EVENT GREENING

Chapter Four

LEAVING A **POSITIVE LEGACY**

4.1 Introduction

Event greening is the process of incorporating socially and environmentally responsible decision making into the planning, organisation and implementation of, and participation in, an event irrespective of scale.

It requires the inclusion of sustainable development principles and practices into all levels of event organisation, and aims to ensure that an event is hosted in a responsible manner. It represents the total package of interventions at an event, and needs to be done in an integrated manner. Event greening should start at the inception of the project, and should involve all the key role players, such as clients, organisers, venues, subcontractors and suppliers.

Event greening is taking its place in the planning and implementation of major events being co-ordinated and hosted by different spheres of government in South Africa. The uptake of event greening within the events industry internationally and within South Africa is also an emerging trend and is tantamount to the meaningful achievement of enduring event greening.

Event greening is also strongly coupled with the concept of creating a positive legacy, ensuring that the massive investments made for major events have long-term benefits, which are vital for a country that has compelling and competing development needs and priorities.

4.2 Greening Approach

Greening requires the incorporation and application of environmental principles and best practice into the planning and execution of an event.

It requires consideration of the environmental impacts of decisions taken and investments made, and ensuring that the negative environmental impacts of these decisions are minimised. In so doing, natural resources are used more efficiently and conserved, while less pollution is produced. Furthermore, it seeks to ensure that the impacts of greening are beneficial from both a social and economic point of view through community involvement and local economic development.

Event greening aims to achieve these three objectives simultaneously through responsible event management where the overarching principle is sustainability. To complement an green event approach, planning also needs to factor in the following three areas:

- Leaving a positive legacy;
- Education and awareness (which is addressed separately in Chapter 7); and
- Monitoring, evaluation and reporting.

4.2.1 A Greening Framework

A framework for greening is presented in the following table informed by the National Greening 2010 Framework, which guided the development of both a National Greening 2010 programme and individual Host City Greening programmes for the 2010 FIFA World Cup™.

The terms 'event greening' and 'green' refer to responsible, sustainable decision-making and implementation, taking note of environmental, social and economic factors.

RESPONSIBLE DECISION-MAKING

Focus Areas	Application	Objectives
Biodiversity	Maximise protection and enhancement of biodiversity and ecological systems.	• Maximise protection and enhancement of biodiversity and ecological systems. • Maximise recreation and tourism experiences associated with biodiversity.
Energy	Minimise the use of coal-derived energy.	• Minimise consumption of energy. • Improve efficiency of use. • Maximise use of renewable energy.
Tourism	Maximise responsible tourism offerings in South Africa.	• Maximise energy and water use efficiency in hotels, guesthouses and B&Bs. • Minimise waste generation and maximise waste sorting, re-use and recycling in hotels, guesthouses and B&Bs.
Transport	Maximise the availability, accessibility and efficiency of public transport systems.	• Minimise use of private vehicles to access venues. • 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.
Waste	Application of the waste management hierarchy to events.	• Minimise waste generation. • Maximise waste sorting, re-use & recycling.
Water	Maximise efficiency in water usage and protection of natural resources.	• Minimise consumption of water. • Improve conservation of water. • Maximise rainwater capture and grey water recycling. • Protect wetlands. • Minimise pollution of water resources.

Cross-cutting Areas	Application	Objectives
Carbon footprint	Minimise the carbon emissions associated with the event.	• Minimise carbon emissions. • Establish carbon offset programmes for carbon emissions that cannot be eliminated.
Communications and Awareness	Maximise the showcasing and awareness raising of greening initiatives to the public.	• Sensitisation of vendors and service providers to greening objectives and expectations. • Outreach to participants and affected residents about the environmental and social impacts and desired behaviour change. • Showcasing environmental best practice including water-wise technologies, energy efficient appliances, and waste recycling initiatives. • Regular communications to all stakeholders.
Job creation & Skills Development	Maximise the number of jobs and skills development opportunities	• Maximise job creation and skills development. • Link to the Expanded Public Works Programme.
Procurement	Protection of natural resources.	• Maximise use of local products and local enterprises.

The application of this framework takes place through the identification of appropriate greening practices. A practice is the actual application or use of an idea such as implementing energy efficiency or waste minimisation. Each of these practices are outlined below in more detail and examples of implementation. They can be implemented at large or small events and although they need to make financial sense, they are generally common sense.

4.2.2 High impact areas

The event greening practices can be applied to almost any business scenario, however, the high impact areas for greening the events industry include the following:

Venues and accommodation

When selecting event venues or accommodation, which usually takes part right at the start of an event, event greening requirements and practices should be taken into consideration. These venues should have an environmental policy and implementation programme in place. Accommodation should be chosen close to conference venues to reduce the need for transport.

Food and beverages

Although not an easy subject, it is important to consider the food being served at events – as an example where fish is served it should comply with the Southern African Sustainable Seafood Initiative (SASSI) guide. Leftover food is often wasted, so portions should be well planned. The use of disposable cups and plates should be avoided where possible.

Exhibitions

Although exhibitions are important for promoting products and services, they are usually associated with large amounts of waste and are high-energy usage. This is a good opportunity to make a big impact through simple changes.

Marketing, Public Relations and Production

Many events are held annually, yet their marketing materials are re-done every year rather than designed in such a way that they can be re-used. Production of goods specifically for events are also a high impact area because it provides an opportunity for influencing items specifically relating to the event so that they are locally manufactured from natural products and durable.

Transport

The biggest impact relating to events is usually the transport, including flights, buses, cars, etc. If this can be reduced, it will have a positive impact on the event's carbon footprint. Simple ways are to ensure that the venue and accommodation are within walking distance or close to public transport.

The most important aspect that organisers of events have to remember is that greening has to be implemented from the very initial planning stages and preferably incorporated in the request for tenders.

4.2.3 Monitoring, evaluation and reporting

To establish with any veracity whether the environmental performance of an event has been positive and therefore whether greening practices applied have been effective or not, it is necessary to set up a monitoring and evaluation framework with objectives, targets and indicators. The monitoring framework can track every greening practice described above and monitoring should be initiated from the outset. Where a venue is specifically being constructed, then monitoring should begin from the point of construction. Where the venue is already established, monitoring can start from the point of on-site preparations.

Monitoring requires both dedicated human resources as well as the required infrastructure (such as meters and sub-meters to measure different types of water and energy consumption) to track usage. After the event, the quantities need to be tallied and the required calculations performed to establish whether the set targets were achieved or not. An official report needs to be prepared to present the results of the monitoring and evaluation of greening practices and identified areas of improvement for future greener events. If an event spans a longer time-frame, then reporting should happen at agreed intervals. There is also scope to measure ongoing water and energy usage, waste minimisation levels and carbon emissions at venues, not specifically related to any event, to enhancing greening practices at these venues. An example of a monitoring tool can be found in ***Appendix D.***

4.2.4 Outcomes and leaving a Positive Legacy

If an event is hosted in a 'green' or 'sustainable' manner, then some of the anticipated outcomes could be as follows:

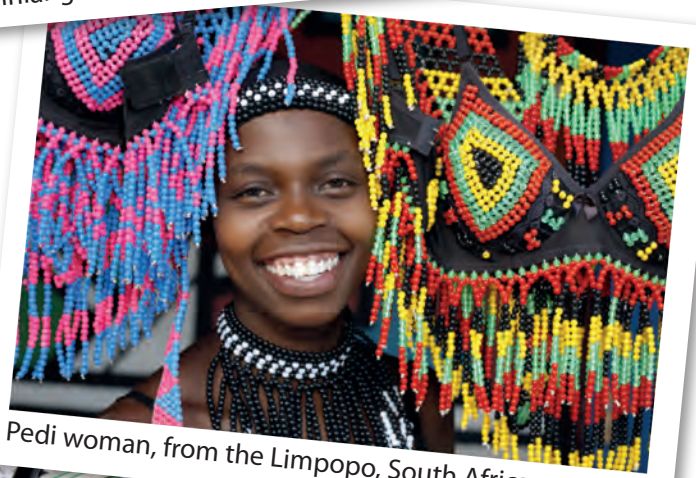
- To ensure that the aims and objectives are clearly defined and measured;
- To present opportunities for more efficient planning and use of equipment and infrastructure;
- To improve the resource efficiency of the entire event and supply chain management;
- To apply the principles of eco-procurement of goods and services;
- To improve sustainable performance within an available budget;
- To increase economic, social and environmental benefits (triple bottom-line);
- To reduce negative environmental impacts, such as carbon emissions, waste to landfill, and the effect on biodiversity;
- To protect the local biodiversity, water and soil resources;
- To enhance the economic impact, such as local investment and long-term viability;
- To reduce the negative impact on local inhabitants;
- To strengthen the social impact, such as community involvement and fair employment; and
- To raise awareness of sustainability issues among all role players.

One of the most powerful motivations for hosting a green event is the longer term positive spin-offs once the event has taken place. Thus an indispensible part of the planning process for an event that is to have significant social, economic and environmental impacts, is its legacy and how to ensure it is a positive one.

A positive legacy arising from green events includes:

- Sustained awareness of the role of the environment and its contribution to our wellbeing and visa versa;
- Sustained employment and community development after the event;
- Trade and direct foreign investment as a result of exposure to the area;
- Return visits to a country or region as a result of exposure from the event; and
- Investment in infrastructure as a result of the event and in particular, in infrastructure that will be of benefit to people in lower income groups and that will assist in reducing the country's carbon footprint.

Pier in Umhlanga Rocks



Pedi woman, from the Limpopo, South Africa

Landscape Architect

4.3 Carbon Emissions and Climate Change

The impact of anthropogenic (human induced) carbon emissions on our natural environment is undeniable and there is sufficient proof to link this to climate change and global warming. The events industry has an important role to play in reducing carbon emissions by establishing the carbon footprint of an event footprint.

Taking responsibility for human induced climate change is an expression of the recognition that human activities are a major source of greenhouse gas emissions, which are attributed to climate change and the devastating effects thereof. The management of carbon emissions are a cross-cutting theme with implications for waste management, sustainable energy, transport, tourism, biodiversity and water for both mitigation and adaptation practices. Each of these areas are discussed in separate sections and the underlying objective is to manage carbon emissions and the impacts on climate change.

However, two major contributors to climate change are coal-produced electricity and transportation and events are carbon-intensive because of their dependence on electricity and transportation. Nearly three-quarters of electricity[1] in South Africa is produced from coal and any event that requires electricity generated from coal will have a large carbon footprint. At an international level, 17% of carbon emissions are due to transport[2]. Similarly, when the energy and transport requirements are efficient, a positive impact on emission reductions is experienced.

The goal is to host 'climate neutral' events whereby any carbon emissions created are offset. This goal can be mainly achieved in two ways:

- By reducing carbon emissions at source both at the venue and supporting tourism infrastructure through interventions such as energy efficient installations and use of renewable sources of energy;
- By reducing the amount of travel that is required; and
- Through offsetting the remaining emissions by investing in carbon reduction projects elsewhere.

The three most significant focal areas of energy efficiency and carbon neutrality in the staging of an event are thus:

- The venue and associated infrastructure;
- Tourism and associated infrastructure; and
- Transportation.

Even when excluding the 65% contribution to emissions from international air travel, the 2010 FIFA World Cup™ was predicted to have a footprint over eight times that of its 2006 counterpart.

One of the largest contributors to anthropogenic (human induced) carbon emissions include the use of petroleum, natural gas and coal, which are primary energy sources in South Africa. By reducing the energy consumption related to events, this would also reduce the carbon emissions.

4.3.1 Carbon reduction and offsetting

The best principle is to reduce what one can through mitigation and offset what one is unable to reduce. Thus mitigation is the first consideration and where carbon emissions that cannot be avoided due to the nature of the event, then events should be encouraged to take responsibility and offset these through different mechanisms.

The participants could either do this as part of an awareness raising campaign, or the organisers can do it as part of a marketing campaign. It is, however, essential that the process is well managed and well documented so that a clear and transparent message is sent out about has been done to reduce emissions, what the main contributors to the emissions created were and how these emissions were offset.

Whilst air travel is almost unavoidable in an expansive country such as South Africa and the geographic location of its economic hubs, domestic airlines have initiated programmes to offset their carbon emissions and this appears to be a growing trend.

4.4 Sustainable Energy

Critical to the success of any event is an uninterrupted supply of energy during the event itself.

This requirement is complicated by ongoing pressures on the electricity grid which has experienced severe capacity shortfalls in recent years. Furthermore, the dominant source of electricity supplied by the grid is coal-derived, which is carbon intensive and emits high levels of greenhouse gases. The goal of sustainable energy is thus to minimise the dependence on electricity that is produced in an unsustainable way.

Three main objectives in relation to this goal are to:

- Minimise the consumption of energy;
- Improve the efficiency of use; and
- Maximise the use of renewable energy.

4.4.1 Minimise consumption of energy

The primary methods for minimising the consumption of energy is primarily though green building design, maintenance and behaviour change. Venues should be designed with optimum use of natural light and ventilation so that the need for energy usage is minimised.

Besides the infrastructure it is also important that the venue develops an environmental management policy, which includes aspects such as energy efficiency. Staff awareness and training is essential to get the buy-in and support. Even the best air-conditioning system will not be effective if, for example, the windows are left open.

The retrofitting of Parow Municipal building demonstrated an overall savings of 25% of electricity typically consumed. 11% of this was due to technical interventions (efficient lighting, solar water geysers, timers on hot water geysers) and the greater share was to behaviour change by staff as a result of increased awareness. This means that more than half of the savings in a retrofit building can be related to behaviour change through training.

Sustainable Energy Roadmap

PLAN

1. Develop an energy management plan containing:
   - An energy efficiency plan that addresses the optimalmanagement of lighting and Heating, Ventilation, and Air-Cooling Systems (HVAC).
   - Opportunities for on-site renewable energy sources.
   - Mechanisms for monitoring energy use.

INSTALL

2. Install comprehensive sub-metering systems.

MONITOR

3. Actively monitor energy usage.

RECORD

4. Maintain records of energy usage.

Green Energy Certificates

Private buyers, such as event organisers can purchase Green Energy Certificates (GECs) (which is similar to a REC) from the City of Cape Town. These Green Energy Certificates represent energy produced at the Darling wind farm, which is wheeled over the Eskom grid but managed by the City of Cape Town.

4.4.2 Promoting Energy Efficiency

An energy audit will provide a baseline of the existing energy consumption and where savings could be made. A consumption barometer can display the actual energy usage at any specific time so that staff and visitors are informed.

Whether it is a new building or the retrofitting of an existing building, a variety of technologies could be implemented, such as light movement sensors, or escalators that remain stationary when not in use. Changing to energy efficiency lights and more efficient Heating, Ventilating, and Air Conditioning (HVAC) systems would also reduce energy consumption. The use of light reflectors on light fittings will further brighten rooms and allow for the use of low wattage bulbs, while revolving doors prevent the loss of hot or cold air.

Through specific procurement choices, more energy efficient equipment can be acquired. Energy efficiency performance specifications and labelling for appliances is underway which will assist in the identification and selection of this equipment. Energy efficiency labelling is already in place for fridges.

4.4.3 Maximise the use of renewable energy

The ideal situation is for venues to be energy self-sufficient and produce their own energy requirements although this is not always practical or economical.

Where feasible, energy can be generated on-site through solar energy (photovoltaic cells), biogas generators and solar water heaters. With on-site generation, there is a need to capture the energy, which can be done through batteries. An alternative is to harness the heat from air conditioners or fridges to pre-heat water or under floor heating. With the NERSA approved increases in Eskom generated electricity, these alternatives have a shorter payback period and are becoming financially more viable.

With temporary structures, there is an option for mobile energy supplies, such as solar panels and LED lights in mobile toilets or the use of bio-diesel in generators.

Where renewable energy cannot be produced off-site, event organisers can purchase Renewable Energy Certificates (RECs), which are currently available in South Africa for event organisers or businesses that wish to offset their unavoidable carbon emissions. The purchase of renewable energy certificates is a relatively easy way to gain access to renewable energy without the need for on-site energy generation. Although a certificate is issued, it is important that specific measurements are taken during the event to verify the exact amount of energy consumed.

The benefits of RECs are as follows:

- RECs enable event organisers to procure green electricity without financial investments for on-site electricity generation.
- This is can be done for both permanent and temporary structures.
- RECs give an event's sustainability efforts credit and can be the difference between having a low and high green rating.
- Procuring RECs is the cheapest, most hassle-free way of accessing green electricity because it uses existing technology and infrastructure.
- RECs generate funds for the advancement of existing green energy production.

In summary, through hosting events in a responsible manner, it will contribute positively to reducing carbon emissions created through electricity usage at venues. Simple energy efficiency principles applied to building design combined with innovative technology can made a big impact on carbon emissions associated with events. Where renewable energy cannot be harnessed, the purchase of RECs can make a significant difference to the footprint of an event.

National Tradable Renewable Energy Certificates

Procuring and trading of RECs is recognised by the Department of Energy (DOE) as a credible method of offsetting carbon emissions.

The DOE's South African National Tradable Renewable Energy Certificates Team (SANTRECT) has set up zaREC, a for-profit organisation responsible for issuing RECs in South Africa.

All green energy producers need to register with zaRECs before they trade renewable energy certificates. If they do not, South African RECs will lack uniformity and credibility and event organisers will be discouraged from purchasing them.

4.5 Waste Management

Waste management in relation to events concerns both the design and construction of the venue as well as the waste generated during the event.

In the design and construction of the venue, the main issues are the incorporation of the required waste management infrastructure in the design of the venue or in the retrofitting of a venue and the use of waste materials in the construction of the venue. The focus of this section is the optimal management and minimisation of waste generated during an event.

The objectives are as follows:

- To promote waste reduction prior and during an event;
- To promote waste re-use during an event;
- To promote waste recycling during an event; and
- To promote litter free events.

A fifth objective, which is to maximise the use of waste materials used in the construction of the facility, is discussed in section 1.10

4.5.1 Waste Reduction

Where waste was initially just disposed of, the focus has shifted to waste avoidance and reduction, with treatment and disposal as a last option. Sustainable procurement is an effective way of minimising waste at source and in the sustainable procurement section, the return of used or excess goods, and their packaging, for reuse and recycling is discussed. A similar approach can be adopted in respect of glass, tin, plastic and paper consumables where manufacturers buy back their used packaging or products and reuse and recycle these themselves. Buy-back deals benefit manufacturers, event organisers and the environment alike.

4.5.2 Waste Re-use

Where an option is provided between a disposable item and a re-usable item, it is essential that the re-usable items be supported. In many European countries, it is standard practice to pay a small deposit on a beaker at an event so that it is returned, washed and re-used. Sustainable solutions should be considered for large events in South Africa as part of an event's waste minimization strategy.

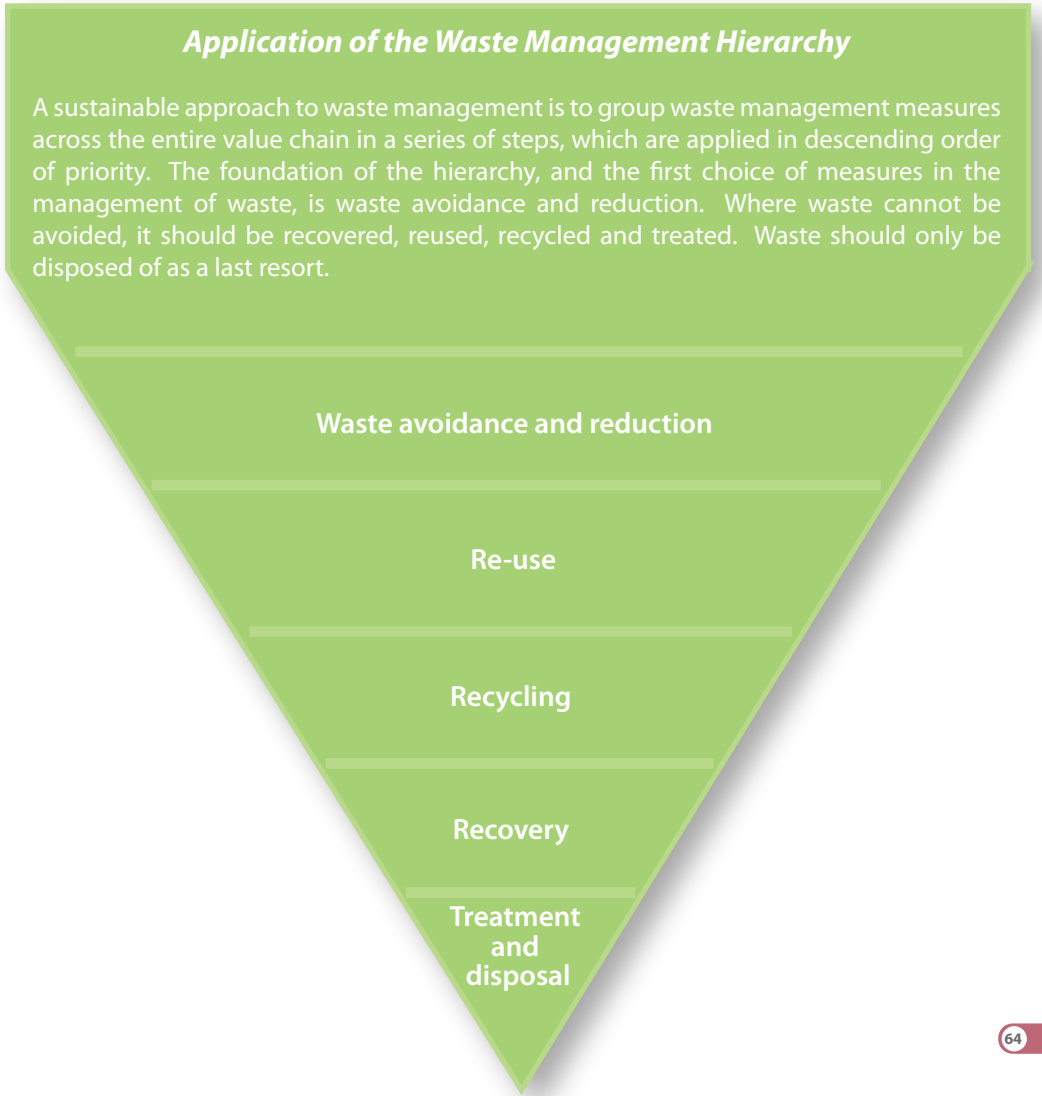
With conferences items such as lanyards and conference bags, procurement criteria should consider the practical re-use of these items. By collecting these items at the end of an event, they can easily be re-used at future events, or donated to community training centres. The durability of the products needs to be considered as part of the procurement criteria to ensure that it is practical to re-use these products.

Unused, excess materials should be kept and either used for future events, sold to other organisations or donated. Letting excess stock become part of the waste cycle is unnecessarily costly and damaging to the environment.

Whilst the focus of reuse and recycling often tends to be on consumables used during an event, there is also a need to look at how venues are constructed and the re-use and recycling of building materials like steel and concrete. This is discussed in greater detail in the section on sustainable procurement.

Application of the Waste Management Hierarchy

A sustainable approach to waste management is to group waste management measures across the entire value chain in a series of steps, which are applied in descending order of priority. The foundation of the hierarchy, and the first choice of measures in the management of waste, is waste avoidance and reduction. Where waste cannot be avoided, it should be recovered, reused, recycled and treated. Waste should only be disposed of as a last resort.



Separation at-source tips

- *Ensure that bins for different types of waste are always placed next to each other.*
- *Ensure that the bins are well marked with clear instruc tions, preferably colour-coded.*
- *Ensure that staff member are informed about the recycling and what the process is.*
- *Ensure that visitors are informed about what is expected from them.*
- *Find out what types of waste can be recycled in your city.*

4.5.3 Waste Recycling

The main types of waste produced during an event can be categorised as follows:

- Plastics, including polystyrene – water and soft drink bottles, bulk packaging material, disposable food containers and disposable eating utensils;
- Paper and cardboard – paper plates or cups, bulk packaging materials and event-specific literature like pamphlets and maps;
- Glass – often from wine, beer and soft drink bottles or from broken glassware;
- Metal – primarily tin and aluminium from soft drink cans;
- Biodegradable waste – unwanted and leftover food; and
- Waste to landfill – chips packets, cigarette butts etc.

Most of these waste types have the potential for recycling. However, they generally go to landfill because the whole waste management process is not handled correctly.

There are a few different ways to implement an effective recycling system depending on the type of event, the infrastructure and the waste management process:

• Separation at source

Waste is separated at the same place where event organisers or participants throw it away, through the provision of separate receptacles i.e. at the point when a useful item becomes waste. This should be done in one of three ways:

A multi-bin system is when different bins for different waste types, such as glass, plastic, tin, paper and non-recyclables are placed next to each other.

A twin-bin system is when two bins are placed next to each other for recyclable (dry) and non-recyclable (wet) items. This is the easiest to implement.

A single-bin system where all the waste is placed in the same container regardless of what it is. This leads to contamination and although waste could be sorted at a later stage to extract the recycalble items they are usually contaminated and sent to landfill. This single-bin system is NOT advised when promoting recycling.

• Back-of-house separation

Waste is not separated at source, but placed in a single bin. The main recyclable items are later removed from the general waste stream for recycling. However, this is a difficult process, and contamination leads to a lower recovery rate when selling recyclable items. This can be avoided through providing separation at source.

• Off-site separation

Waste is neither separated at source nor on-site, but only once it reaches a material recovery facility. This is the least preferred option for recycling as it results in high levels of contamination of potential recyclable materials.

The use of a twin-bin system is advocated as it is a very simple method of ensuring separation at-source intervention which increases the recycling potential significantly and reduces contamination. A multi-bin system can also be effective but requires constant oversight by a trained staff member and its success hinges on continuous education and awareness-raising campaigns.

4.5.4 Letter reduction and removal

Litter is essentially waste that has not been binned and it is a lot more costly and labour intensive to clean litter compared to simply removing waste from litterbins.

Littering is attributed to an inefficient or confusing binning system and poor habits amongst event staff, participants and the surrounding communities of a venue. As in all other areas of sustainability, successful event waste minimisation and management hinges on the responsible behaviour of the people involved.

Venues often only provide bins on their property and not in the vicinity of the venue, which leads to unnecessary littering. Binning stations need to be put inside venues, around the perimeter of venues, in associated car parks and at bus and train stations so that the people involved in an event are never far from a binning station.

Event participants need to be made aware of the environmental importance of binning waste. Posters or audio-visual messaging about litter reduction that is appropriately targeted at the intended target audience can be provided where participants are standing in queues, such as at food points or in rest rooms.

It is important that these messages make people feel as though they are contributing to sustainable waste management practices and negating the effects of climate change every time they bin an item of waste. People will be more inclined to bin their waste if they feel their greening efforts are not in vain but do in fact make a difference. Furthermore, friendly, approachable binning staff can make all the difference in a person's unconscious or conscious decision to approach a binning station and bin their waste or not

The ultimate goal for event organisers must be to avoid creating waste through sustainable procurement or promoting re-usable item and to ensure that the maximum amount of waste is properly disposed and later recycled. There is also a preference to practice separation at-source by supplying an efficient, easy to understand binning system, using either the two or multi-bin system, in and around the venue. Communication and awareness is required to ensure that all affected parties are aware of the bins and know how to use them.

Recycle facility at Johannesburg Zoo

Picture image

A cigarette dispenser

Making every drop count

An intelligent combination of water saving behaviour and water saving technologies has the potential to drastically reduce an event's water consumption and in the process, its negative effects on the environment as well as its water bill.

4.6 Water Conservation and Management

Event organisers have the responsibility of implementing water conservation and water demand management methods as South Africa is a semi-arid country that is continually under threat of drought and water restrictions.

As with energy, a balance between supply and demand has almost been reached in the country's nineteen water management areas, placing the environmental reserve under severe pressure. Building venues such as stadia that have major water requirements (the turf, ablution facilities and general maintenance) and supplying catering facilities (food and beverages) to thousands of visitors that attend a major event has the potential to tip the balance, particularly where drought conditions exist. The objectives of event water conservation and management must are as follows:

- To ensure that water is used efficiently and at a practical minimum;
- To promote water saving behaviour and diversify the water mix; and
- To keep drainage water free from harmful/poisonous substances.

As with energy, the responsibility for water technology lies with the venue management and not the event organiser. Venue managers should be encouraged to implement water saving technologies.

4.6.1 Ensuring that water is used efficiently and at a practical minimum

It is important to start with a water audit and identify where water is used so that one can determine where water can be saved. Water audits typically comprise three sections – a survey of water distribution systems, a survey of water use and patterns of use, and a survey of effluent discharges. Water audits apply to permanent venues with plumbing, but could also be done at temporary venues where water is required and can be measured.

A water audit typically reveals problems such as broken valves; leaks; excessive use; unauthorised use; clean water discharged into effluent water; surface water vunnecessarily discharged into effluent water; and discharge of harmful substances into water sources. By conducting a water audit and performing ongoing maintenance, venues can reduce their water consumption, which in the end is to their own financial benefit as much as it is to the environment.

A water management plan should include measures for the reduction of water consumption in the main areas of water consumption: irrigation, ablution, catering, cleaning of venues and accommodation facilities, air-conditioning, and landscaping. All these areas can become more water efficient by way of water saving behaviour and water saving technologies.

Intervention: Water saving technologies

Water saving technologies and appliances can further reduce water consumption at a venue, such as:

- Waterless urinals;
- Tap aerators, flow restrictors and low-flow showerheads (more relevant to tourism businesses), which use up to 60% less water than their conventional counterparts; and
- Drip irrigation and timed sprinklers for landscaping.

A few of the large stadia in South Africa have included rain water harvesting into their design and construction, which is then used for irrigation. This is also a practical solution for convention centres with large roof surfaces and can be used for flushing toilets.

Water Audits – Taking the first step

1. *A survey of water distribution systems*
2. *A survey of water use and patterns of use*
3. *A survey of effluent discharges.*

4.6.2 *Water saving behaviour and diversifying the water mix*

Diversifying the water mix refers to getting water from alternative sources, such as rainwater harvesting or use of borehole water or other non-potable water. Some golf courses, for example, use water reclaimed from sewerage plants, which is very effective as it is rich in nutrients and because they tend to use large amounts of borehole water, which could have a negative impact on ground water levels.

In summary, as a water-stressed country, large events should not place any undue stress on scarce water resources. At the very heart of the matter is design of venues, including systems that allow the use of return flows and rainwater harvesting; maximised use of water-saving devices and operational plans that allow for water use auditing; regular maintenance; and safe disposal of liquid waste.

Intervention: A mix of solutions

The following interventions will assist in achieving the objective of using less water and making greater use of alternative water sources:

- Create awareness amongst staff, participants and the public regarding water conservation and efficiency. Signage can be used at events and its surrounds to make all parties concerned more aware of the importance of all green practices, including water conservation;
- Install a water consumption meter to display water consumption figures in open view for staff and participants to see;
- Select water wise plants for landscaping – these plants are generally indigenous to the area and require less watering;
- Use of non-potable water for irrigation purposes;
- Rain harvesting - collected run-off can be used for landscaping or treated and used for washing or toilets; and
- Establish partnerships with local conservation organisations to contribute to the preservation of rivers, wetlands and coastal regions that happen to be in or near the event location.

4.6.3 *Preventing and remedying pollution*

Event organisers have the responsibility of making sure they do not contribute to the decline of fresh water quality by releasing contaminants into the sewer system, drainage system or directly into natural water sources such as rivers, wetlands or the ocean.

Part of preventing water pollution is educating staff and participants (especially kitchen and cleaning staff) about what can and cannot be poured down the drain. Pollution can be reduced or avoided by implementing green procurement strategies and buying environmentally friendly cleaning agents (washing up liquid, toilet cleaners, etc.).

"'Per capita availability of freshwater is declining globally, and contaminated water remains the greatest single environmental cause of human sickness and death."

UNEP, 2007

Water saving poster in Knysna...

A field of daisies in Nababeep, Namaqualand....

Flower seller with sustainably harvested flowers, Plettenberg Bay....

4.7 Protecting and Enhancing Biodiversity

Event organisers have a responsibility to both protect and enhance the country's biodiversity through the design, construction and maintenance of venues and through their procurement choices.

Closely related to biodiversity are ecosystems which thrive when characterised by biological diversity and the ability to produce ecosystems goods and services which are provided to society for our wellbeing. These include food, clean water, carbon storage and climate regulation, disease management, spiritual fulfilment and aesthetic enjoyment. The combination of the ecosystems, biodiversity and ecosystems and services comprise natural capital which underpins economies, societies and individual wellbeing.

Whilst South Africa is considered one of the most biologically diverse countries in the world, the National Spatial Biodiversity Assessment, undertaken in 2004, established that both the country's ecosystems and biological diversity are under severe threat as a result widespread environmental neglect and mismanagement, intensified by the effects of climate change. It is thus a national imperative for all role-players, sectors and industries to take stock of how their activities impact on South Africa's biodiversity and individuals ecosystems and mitigate accordingly. Event organisers are not exempt from this duty and a major incentive is to preserve the ecosystems on which this industry relies for its existence. This may seem self-evident but because of the lack of market value attributed to these services, ecosystem goods and services are generally unappreciated. Event greening also has the ability to conserve and enhance biodiversity.

The objectives for biodiversity in relation to event greening are as follows:

- To conserve and protect the existing habitats that surround an event location as well as the species that inhabit them;
- To enhance the biodiversity in and around the event location; and
- To promote the procurement of natural products that are derived from biological resources in a sustainable way.

4.7.1 Protecting the habitats at and surrounding an event location

In the past, event organisers have mistaken protecting existing habitats with creating new habitats. Existing habitats house ecosystems that are the end result of endless years of evolution and change. Existing habitats need to be sustained and enhanced, not replaced.

With the erection of a new venue, it is important to establish and reduce any negative effects on the environment. Landscaping around the venue can enhance local biodiversity, if done correctly. The ideal approach is to incorporate the outside elements into the building through visual and practical links.

Intervention: Green venue design

The venue design should be aimed at protecting the local biodiversity and methods for doing that include the following:

- Incorporate existing flora and fauna into landscaping projects. For example, use existing ponds and wetlands as water features instead of installing human-made versions;
- Ensure that new species introduced for landscaping purposes are indigenous, endemic and preferably water wise (in South Africa, these often go hand-in-hand);
- Avoid providing lights in areas inhabited by nocturnal species;
- Recreate natural conditions for species that have been incorporated into landscaping. For example, give plants only as much water as they would receive in nature;
- Reduce noise to a minimum – loud noises are likely to scare off birds and other species or adversely affecting entire ecosystems; and
- Limit access to environmentally sensitive areas that could be negatively affected by participants.

4.7.2 *Enhancing biodiversity in and around a venue*

In addition to conserving what was already in existence, event organisers have the responsibility of improving and rehabilitating existing habitats and even creating new habitats (without upsetting the balance of existing ecosystems and not as a substitute for conservation). Event organisers incur this responsibility because they benefit directly from area in which their events are held and those events can have far reaching environmental effects.

Interventions: Enhancing biodiversity

- Establishing new urban parks and or extending existing urban parks;
- Restoring and rehabilitating habitats degraded in a venue's development and the events it hosts;
- Creating or extending viable habitats for local threatened species instead of a random, uninformed collection of vegetation;
- Funding research into the understanding and conservation of local habitats and ecosystems.

4.7.3 *Promoting procurement of natural products that are derived from biological resources in a sustainable way*

An objective of the framework is to promote the procurement of natural products that are derived from biological resources in a sustainable way with no negative impact on the country's biodiversity.

The NBSAP's Strategic Objective 4 promotes the sustainable use of biological resources and equitable sharing of the benefits and the NBF promotes the development of the natural products, which includes the facilitation of certification, growing domestic demand through increased awareness and strengthening natural product enterprises and supply chain management.

Awareness initiatives such as South African Sustainable Seafood Initiative (SASSI) provide information about the conservation status of different fish species, supports procurement choices that support biodiversity conservation. Certification such as the Forestry Stewardship Council (FSC) enables the procurement of sustainably grown and harvested timber.

Protecting and enhancing biodiversity in relation to events requires sensitivity in relation to the location of venues and their design. Biodiversity can also be protected through sustainable procurement choices in relation to consumables and this is supported by legitimate accreditation and certification schemes and sound marketing.

Protecting and enhancing biodiversity **in relation to events requires** sensitivity in relation to the **location of venues and** their design.

Biodiversity & 2010 FIFA World Cup™

In the development of the various stadia, biodiversity enhancement was featured and contributed to the biodiversity value and aesthetic appeal of the stadia and their surrounds. The Green Point Stadium, for example, established the Green Point adjacent to the stadium using indigenous, drought-resistant plants resulting in 20% reduction in the watering requirements of the park.

4.8 Responsible Tourism

The hosting of events can become greener through the greening of the hospitality sector as tourism provides the supporting infrastructure required for the hosting of successful events. It is a reciprocal relationship as major events also attract tourism to the country.

The World Tourism Organisation (WTO) defines tourists as people who are "travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited". Therefore event participants are undoubtedly tourists and in their combined numbers contribute significantly to South Africa's economy. They also, merely by way of their sheer numbers, consume the most energy, use the most water and produce the most waste at the events they attend.

As discussed in Chapter 3, South Africa has committed itself to responsible tourism. Responsible tourism and sustainable tourism have the same goal, that of sustainable development. The pillars of responsible tourism are therefore the same as those of sustainable tourism – environmental integrity, social justice and maximising local economic benefits. The major difference between the two is that, in responsible tourism, individuals, organisations and businesses are expected to take responsibility for their actions and the impacts of their actions. The emphasis on responsibility in responsible tourism is a commitment by tourism role-players to put into practice sustainability principles.

The objectives of responsible tourism are:

- To reduce tourism-related emissions;
- To promote responsible tourism and establish a uniform green rating system; and
- To green all South African tourism businesses and organisations.

4.8.1 Reduce tourism-related emissions

In Section 1.3 on energy efficiency, emissions and climate change, tourism related emissions were identified as one of three main sources of carbon emissions.

Events are responsible for large amounts of carbon emissions and heavy energy usage because they attract large volumes of people, both participants and staff. The tourism industry is said to be responsible for 5% of the world's total CO_2 emissions according to the United Nations World Tourism Organisation (WTO).

Provision for carbon emissions reductions is through the draft National Minimum Standard for Responsible Tourism ("responsible tourism standard"), which is aimed at tourism organisations and businesses, as well the agencies that run sustainability certification programmes for them. The standard describes the role of tourism organisations with regard to carbon emissions as being required to "implement and manage actions to reduce greenhouse gas emissions and other contributors to climate change associated with its operations".

In respect of energy consumption, the responsible tourism standard states that 'The (tourism) organisation shall measure energy consumption, indicating all energy sources as percentage of overall consumption, and adopt measures to decrease overall consumption.'

The hosting of events can become **greener** through the greening of the **hospitality sector** as tourism provides the **supporting infrastructure** required for the hosting of **successful events.**

4.8.2 Promote responsible tourism and establishing a uniform accreditation system

The draft National Minimum Responsible Tourism Standard, which is under the custodianship of the South African Bureau of Standards (SABS), has strengthened the Responsible Tourism Guidelines developed in 2002. The responsible tourism standard is comprised of 39 guidelines, which are divided into four categories.

Table 4.1: Overview of draft National Minimum Responsible Tourism Standard

A. Sustainable Operations and Management

- The organisation has a long-term sustainability management system that is suitable to its reality and scale, and that considers environmental, socio-cultural, quality, health and safety issues.
- The organisation makes publicly available its Responsible Tourism Policy and information about its associated activities.

B. Economic Minimum Criteria for Responsible Tourism

- The organisation employs people from the local area, with a particular emphasis on historically disadvantaged groups and women, including in management positions.
- The organisation purchases local and fair trade services and goods, where available, and set targets for improvement.

C. Social and Cultural National Minimum Criteria for Responsible Tourism

- The organisation provides opportunities for visitors to purchase local products and services.
- The organisation provides a 'Code of Behaviour' for visits to local cultural, historical and religious sites or communities, developed in conjunction with the affected communities.

D. Environmental National Minimum Criteria for Responsible Tourism

- The organisation measures water consumption, indicating all sources as percent ages of overall consumption and adopts measures to decrease overall consumption and improve re-use of waste water.
- The organisation implements a solid waste management plan, with quantitative goals to minimise waste.
- The organisation contributes to the support of local biodiversity conservation, including supporting natural protected areas and areas of high biodiversity value.

New and existing green tourism rating systems will be required to align their criteria to the National Minimum Responsible Tourism Standard.

4.8.3 Greening tourism organisations and businesses

The greening of tourism organisations and businesses is a voluntary measure undertaken by those businesses which either ascribe to responsible tourism principles because it makes good business sense and or because of increasing demand by clients, and in particular, international visitors who ascribe to responsible tourism principles.

- *Rating Systems*

Currently South Africa has the following sustainably-orientated tourism rating systems that cover the spectrum of accommodation types.

Table 4.2: Existing Green Tourism Rating Systems

Fair Trade in Tourism South Africa

A non-profit organisation that promotes sustainable tourism development. It certifies tourism businesses that operate in an ethical and socially-responsible manner.

Greenleaf

A non-profit organisation and focuses on the environmental responsibility of wilderness areas and lodges.

Heritage SA

A private organisation that concentrates on large hotels and conference centres and their respective environmental management measures.

Tafelberg in Cape Town...

Incentivising Responsible Tourism

The Imvelo Responsible Tourism awards, which were initiated to coincide with the World Summit on Sustainable Development (WSSD) in 2002, exemplify how responsible tourism can be promoted.

The awards recognise tourism and hospitality businesses that make a real, measurable and sustained contribution to responsible tourism. The awards are in line with the responsible tourism guidelines for the South African hospitality industry and the United Nations World Tourism Organisation's code of ethics. The Federated Hospitality Association of Southern Africa (FEDHASA) is the custodian of the Imvelo Awards.

Table 4.3 indicates the seven categories of Imvelo awards which assess a tourist operation's contribution to responsible tourism:

These awards, which have come to be highly respected in the hospitality and tourism sectors, illustrate positive ways of incentivising responsible tourism. These awards and the draft minimum standard are further supported by ongoing awareness-raising campaigns undertaken by the Department of Tourism among tourism operators on sustainable use of resources such as energy and water.

In conclusion, the tourism industry is closely associated with the events industry and any serious commitment to achieve event greening requires the greening of the tourism industry. This is progressively happening in South Africa through the establishment of several green rating systems targeting different hospitality segments, the development of the responsible tourism standard, the establishment of the Global Sustainable Tourism Council, and the recognition system through the Imvelo Awards.

Table 4.3: Overview of the Imvelo Awards' Assessment Criteria

Categories	Application
Best Social Involvement Programme	Examples of corporate and social responsibility that could include community investment initiatives, local outsourcing, community health, welfare and education activities, promotion of local SMME enterprises as well as local HIV/Aids and other social initiatives are considered.
Best Practice - Economic Impact	The economic impacts of tourism on local communities will be recognised, including local purchasing and economic practices, employment equity, Black Economic Empowerment, employee training and development of and adherence to general and industry-specific legislation.
Best Overall Environmental Management System	This category is judged on the application and success of an existing overall environmental management system. Entries illustrate compliance across performance areas such as resource management, procurement, waste management, human resource development and the overall environmental management plan.
Best Single Resource Management Programme	Recognition of operational efforts being made to reduce and manage water, energy or waste. Businesses may submit entries in one or more of these sub-categories.
Most Empowered Tourism Business	The extent of transformation in order to create a more competitive industry through embracing previously marginalised participants. The demonstration of how the entrant has addressed empowerment and contributed to a globally competitive, demographically representative tourism industry is considered.
Investor in People Award	The need for well trained, educated and developed individuals in the tourism industry is the focus of this award. Consideration is given to the extent to which the entrant has taken practical steps to develop the human resource component of their business, focusing on the efforts that have been made in excess of any national minimum standards or guide lines.

4.9 Sustainable Transport

Transportation is similar to that of tourism in the sense that whilst it is not directly part of events management, it is closely associated with events and efforts to produce green events can be compromised as a result of the transport-related carbon footprint.

Previous studies, such as the Independent Environmental Assessment for the Beijing 2008 Olympic Games, have shown that transport to, from and within an event is responsible for the largest amount of carbon emissions. Event organisers are thus encouraged to consider how best to implement sustainable transport options during the planning stage.

All forms of motorised transportation add significantly to the carbon footprint of an event in the following order of magnitude captured in the table below:

Table 4.4: The ranking of different forms of transport in terms of lowest carbon emissions factor.

Ranking	Form of transport	Carbon emissions factor (kgCO2 / passenger-km)
1	Road bus	0.049
2	Luxury bus	0.061
3	Rail	0.119
4	Luxury rail	0.148
5	Private road travel	0.190
6	Air	0.363

Source: Feasibility study for a Carbon Neutral 2010 FIFA World Cup™ in South Africa

Table 4.4 which provides the estimated carbon emissions and the carbon emissions factor (kg CO2/passenger-km) of different forms of travel, illustrates that air travel has by far the highest emissions factor – nearly twice as high as that of the next lowest ranked form of transport, private road travel. The fact that air travel makes up the largest part of an events carbon footprint is backed up by the carbon footprint of the Beijing 2008 Olympic Games, which showed that air travel made up 75.9% of its carbon foot print.

By using these emissions factors as a point of reference, three main objectives in relation to reducing carbon emissions associated with transportation arise:

- Promote the use of non-motorised transportation;
- Promote greater use of lower carbon emitting motorised transport; and
- Consider alternatives to transport, such as video conferencing.

4.9.1 Promoting the use of non-motorised transportation

Non-Motorised Transport (NMT) refers to walking and cycling instead of driving. NMT, if properly implemented, has the potential to save energy, improve air quality, reduce noise pollution, reduce traffic congestion and generally improve the physical environment –potentially, it is one of the most powerful greening tools of the framework.

When selecting a venue for an event, the organiser needs to consider appropriate accommodation that is preferably within walking distance, as this is the most obvious way to reduce transport requirements and thus carbon emissions of an event.

NMT has more potential for success during events than in everyday life because during an event, the time constraints of everyday life are generally removed. However, this is only if NMT is made a safe, viable option for event participants. Tourists are also generally more likely to walk in an attempt to explore their new surroundings.

Intervention: Popularising NMT

Some recommendations for making NMT a more attractive idea to visiting event participants include:

- Ensure that the event is within reasonable walking distance to the majority of hotels, lodges and other places of accommodation that participants are likely to use. This will require forward planning and liaison with tourist businesses in the proposed event area;
- Make all areas surrounding tourist businesses and the event location safe for walking.
- Event organisers can hire security guards to patrol the said areas and even escort groups of tourists to and from the event. Incentives should be given to event organisers seeing as they are providing two services, namely crime prevention and reduction of transport related carbon emissions; and
- Arrange bicycles for rent at places of accommodation and installing bike racks outside venues.

Since NMT infrastructure is typically the responsibility of municipal transport departments, event organisers are required to work in conjunction with municipalities in identifying the need for such infrastructure.

These investments are not simply for the fulfilment of green events, but leave a positive legacy for a pedestrian oriented public as is the case in South Africa.

4.9.2 Promote greater use of sustainable transport

An important supplement to non-motorised transport is the use of public transport, which relies on provincial and municipal investment in integrated rapid public transport networks. Metropolitan municipalities, for example, in the development of their integrated transport plans are making significant investments in mega-transport projects. The Gautrain, for example, will go a long way to making rail travel the popular, greener choice for commuters in Gauteng. This investment is complimented by the Rea Vaya Programme, which is the introduction of the Bus Rapid Transit (BRT) system that aims to provide safe, green inter-city public transport.

The carbon profile of public transport is influenced by the energy efficiency of the fleets. Whilst fleets must comply with the Euro II standard, it is desirable for municipalities to comply with more stringent provisions such as the Euro IV standard. Tourist organisations that operate transport services are also encouraged to invest in vehicles that have high energy efficiency performance.

Coupled with the investment in energy efficiency vehicles is the use of alternative, cleaner fuels. Diesel, itself, has been required to be 'cleaner' by reducing its sulphur content, which is important for improved air quality. There are also options to use compressed natural gas (CNG) and liquefied petroleum gas (LPG) or biofuels. Food security should always be taken into account when considering biofuels and it is best if this could be made from a non-food source such as algae or spent oil.

In terms of air travel, which has the highest carbon footprint, there is international and domestic air travel to be considered. Unfortunately for the environment, with the advent of a choice of cheap domestic airlines, air travel within South Africa has become a popular and more affordable way of travel.

From the data in Table 4.4 if bus and rail travel were used instead of domestic air travel, then carbon emissions would be greatly reduced.

Whilst air travel can be considerably more expensive than rail, bus and private road travel because of cost (rail and bus travel are significantly cheaper), it is preferred because it is considered a more convenient, safer and quicker mode of transport. Especially during an event like the FIFA 2010 World CupTM where fans needed to travel long distances within a short space of time, bus and rail travel would have been too slow to be considered.

Some domestic air travel may be negated by selecting an event location that is closest to the majority of its participants, for example, not hosting a business conference in Cape Town for business men and women that live in Johannesburg. Confining an event to one city would negate the need for inter-city travel, whether by air or otherwise.

4.9.3 Alternatives to travel

Event organisers can assist to reduce transport related costs through promoting video streaming of international speakers. When planning an event these aspects need to be taken into account, specifically because the transport has such a large impact on events.

In conclusion, the vision for green transportation forms part of a longer-term planning and investment horizon requiring both integrated transportation planning and sound procurement choices. Transportation plans factoring in NMT infrastructure and which are then integrated into municipal Integrated Development Plans (IDPs), are essential as is the procurement of green public vehicles such as the Euro IV buses that comply with international emission standards.

These investments are not simply for the fulfilment of green events, but leave a positive legacy for a pedestrian oriented public as is the case in South Africa. It is also a matter that far surpasses event greening and is at the heart of sustainable urban planning, as discussed in the chapter on Greening the Built Environment. In essence, green transport during an event is generally a manifestation of existing excellence in transportation planning although an event such as 2010 FIFA World Cup™ may accelerate the prioritisation of particular projects such as BRT and park and ride facilities.

Defining Sustainable Procurement

Sustainable, green or eco procurement is the practice of giving preference to products that are not harmful to the environment. It also supports the concept of local economic development through the procurement of local goods and services due to reduced transport costs.

4.10 Sustainable Procurement

Sustainable procurement has a significant influence on the greening of events and is a key element for implementing change, because this is usually the point at which decisions are made.

It applies to most thematic areas discussed in this chapter. In relation to waste management, the quantity of waste produced can be greatly reduced where waste can be re-used or recycled. Waste minimisation is also promoted through the use of recycling materials, such as steel and cement, during the construction of a venue. Green energy may be procured through the purchase of Renewable Energy Certificates according to the system. Furthermore, investment in solar water heaters and photovoltaic panels as part of on-site energy generation also contributes significantly to the hosting of a greener event. The conservation of biodiversity may be assured through the procurement of natural products that have been certified through reputable accreditation scheme. Greener transport options include a preference for lower carbon emitting forms of transport, energy efficient cars, and buses that comply with the Euro V standards. In respect to tourism, there is an expected shift towards more responsible forms of tourism once the draft National Minimum Standards for Responsible Tourism is published and will assist in the identification and choice of tourism facilities that ascribe to sustainable development principles and practices.

The choice of venue requires consideration of elements such as the initial building material during construction, its energy and water consumption, operations (including use of cleaning products), its relationship with the environment (protecting and enhancing biodiversity) and its location in relation to available modes of transport. Event organisers, on the other hand, will focus more on consumables (menu, stationary, gifts for delegates), equipment and logistical arrangements during the event.

Sustainable procurement encourages one to purchase only what is needed, and to consider innovative alternative options that will provide high environmental performance and waste minimisation. This decision-making process is supported through the establishment of standards and certification systems, which ensures credibility and reliability and minimises the risk of 'greenwashing'. Furthermore, sustainable procurement can be enforced through government regulation. Under consideration by National Government, for example, is the inclusion of requirements to procure goods from localsuppliers and that have been locally manufactured as a mechanism to support local economic development.

The objectives of sustainable procurement in relation to event greening are:

- To promote the re-use and recycling of products and materials;
- To promote sustainable design and production of goods;
- To procure products and services that will have the least possible negative effect on the environment; and
- To source local goods and services.

4.10.1 Re-use and recycling of products and materials

There is an important distinction between sustainable procurement and sustainable purchasing as the ultimate objective of sustainable procurement is to keep purchasing to a minimum by determining whether new products are in fact needed or if old and or used products can be used in their place.

'Old products', in this context, can mean left over products and materials from previous events, owned by the same event organisers/managers or unused and reusable products that need to be bought from other organisations.

2010 FIFA World Cup™ construction supports recycling

The re-use of concrete in the construction of the stadia in Johannesburg, Durban and Cape Town supports the recycling of construction material which contributes to the minimisation of the carbon footprint of the stadia and the diversion of construction waste from landfill.

• Building materials

Steel is an example of a reusable and recyclable building material. Excess steel or old steel from disused structures can be reused as is or recycled, by way of being melted down, and moulded into new shapes and designs. It can even be used in the production of different alloys.

All metals and metal-alloys have high reuse and recycling values. They are used, sold for scrap, melted down and used again in a different form. Metals, like steel, are very rarely discarded at landfills and even then, entrepreneurs are likely to find them and sell them as scrap.

Concrete can be recycled as well but its re-use value is lower than that of steel. Much of the original concrete'sstructural strength is lost in the recycling process. However, the resultant concrete aggregates can be used in infrastructure, in the laying of roads and pipes, and even for decorative purposes. The use of recycled concrete is on the rise and the City of London used recycled concrete in its preparation for the London 2012 summer Olympic Games.

Construction of Nelson Mandela Bay stadium - Port Elizabeth

Steel and concrete are more likely to be discarded when they are found in combination in reinforced concrete. Companies are less willing to recycle their reinforced concrete because of the additional process of removing the steel from the concrete, before it can be recycled. One way of combating this would be to give proportionally larger incentives for the recycling of reinforced concrete.

Building materials such as steel and concrete use up considerable energy and release considerable amounts of carbon dioxide when produced as virgin materials. Therefore, the intention is not to encourage the use of materials like steel and concrete in building venues, but to encourage the reuse and recycling of those materials that are already in existence. By doing this, the sustainability of materials that would otherwise go to waste is increased.

• Consumables

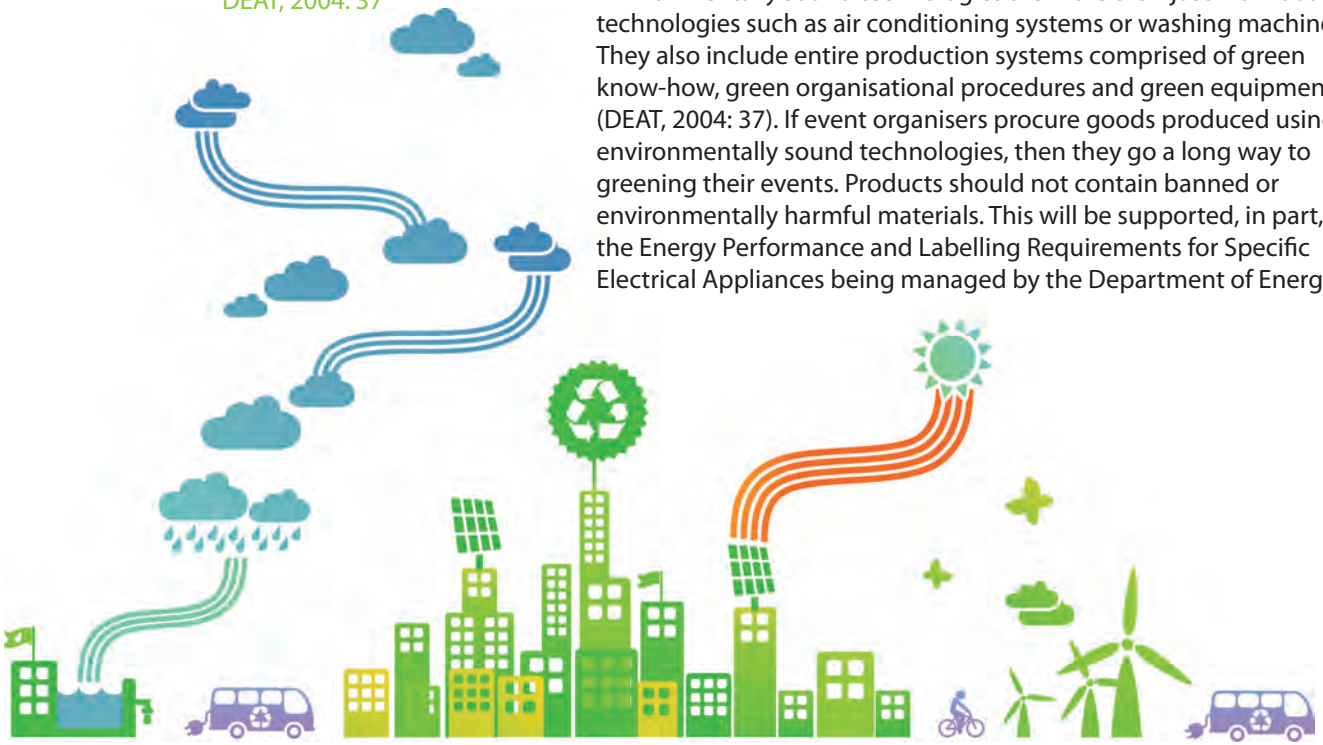
Consumables, by definition, are recurrently purchased goods that are intended to be used up fairly quickly athen replaced. In the context of an event, consumables include eating utensils, cups, glasses, plates, serviettes and tissues.

During outdoor events like music concerts, conventional glasses, cups and utensils are not viable and safer disposable versions are preferred. But conventional crockery and cutlery are a greener, reusable alternative. Hard plastic crockery and cutlery is less expensive than their ceramic and steel counterparts whilst having the reuse potential that paper and thin plastic versions do not.

Cleaner Production

Environmentally sound technologies protect the environment, are less polluting, use all resources in a more sustainable manner, recycle more of their wastes and products, and handle residual wastes in a more acceptable manner than the technologies for which they were substitutes.

DEAT, 2004: 37



4.10.2 To promote sustainable design and production

It is not sufficient enough for products used for an event to be used in a green way – those products also have to be produced in a green manner by manufacturers that follow green principles in all the stages of a product's lifespan. This applies to both the materials that are used as well as the manufacturing methods.

Materials used in the creation of a product, both raw and secondary, need to be obtained in a sustainable and environmentally responsible manner, such as paper or timber from sustainable managed forests. Products procured for an event need to have been manufactured in an environmentally responsible manner. The need for environmentally sound technologies is also elaborated upon in the National Cleaner Production Strategy (DEAT, 2004: 37).

• Green technologies

Environmentally sound technologies are more than just individual technologies such as air conditioning systems or washing machines. They also include entire production systems comprised of green know-how, green organisational procedures and green equipment (DEAT, 2004: 37). If event organisers procure goods produced using environmentally sound technologies, then they go a long way to greening their events. Products should not contain banned or environmentally harmful materials. This will be supported, in part, by the Energy Performance and Labelling Requirements for Specific Electrical Appliances being managed by the Department of Energy.

• Certification

Products need the relevant certification to prove that they were produced using environmentally sound technologies and that they themselves are environmentally sound. More importantly, green products need to be labelled as environmentally sound so that event organisers know which products pass as green and which do not. An example is the FSC logo, which is used for timber and paper to indicate that its production complies with the strict criteria of the Forest Stewardship Council. One barrier to certification is the expense as establishing the authenticity and credibility of a product is a time-consuming and expensive process.

• Distribution

Product packaging should be kept to a minimum. Product packaging should be made of reusable and/or recyclable materials. The greenest packaging is packaging that the manufacturer takes back for its own reuse or recycling. If event organisers were given a small discount on products as payment for returning the packaging, then event waste resulting from packaging would be greatly reduced.

• Use

Where possible, event organisers should only select products that have a long lifespan, are easily and cost-effectively repairable and environmentally sound. Venue infrastructure such as air conditioners and water coolers need to be energy efficient. Consumables such as cups and serviettes need to be designed so that in their use, they minimise waste. Furthermore, all products should result in little or no pollution.

• Disposal

The ideal is to avoid and reduce the creation of waste through sustainable procurement options. Where disposable options are needed then recycling systems need to be put into place to encourage zero waste to landfill. The greenest products are those that manufacturers take back after use, where they will be re-used (such as glass bottles with a deposit) or recycled and used in the making of new goods (such as PET bottles). For example, the fabrics used to make event-specific banners and flags could be used to make new products, such as conference bags or other promotional items. Thus the demand for natural resources is reduced.

4.10.3 To procure products and services that will have the least possible negative effect on the environment

The purchasing of seasonal fruit and vegetables has minimal environmental impact because it has a smaller carbon footprint and requires fewer resources to grow. Procurement of organic or GMO-free products also has a positive impact on the environment because petro chemicals and fertilisers are avoided.

The South African Sustainable Seafood Initiative (SASSI) provides information about the conservation status of different fish species. It aims to improve the conservation status of overexploited seafood species through education and raising awareness among all participants in the seafood trade – from wholesalers and restaurateurs through to seafood lovers. The same applies to the Marine Stewardship Council (MSC).

Fair trade is an internationally recognised approach to trading that aims to ensure that producers in developing countries get a fair deal, including a fair price for goods and services, decent working conditions and a commitment from buyers to provide reasonable security for the producers. Selecting fair trade foods helps to secure the future of local farmers and thus contributes to the sustainability of future events.

4.10.4 Sourcing Local Goods and Services

The final objective of sustainable procurement is to promote the use of local goods and services. Sourcing locally supports Local Economic Development (LED), which is defined by the World Bank as 'an opportunity for local government, the private sector, not-for-profit sectors and the local community to work together to improve the local economy'.

Event organisers often buy products in large scale and should whenever possible purchase locally produced rather than imported goods. The first option is to purchase goods from within a 50 km range, then regional or even national before importing from other countries.

Sourcing locally contributes to Local Economic Development in the following ways:

- By investing in their goods and services, event organisers give back to the communities that bear the environmental costs of the event;
- The local economy is stimulated by the demand for products and services, whilst jobs are created at the same time;
- Locals naturally become more efficient in their production in order to meet demand for their products and services which will serve them well long after the event has past; and
- Locals make their products more marketable and competitive in a bid to have them meet the greening objectives of the event. This will benefit the community in the long run.

In summary, alongside the sustainable design and construction of venues, greening of procurement is the most important way of ensuring that an event is run in a sustainable way. It informs all procurement choices and is supported through the existence of standards and recognisable certification systems. Government is considering regulations to enforce the public procurement of locally produced goods and services, which is one step to ensuring sustainable procurement for the country.

At a municipal level, an excellent opportunity to influence the greening of events is through event permits. These are required by most municipalities for large events or smaller events that might impact on their surrounding area. These municipal event permits mostly consider the health and safety regulations, as well as possible impact on municipal services such as traffic flow or building inspection. It is however recommended that local municipalities also include event greening guidelines or sustainability criteria into their event permit requirements, which can promote resource management, local economic development, and social investment in the local community.

Selecting fair trade foods helps to secure the future **of local farmers and thus contributes to the** sustainability of future events.

4.11 Conclusion

The greening of events applies to three major areas of event management: infrastructure, events operations; and tourism.

The first major area is concerned with the infrastructure (venues) and deals with spatial and land use planning, design, construction methods, material use and impact on the environment from a spatial perspective. The framework has promoted the construction of green venues using recycled building materials that utilise water and energy efficiently, and conserve and enhance biodiversity.

The second major area deals with the running of the event itself, which entails the choice of consumables (catering, stationary, branding and marketing materials, cleaning materials), and greening is dependent on procurement choices and the availability of certified green products. Another dimension is the behaviour of participants and staff in relation to the sustainable use of energy and water and recycling practices.

A third major area to event greening is the tourism industry, which is not directly related to an event but provides the broader environment that supports an event and therefore makes a major difference to the greening profile of an event. The connector between the event and tourism is transportation and whilst efforts can be made to green transport for the sake of an event, these efforts are short-lived if not incorporated into longer term transportation planning.

Event greening is steadily being achieved on a voluntary basis as the private sector becomes aware of the negative environmental impacts that events can have. This is supported through the supply of green products and services. Event greening will be further achieved through the development of appropriate standards and certification systems and endorsements demonstrating compliance with these standards.

Event greening is closely related to municipal planning systems and their effectiveness in relation to the site location, its development parameters and transportation systems. The greater the inclusion of sustainability criteria in municipal planning systems and services, the greater the extent of the greening of an event.

Appendix D
Greening Guideline for Events Management
Appendix E: Monitoring tool for the stadiums and host cities for 2010 FIFA World Cup™