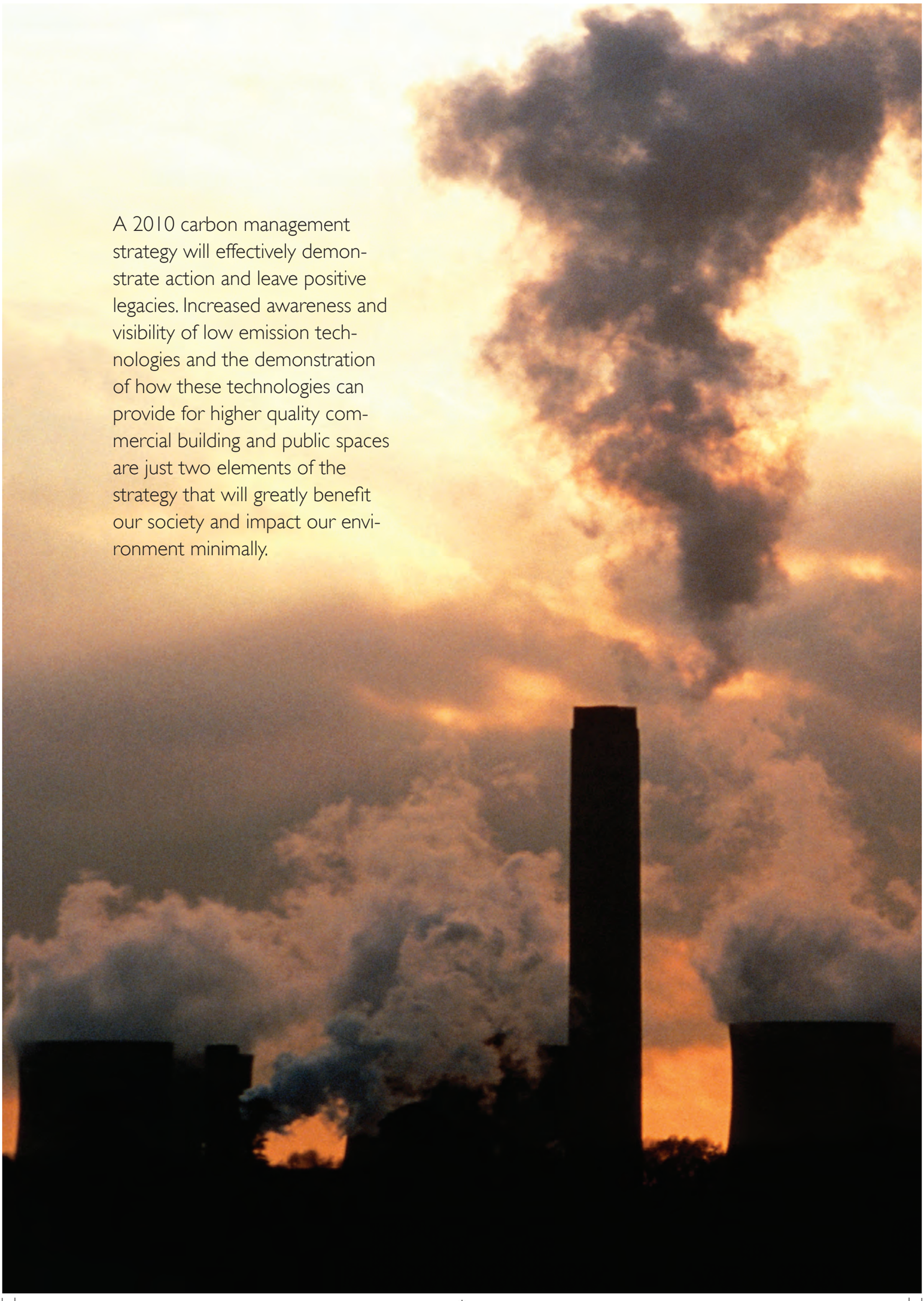
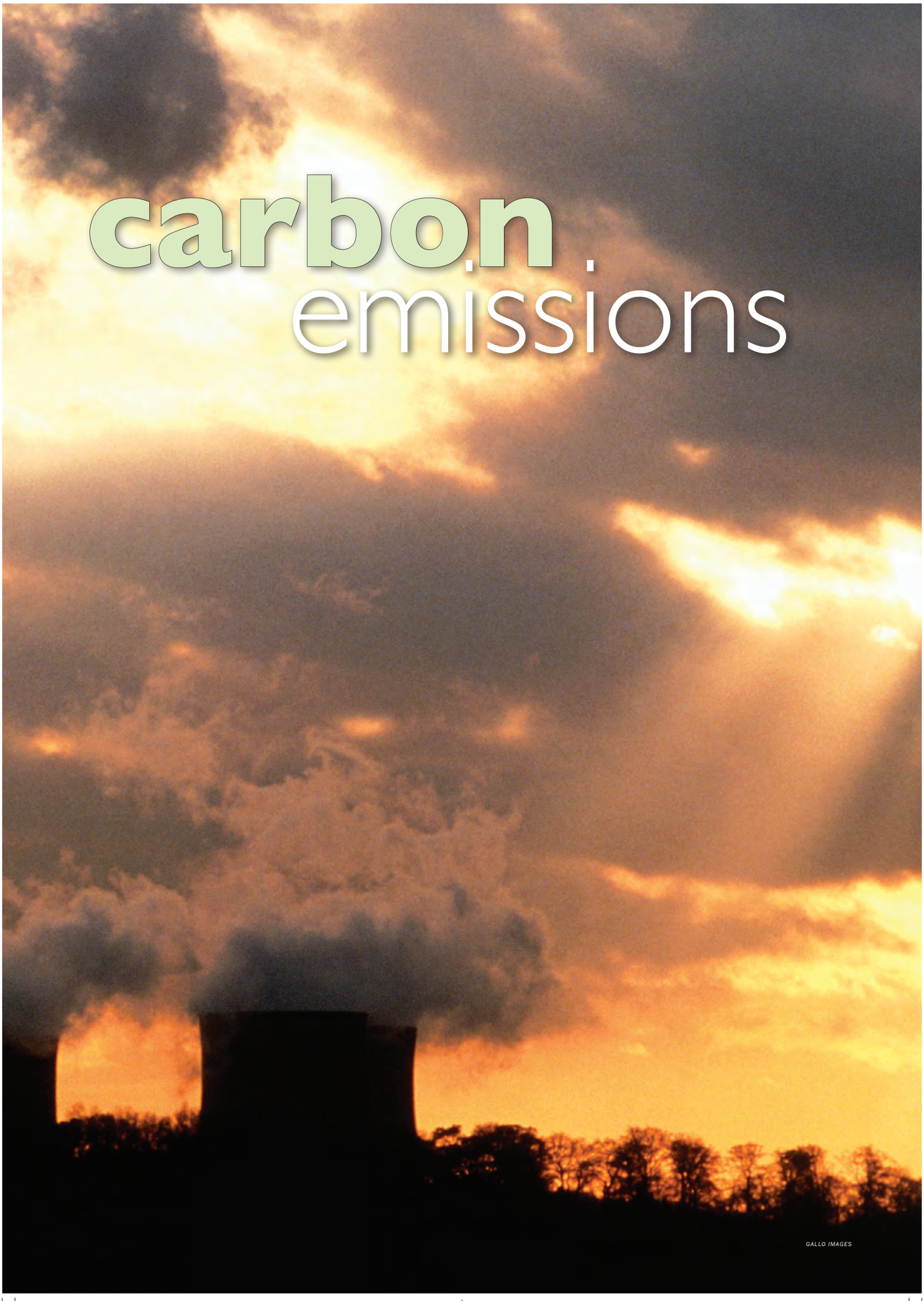


A 2010 carbon management strategy will effectively demonstrate action and leave positive legacies. Increased awareness and visibility of low emission technologies and the demonstration of how these technologies can provide for higher quality commercial building and public spaces are just two elements of the strategy that will greatly benefit our society and impact our environment minimally.

carbon emissions



GALLO IMAGES

The fan park In Cape Town city centre at nightfall.

3.1 Introduction

THE INTERGOVERNMENTAL PANEL on Climate Change Fourth Assessment Report (IPCC, 2007) concluded that global temperatures are rising, and that this is very likely to be as a result of human activity, specifically, the release of greenhouse gases into the atmosphere. Carbon emissions (as greenhouse gas emissions are often called) of the 2010 FIFA World Cup™ is a cross-cutting theme, with implications for waste management, sustainable energy, transport, water and biodiversity. Many of the initiatives referred to in this chapter will be touched on again in the chapters on energy, waste, transport and biodiversity which follow.

Major sporting events are increasingly adopting programmes to compensate for the carbon emissions that arise from the event. The 2006 FIFA World Cup™ in Germany set a precedent in this respect, earning a title as the first 'climate neutral' World Cup by offsetting their domestic footprint.

Climate, or carbon, neutrality can be achieved in two main ways:

- By reducing carbon emissions at source through interventions such as energy efficient installations or use of renewable energies, and
- Through 'offsetting' the remaining emissions by investing in carbon reduction projects elsewhere.

'Offsetting' refers to an investment in projects that will ultimately lead to a reduction of carbon emissions that would not have occurred on a business-as-usual basis. The approach adopted for reducing carbon emissions associated with the football world cup in South Africa was a combination of both of the above.

The National Greening 2010 Framework (DEAT, 2008a) as well as the 2010 Green Goal clearly identified the legacy value of addressing the carbon emissions associated with the event:

''A 2010 carbon management strategy will effectively demonstrate action and leave positive legacies. Increased awareness and visibility of low emission technologies and the demonstration of how these technologies can provide for higher quality

BRUCE SUTHERLAND – CITY OF CAPE TOWN

THE NEED FOR ENERGY CONSERVATION, ENERGY EFFICIENCY AND ENERGY SECURITY WITHIN SOUTH AFRICA **HAS BEEN HIGHLIGHTED AS AN AREA OF NATIONAL PRIORITY**

commercial buildings and public spaces are just two elements of the strategy that will greatly benefit our society and impact our environment minimally'' (DEAT, 2009a).

The need for energy conservation, energy efficiency and energy security within South Africa has been highlighted as an area of national priority. As yet, South Africa is not required to commit to binding carbon reduction targets within the UNFCCC Kyoto Protocol. However, at the international climate change talks in Copenhagen in December 2009, South Africa announced that it would undertake non-binding mitigation actions that will result in a deviation below the projected "business as usual" emissions trajectory of 34% by 2020 and 42% by 2025 respectively. South Africa formalised these commitments in the Copenhagen Accord in January 2010.

In line with this, several national strategies are expected to be implemented in the near future to address such issues. For example, South Africa has recently released a Green Paper for discussion regarding the National Climate Change Response Strategy. Individual cities have also set specific targets for energy efficiency and the use of renewable energies.

3.2 Actions taken

3.2.1 Carbon Footprinting

South Africa's commitment to understanding the carbon intensity of the 2010 event was evident in a number of feasibility studies carried out in the years preceding the event. One such study, commissioned by the Norwegian Embassy in partnership with the DEA, estimated that the 2010 FIFA World Cup™ event would generate a footprint of 896,661 tonnes of CO_2 equivalent (tCO_2e) excluding air travel, and a total footprint of 2,171,000 tCO_2e, if air travel was included (DEA, 2009a). A total of 65% of this

World Cup visitors enjoy the sites from a pedi-bike.

footprint would therefore be as a result of international air travel, followed by intercity travel (17%), accommodation (13%), stadium construction[1] (0.6%) and stadium energy usage (0.5%).

TABLE 3. SOUTH AFRICA'S PROJECTED WORLD CUP CARBON FOOTPRINT

COMPONENT	South Africa[2] (tCO^2e)	Cape Town[3] (tCO^2e)	Durban[4] (tCO^2e)
International transport	1,856,589 (67.4%)	-	-
Inter-city transport	484,961 (17.6%)	107,536	55,057
Intra-city transport	39,577 (0.6%)	4,270	3,071
Stadium construction materials	15,359 (0.5%)	3,473	189,836
Stadium energy use	16,637 (0.5%)	3,092	1,058
Other venue construction materials	-	-	2,427
Other venue energy use	-	1,091	770
Energy use in accommodation	340,128 (12.4%)	63,730	54,990
Energy use in Final Draw	-	452	-
TOTAL	**2,753,250**	**183,192**	**307,208**

TABLE 4. INTERNATIONAL TRAVEL FOOTPRINT PREDICTED VS. ACTUAL

Region of Origin	Predicted Visitors	Actual Visitors	Ave. Dist Travelled	Predicted Footprint (tCO^2e)	Actual Footprint[5] (tCO^2e)
Africa – Air	63,486	21,669	3,500	127,670	43,576
EU – Air	165,064	77,389	9,000	747,740	350,570
Asia – Air	63,486	37,146	9,500	302,130	176,780
S America – Air	63,486	40,242	7,000	229,438	145,435
N America – Air	50,789	34,051	13,500	334,750	224,430
Africa – Land	300,000	99,057	1,202	114,861	37,966
TOTALS	**706,311**	**309,554**	**-**	**1,856,589**	**978,756**

In comparison, the total carbon footprint of the 2006 FIFA World Cup™ in Germany was 92,000 tCO_2e (Öko-Institut, 2006), excluding air travel. Therefore, even when excluding the 65% contribution to overall emissions from international air travel, the 2010 event was predicted to have a footprint over eight times that of the preceding event. The Carbon Neutral Feasibility Report (DEAT 2009a) provided some analysis for the high predicted carbon intensity of the 2010 event.

- *International travel:* South Africa is a long haul destination for the majority of visiting spectators.
- *Inter-city transport:* South Africa covers a vast area and public transport options between host cities are relatively limited.
- *Intra-city transport:* Public transport systems within cities are generally poor and as a result passenger car use is high.
- *Accommodation:* Estimated energy consumption per person per night in South Africa is 30kWh. This is compared to 7.6 kWh per person per night in Germany. This reflects building efficiency (or inefficiency) and climatic issues, as well as the fact that energy production in South Africa is heavily reliant on high carbon emission fossil fuels (coal).
- *Longer stays:* People travelling long distances were expected to stay longer due to the expense of travel to the event.

EVEN WHEN EXCLUDING THE 65% CONTRIBUTION TO EMISSIONS FROM INTERNATIONAL AIR TRAVEL, THE 2010 EVENT WAS PREDICTED TO HAVE **A FOOTPRINT OVER EIGHT TIMES** THAT OF THE 2006 EVENT

1 Excluding embedded emissions
2 South Africa's Carbon Footprint (DEAT, 2009a)
3 Cape Town's Carbon Footprint (Econ Poyry, 2010)
4 Durban's Carbon Footprint (Econ Poyry, 2009), includes embedded emissions for stadium construction
5 Calculation by WSP based on DEAT, 2009a for assumed return international flight as well as one short haul connecting flight of 1,000 km.

Baseline estimates for contribution of individual Host Cities to this overall footprint were estimated at 180,000 tCO_2e for the Western Cape and 307,208 tCO_2e for Durban (Table 3). The Durban footprint included the total embodied emissions for the stadium, which accounted for 62% of the total figure.

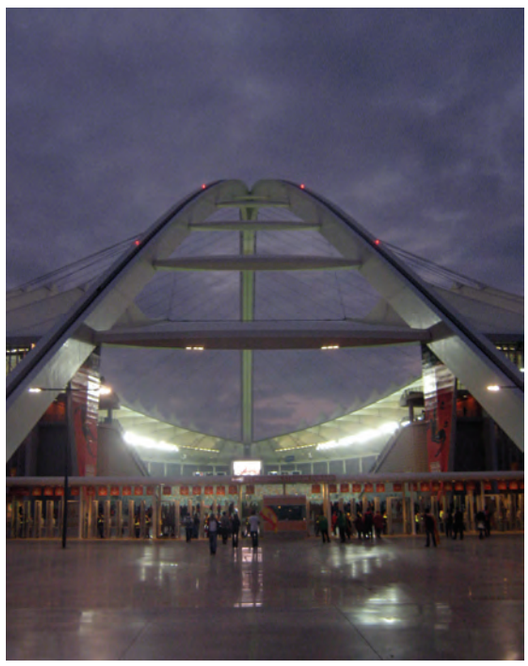
Calculations of carbon footprints are essentially estimates indicating of the scale of the potential problem and a reference point as to how much mitigating action is required. The DEAT (2009a) study was carried out in a balanced manner, using disaggregated emissions from six event-related activities, with clearly stated assumptions and internationally approved conventions to derive these estimates. The biggest proportion of the baseline estimate was attributed to international travel to and from the event. Using figures from the Initial Transport Operational Plan (Department of Transport, 2007), the calculation assumed that 700,000 visitors in total would be entering South Africa for the World Cup (400,000 via plane, 300,000 overland).

Analyses of tourist numbers entering South Africa during the month (11th June to 11th July 2010) suggest that the actual numbers were somewhat lower than original predictions. The South African Department of Tourism (SAT, 2010) states that the estimated number of World Cup-related foreign visitors that entered South Africa was 309,554 (210,497 via plane, 99,057 overland). Using these figures, it was estimated for the report that the footprint (Table 4) for international travel was overestimated by 877,833 tCO_2e (both via air and overland). The post-event estimate for travel to and from the World Cup is therefore 978,756 tCO_2e. The results are consistent with a significant drop from the predicted international and local visitor number – most significantly, from the EU. Hence the carbon emissions were lower than expected as the average distance flown was less. The baseline figure also significantly overestimated the number of African visitors driving overland from neighbouring countries. The drop in visitor numbers can perhaps be attributed to difficult global economic conditions in the lead-up to the event.

3.2.2 Stadium precincts

Five new stadiums were constructed for the 2010 FIFA World Cup™. The City of Durban (eThekwini Municipality) took the lead, and was the only city to declare that it would attempt to achieve carbon-neutrality. Impressively, the total embodied carbon emissions associated with the building of the Moses Mabhida stadium were completely incorporated into Durban's carbon footprint and offset commitment. Embodied emissions from the stadium construction constituted 62% of the total emission footprint. In part, this was as a result of the sustainable building design of the Moses Mabhida stadium, which is estimated to have reduced the operational energy footprint of the precinct by approximately 30%. These energy savings are expected to result in an annual operational cost saving of R1 million per year (eThekwini Municipality, 2009). A centralised building management system (BMS) allows for optimal management of ambient temperature (air conditioning) and lighting for different zones. Even after the event, the stadium's performance is undergoing constant refinement, and these modifications are central to ensuring sustainable performance in years to come.

Several Host Cities committed to various green energy initiatives in their stadium construction. Because carbon emissions and energy are subjects so inextricably linked, further details of these developments will be discussed in the energy chapter.



The Moses Mabhida Stadium precinct.

3.2.3 Carbon reductions from transport initiatives

Improvements in the provision and accessibility of public and non-motorised transport can be translated into an improvement in air quality, reduction of noise level, reduction of traffic congestion, improved physical environment and, importantly, carbon reduction. Although carbon savings due to transport initiatives were not quantified, they should be recognised as a key component of the legacy of the 2010 FIFA World Cup™.

From an early stage, the large-scale movement of people within South Africa during the World Cup was recognised as a major hurdle in the event's planning. Public transport initiatives were necessary in all Host Cities, and numerous needs assessments were carried out. "Park and ride" and "park and walk" facilities were implemented

in order to reduce carbon emissions and traffic congestion in the stadium precincts. In some cases the 2010 FIFA World Cup™ served to accelerate existing plans for transport infrastructure upgrades. Highlights include the allocation of R 1.69 billion funding by the National Treasury for projects related to the 2010 FIFA World Cup™, as well as towards the development of comprehensive transport plans. In addition to this, the following Host Cities of Johannesburg, Cape Town, Polokwane, Port Elizabeth and Tshwane each created a non-motorised transport framework, with clear objectives to meet their vision of promoting low carbon forms of transport such as cycling and walking. Most Host Cities carried out upgrades to road systems in the stadium surroundings and protocol routes to improve pedestrian safety and accessibility to spectators. Pedestrianisation of urban spaces in South Africa, which has traditionally focused on motor vehicle accessibility, will be a key to the extension of a sustainable urban transport legacy in years to come. In addition, numerous public transport pro-

TABLE 5. CARBON-FRIENDLY TRANSPORT LEGACY INITIATIVES FOR THE 2010 WORLD CUP™

ENTITY	TRANSPORT INITIATIVE
Cape Town	• Development of public transport infrastructure including dedicated bus lanes on freeways and improved transport corridors. Three hundred new buses purchased. • Training of 20 metered city taxi drivers in 'eco-driving' as part of a pilot project. • Stadium precinct infrastructure improvements for non-motorised transport and an improved inner-city distribution system. Construction of FIFA fan walk to allow pedestrian flow from city centre to stadium.
eThekwini (Durban)	• Public transport lane for one highway. • Construction of linkages between the stadium and the CBD precinct, and a new railway station adjacent to the Moses Mabhida Stadium.
Johannesburg	• The Strategic Public Transport Network between Johannesburg and Tshwane: Fast-tracking of the Gautrain development, and linkages to and from the NASREC precinct and to and from OR Tambo airport. • Fast-tracking of sustainable public transport development: Johannesburg BRT (Rea Vaya) public transport system with 325 km of special public transport lanes and intersections, and 40 transport interchange nodes where commuters can switch from one form of transport to another.
Mangaung (Bloemfontein)	• The development of an internodal public-transport facility, including upgrading the taxi rank and street pedestrianisation to encourage non-motorised public transport. • Infrastructural upgrades including the establishment of a high-capacity public transport service between the south-eastern areas and the CBD and improved access to Mangaung Bloemfontein airport.
Mbombela (Nelspruit)	• Upgrades to multimodal and pedestrian facilities in the central business area. Upgrades included walkover bridges to the stadium. • Upgrades including adding a high occupancy vehicle lane to major highway and construction of a new rail station and platform.
Nelson Mandela Bay (Port Elizabeth)	• Introduction of BRT system with 45 high-capacity buses. • Rehabilitation and widening of public-transport routes, and improvement of non-motorised transport routes including cycle tracks and walkways.
Polokwane	• Non-motorised transport improvements. • Upgrading of the Polokwane Centre bus terminus and taxi ranks in the municipality.
Rustenburg	• Design and construction of safe pedestrian and cycle networks. • Upgrades to the taxi rank and bus facilities.
Tshwane	• Improvement in non-motorised transport, including the Shova Kalula Bicycle Project. • Improvement in public transport infrastructure and systems, including the development of the Gautrain and a new municipal bus fleet.

Solar powered traffic light outside Soccer City, Nasrec, Johannesburg

jects, such as Johannesburg's Bus Rapid Transit system or the Rea Vaya (which means "We are going" in Portuguese) were fast-tracked to ensure that fans and spectators could benefit from them. A summary of transport initiatives is provided in Table 5.

3.2.4 Voluntary arbon initiatives for a 'carbon fair' event

Carbon offsets involve transactions in which polluters invest in projects that reduce greenhouse gas emissions in exchange for the right to claim credit against their own footprint. It was clear that the World Cup would have a substantial carbon footprint even if significant efforts were made to directly reduce carbon emissions associated with the event. Carbon offsetting offered an opportunity to address these carbon emissions in a more affordable and practical manner, as had been undertaken for Germany's Green Goal 2006. A desire to respond to this precedent in 2010 was embodied in a new National Carbon Offset Working Group, which was to initiate the offset response. Five official offset projects were selected for the World Cup. With funding from the GEF/UNEP, these projects were linked to a carbon calculator on the Green Passport website as part of the communications and awareness programme. The official offset projects included:

- Solar cookers, by Sunfire Solutions
- Soil composting, by Soil and More Reliance
- LED energy efficient lighting retrofit programme, by Lemnis Lighting
- Wind energy, by Mainstream Wind Power
- Domestic fire lighting – *basa nge magogo* project, by the Nova Institute.

WORLD CUP TEAMS OFFSET THEIR EMISSIONS

The total carbon footprint of the 32 participating football teams in the 2010 FIFA World Cup™ was estimated at 16,010 tCO_2.

Ten of the nations that qualified for the 2010 FIFA World Cup™ in South Africa, including all seven teams sponsored by Puma™, offset their CO_2 emissions from travel and accommodation (estimated at approximately 4,567 tCO_2), by supporting a South African organic compost project set up by Soil & More Reliance. Teams included football powerhouses such as Italy, Cote d'Ivoire, Ghana, Uruguay, Algeria, Cameroon and Switzerland. The Netherlands, Republic of South Korea and Serbia are also reported to be offsetting their emissions.

SOIL & MORE RELIANCE diverts green waste away from landfill sites to produce high quality organic compost using an aerobic process. Greenhouse gas savings are made through the avoided release of the methane that would have been emitted should the green waste have gone to landfill.

Disappointingly, substantial funding could not be secured to offset the 2010 event in full. Nevertheless, the hurdles that may have prevented large-scale investment in offsetting projects should not distract from the many city-wide interventions that were carried out, and which ultimately allow for the 2010 FIFA World Cup™ to be considered as a "carbon fair" event, if not carbon neutral. The following provides a snapshot of the main focus areas in which these activities took place.

3.2.5 South Africa's carbon neutral Host City

With a goal of carbon neutrality, the eThekwini Municipality investigated 80 potential carbon emissions reductions projects, of which five were selected for further development. The five Certified Emissions Reductions (CER) projects detailed in Table 6 will offset a total of around 178,000 tCO_2 per year when running at full capacity. The intention is to run the projects to the maximum allowable registration time of 21 years. If this can be achieved, the maximum CER that could be generated from all of the projects would be 3,738,000 carbon credits/tCO_2 offset (eThekwini Municipality, 2010).

None of the projects have commenced at the time of writing, but business plans have been developed and project identification notes (PINS) have been submitted to and accepted by the Designated National Authority for the Clean Development Mechanism (CDM). Under the Kyoto Protocol this is the first step in registering ventures as carbon offset projects eligible to bank or trade in carbon credits. The three projects closest to implementation are:

- Western Aqueduct Hydropower Scheme
- Durban Solid Waste Marianhill landfill biogas to energy project. This will utilise landfill gas from the municipal waste site for energy generation.
- Roll-out of 100,000 solar water heaters by 2015 to high-end users.

It is estimated that within three years the carbon credits banked through these projects will be sufficient to offset the carbon footprint associated with Durban hosting the 2010 FIFA World Cup™. Thereafter, these credits may be sold to generate further revenue for additional carbon emissions reduction projects.

Buffelsdraai Landfill reforestation project (Source: eThekwini Municipality Greening Durban, 2010)

TABLE 6. SUMMARY OF CARBON OFFSETTING PROJECTS: CITY OF DURBAN

PROJECT NAME	Estimated Carbon Credits/Annum	Est. Average Electricity Units (kWh)/Annum
Western Aqueduct Hydropower Scheme	16 415	15 937 000
Southern Wastewater Treatment Works AD	97 038	18 679 900
Mini Hydropower Turbines at Municipal Reservoirs	12 000	11 650 000
Mariannhill Landfill Site Composting and AD	24 872	3 310 000
Solar Water Heater Rollout (100,000)	27 581	0
TOTAL	**177 906**	**49 576 900**

3.2.6 Tree planting

Tree planting was a common theme across many of the Host Cities because of their potential to sequestrate CO_2 as well as the clear ecological and landscaping benefits, if appropriately selected and managed. To date a total of 361,000 indigenous trees have been planted as a result of the World Cup (Table 7). It is estimated that each tree can sequester 20.3 tonnes of CO_2 during the average lifecycle of 40 years.

In one such example, the City of Durban partnered with the Wildlands Conservation Trust to plant 104,000 indigenous trees on an 82 hectare site within the Buffelsdraai Landfill buffer zone. The achievement marked a 166% increase on their original target of 62,500 trees by the start of the 2010 event. As a conservative estimate, it is calculated that these trees will offset approximately 20,000 tons CO_2 over the next 20 years.

The second phase of the project was recently commenced that will raise the carbon sequestration to 40,000 tCO_2e. A further positive spinoff of the project was the

creation of 15 permanent jobs for local community members (nursery and planting), 220 temporary jobs (digging and planting), and 400 "treepreneurs" to grow trees and trade for basic goods, food and school fees (eThekwini Municipality, 2010).

A second site has been identified for post-event offsetting of carbon emissions at Inanda Mountain on tribal authority land, to contribute to the City's next goal of planting a further 100,000 trees.

TABLE 7. SUMMARY OF TREE PLANTING INITIATIVES IN SOUTH AFRICA FOR THE 2010 WORLD CUP™

CITY	Initiative	No. of trees planted
Johannesburg	Soweto Tree Planting Initiative	200,000
Durban	'One goal – one tree' campaign Buffelsdraai Landfill Buffer Reforestation phase 1 (phase 2 to commence in 2011 with a target of another 104,000 trees)	104,000
Tshwane	'One Goal – One Tree' campaign Corporate tree planting	32,000
Rustenburg	City Beautification	25,000

3.2.7 South Africa goes solar

Solar water heating is an attractive prospect in a country like South Africa. Water heating consumes 18% of the total coal-generated electricity supply to industry, commerce and domestic sectors. Eskom estimates that replacing traditional electric geysers with solar water heating could cut a typical domestic bill by up to 70%. Additionally, each household with solar water heating will reduce carbon emissions by 1.8 tons per year. Among energy-generation technologies, solar is second only to bio-fuels in its potential to create new jobs (NEEC, 2010). The recent launch of the

Among the various initiatives explored was the **"GOGREEN" SMS CAMPAIGN**. This was a fund-raising project geared towards a national carbon offset programme. Sadly the project, supported by Foneworx and KPMG, fell off due to a lack of on-going publicity and sponsorship difficulties. Not all projects will achieve the success of others, but the value of lessons learnt for carbon offset programmes in future should not be discounted. Further initiatives have been pledged in order to advance the offset of World Cup emissions, such as the City of Cape Town's pledge to retrofit 100,000 low cost houses with energy efficient lighting. These and other pledges will ensure that the momentum is maintained in tackling South Africa's carbon footprint in general.

Newly fitted solar water geysers in Darling, Western Cape.

National Solar Water Heater Project (NSWHP) in April 2010 reflects the widespread implementation of such geysers as a national priority. The project aims to install one million solar geysers in South African homes by 2014. In addition:

- The City of Cape Town used part of the World Cup funding supplied by the Department of Environment Affairs and Development Planning (DEA&DP) and the Danish International Development Agency (DANIDA) to contribute to the installation of 300 solar water heating systems within the Darling community in the Western Cape region (DEA&DP, 2010 media release).
- Nelson Mandela Bay, through funding received from the Division of Revenues Act, has committed to retrofitting 100,000 solar water geysers over the next five years.
- The City of Tshwane, through funding received through CEF and Eskom, were able to mark the launch of the NSWHP through the replacement of 270 units in the township of Winterveld, with a further 2,730 units to be installed in Phase 2.

These are just a few of the projects that will ensure increased environmental awareness and a legacy of energy efficiency, sustainability and renewable energy are introduced in communities of South Africa

3.3 Outcomes

TABLE 8. SUMMARY OF WORLD CUP RELATED CARBON REDUCTION INITIATIVES

TYPE OF CARBON REDUCTION	PROJECT	POTENTIAL CARBON SAVINGS (TONNES)	TIMESCALE
Energy Efficiency & Small Scale Renewables	Solar Powered Street Lighting (13 in 5 cities) – National	19,929	7 years (product lifespan)
	Retrofit of traffic lighting – National	672	7 years (product lifespan)
	Solar powered billboards – National	995.4	7 years (product lifespan)
	Solar water heaters – National	1,270,080	7 years
Offset Projects	Solar Water heaters – City of Durban	577,878	21 years
	Western Aqueduct Hydropower Scheme – City of Durban	344,715	21 years
	Southern waste water treatment works	2,037,798	21 years
	Mini hydropower turbines at municipal reservoirs – City of Durban	252,000	21 years
	DSW Marianhall biogas to energy project – City of Durban	522,312	21 years
Carbon Sequestration	Tree planting – National	7,238,300	40 years
Avoided Emissions	Renewable energy supplied by SAPP	2,491,271	Once-off

THE SUMMARY ABOVE DESCRIBES the diverse and varied carbon initiatives that were implemented (or are in the process of being implemented) across South Africa (summarised in Table 8). The cross cutting themes of energy, transport, waste, water and biodiversity will be explored in more detail in the following chapters. No post-event carbon footprint calculations for the Host Cities had been released at the time of writing, so the performance against the initial baseline estimates cannot be fully assessed.

South Africa is currently not a major participant within global carbon markets. The 2010 FIFA World Cup™ presented significant opportunities for large scale investment in carbon offset projects. If more substantial investment had been secured this could have been used to encourage and promote the local carbon offset industry. Effectively, however, the chance to completely offset the 2010 FIFA World Cup™ carbon emissions was lost due to lack of funding taking into account that greening of the World Cup was a voluntary effort. The major lesson learnt for South Africa therefore, and any other nation undertaking an event of this magnitude, is that binding agreements

Plant a tree for every goal: Loftus trees surrounding a sculpture by one of Tshwane's most famous contemporary artist, Angus Taylor.

for fiscal support should be sought upfront for a carbon emissions reduction programme. Alternatively, more flexible mechanisms need to be considered for accessing private sponsorship funding. This is not to understate the achievements of those Host Cities that managed to produce their own legacies in the form of municipal projects such as the advances in multimodal transport links, energy efficiency interventions, investment in various small-scale renewable energy projects, and the numerous tree planting/reforestation projects taking place across the country.

The true legacy projects in South Africa are therefore those that, though of a smaller scale, will promote increased awareness of sustainability issues and carbon neutrality amongst South African communities and seed new initiatives in the future.

THE TRUE LEGACY PROJECTS ARE THOSE THAT WILL PROMOTE INCREASED AWARENESS OF SUSTAINABILITY ISSUES AND CARBON NEUTRALITY AMONGST SOUTH AFRICAN COMMUNITIES AND **SEED NEW INITIATIVES IN THE FUTURE**