LEAVING A GREENING LEGACY: Guidelines for event greening
In August and September 2002, South Africa hosted the largest United Nations conference ever held on the African continent, the World Summit on Sustainable Development (WSSD). The ten day conference, held in Johannesburg, brought together 22 000 leaders from government, civil society and business to address global economic, social and environmental issues in a sustainable manner. To translate the Summit’s global thinking into local action, the South African government, the United Nations Development Programme, the Global Environment Facility, and the World Conservation Union set out to green the WSSD. The “Greening the WSSD” initiative aimed to minimise the negative environmental impact of the WSSD on Johannesburg, while leaving a durable environmental best practice legacy in South Africa and the world at large.

A dedicated Greening Team worked closely with the Summit’s organisers to ensure that, as far as possible, Summit operations and logistics reflected environmental best practice. To strengthen the greening legacy, they concentrated their resources on realistic activities with meaningful, high impact outcomes, in the following key areas:

- Procurement;
- Waste management;
- Water conservation;
- Energy efficiency;
- Pollution reduction;
- Transportation;
- The hospitality industry;
- Awareness and education; and
- Monitoring and evaluation.

Although it was not possible to achieve a totally green Summit, the Greening the WSSD initiative enhanced South Africa’s capacity to implement environmental best practice. It left a legacy of improved environmental infrastructure and more rigorous environmental policies. It also raised public awareness about the WSSD and environmental best practice; and set a precedent for hosting large-scale meetings and conventions in South Africa and abroad.
This handbook was developed to enable event organisers to build on the Greening the WSSD precedent. It is based on the lessons learned from the Greening the WSSD experience, as well as international greening practices. The handbook consists of a set of generic guidelines for greening events, complemented by practical tips and examples of greening activities. Several of the successes of the Greening the WSSD initiative are highlighted throughout the handbook.

Under the pioneering leadership of Mohamed El-Ashry (CEO: GEF), Mary Metcalfe (Gauteng MEC: DACEL), John Ohiorhenuan (Resident Representative: UNDP South Africa), and Yolanda Kakabäde (President: IUCN), the Greening the WSSD Team has developed a series of greening activities and products that leave a positive legacy of environmental best practice. The strength of this handbook and all other Greening the WSSD legacies, however, depends on your willingness to participate in them and to strengthen your relationship with the environment. It is now up to you to try something new; to adopt the greening principles; to implement the greening activities; and to motivate others to do the same.

HE MR MOHAMMED VALLI MOOSA
Chair
11th Session of the United Nations Commission on Sustainable Development
Acknowledgements

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Finally, we thank the Greening the WSSD Team for its dedication to greening the World Summit on Sustainable Development and eagerness to share its experience with future event greeners.
Section I: Introduction

1.1 Background

Over 9 000 international meetings are held globally each year, approximately 20% of which involve over 1 000 participants. Numerous large domestic meetings are also convened annually. In 2001, 11 800 major conventions with a total of 12.5 million attendees were hosted in the United States alone. Construction and use of facilities, travel and accommodation, and operations for these events have enormous impact on the host region. Some of this impact is positive. The 2002 United Nations World Summit on Sustainable Development (WSSD) in Johannesburg generated R2.9 billion (US $270 million) for the South African economy; led to new business sales worth R9 billion (US $837 million), and created over 19 000 jobs for South African citizens. However, these economic benefits are often accompanied by negative environmental impact, including excess strain on local resources, disruption of daily activities, and increased waste and pollution.

The WSSD, for example, generated 322,59 tonnes of waste and 136 000 tonnes of carbon emissions. This equates to approximately half of the waste collected each month from the Johannesburg Inner City and half of South Africa’s daily fossil fuel related carbon emissions. Clearly the negative consequences of hosting large events can contribute to the continued degradation of local and global environments and may lead to hostility among the local population and event organisers and participants.

An event’s environmental impact can be minimised, and even avoided. As a result of the Greening the WSSD initiative, the recycling rate at the Summit was 27%, which is 22% higher than the average recycling rate for South Africa’s Gauteng Province (5%). In addition, 10% of the Summit-related carbon emissions were offset through investment in carbon-reducing projects. This handbook provides event organisers with a set of guidelines on greening large-scale events, or hosting them in an environmentally responsible manner. It is based on the lessons learned from the greening of the WSSD, and international environmental best practice, and has been reviewed by environmental, sustainable development and event experts.
Although the guidelines were drawn primarily from an event with environmental content, the scope of this handbook goes beyond environmental events. It is aimed at hosts and organisers of all large-scale events, from meetings and conferences to exhibitions, fairs, functions, sporting and cultural events, and mega-events like the WSSD. Relevant events may involve the use or modification of existing venues or the construction of permanent and/or temporary structures. Participation may be limited to targeted specialists or open to the public. All events include a variety of organisational and support services, such as accreditation, transportation, accommodation, catering, communication, merchandising, medical and security services, and waste management, each of which can be greened.4

Organisations and individuals may also find value in the guidelines, as the basic principles of greening and key greening practices can be applied to any decision or activity at any scale. Through event greening, this handbook ultimately seeks to influence individual and collective behaviour to leave a greening legacy of environmental best practice.

1.2 User’s Guide

This handbook is divided into three sections. Section I provides the information necessary to convince others that your event should be greened. It briefly defines greening and the principles behind greening, and outlines why event greening is beneficial to both event organisers and host communities.

Section II explains how to green events. It begins with a discussion on defining greening strategies to suit particular contexts. Generic guidelines on event greening follow, accompanied by practical tips and examples of greening activities. The guidelines consist of four complementary sub-sections, each of which can be tailored to any event. These are: management principles for event greening; greening practices; areas for event greening; and maximising impact through awareness raising and monitoring and evaluation.
All four sub-sections provide valuable insight into defining and improving a greening initiative and should be considered when greening your event. The guidelines are, however, suggestions and should be adapted to suite your particular event. While the general greening principles and practices are universal for all events, areas to be greened and specific greening activities will vary according to the nature of your event and the context in which it is held. It is up to you to determine which areas of event operations can be most effectively greened and define a greening strategy accordingly. The aim is not necessarily to host a totally green event, but rather to use resources optimally to reduce the environmental impact on the host region and leave a positive legacy of environmental best practice.

Section III concludes with a summary of the major points to consider when greening an event. A quick reference greening checklist and useful resources for event greening are included in Annexes A and B to assist you in planning your greening initiative. Annex C provides a glossary of terms.

1.3 What is Greening?

Greening means much more than planting trees in your backyard or expanding the size of your local park. It means making environmentally responsible decisions and turning them into actions.

Environmentally responsible decisions and actions reduce the negative impact on the environment by conserving resources, using resources efficiently, and minimising pollution. They also improve human well being by creating social and economic environments that give people choices. As a greater number of people feel the environmental, social and economic benefits of greening, they will exercise their choice in a more environmentally responsible manner.

Greening an event involves incorporating the following principles of greening into all levels of event organisation. It means ensuring that the event is hosted responsibly.

The Basic Principles of Greening

- Environmental Best Practice. Reduce negative environmental impact by employing technologies and behavioural practices that: conserve water; use energy efficiently; minimise and manage waste and pollution; use resources sustainably; conserve biological diversity; and prevent resource loss and degradation before they occur.
• Social and Economic Development. Promote social and economic development through environmental best practice. Select environmental best practice options that also raise awareness, involve communities in decision-making, conserve cultural diversity, improve human health, create jobs and stimulate local economies.

• Education and Awareness. Communicate greening plans and progress to relevant audiences. Explain why greening is taking place and why it is beneficial to the audience. Aim to change behaviour.

• Monitoring, Evaluation, and Reporting. Assess the effectiveness of greening activities throughout and after the greening process. Make people accountable for their actions and encourage constant learning by communicating findings.

• Leaving a Positive Legacy. Ensure that both the short and long-term impacts of decisions and actions are positive. Implement activities that lead to sustainability.
1.4 Why Green Your Event?

Current rates and forms of human activity have an increasingly negative impact on the environment, effectively diminishing its capacity to support human life and livelihoods. Eighty percent of the earth’s primary forests have been cleared or degraded, the per capita renewable water supply has decreased by 58% in the past 50 years, and carbon emissions from burning fossil fuels have risen by 11% since 1992. Poor environmental quality is responsible for 25% of all preventable illness and threatens the biological products and processes that account for 40% of the global economy.

Events are highly resource intensive and often have major environmental consequences for the host population. The WSSD 2002, for example, used approximately 25 tonnes of paper, 11 800kl of water (67 Olympic sized pools), and 2 485MWh of electricity (enough to serve 672 South Africans for one year) over a ten day period. Greening an event reduces the negative environmental impacts that the event has on the host region. As a result of the Greening the WSSD initiative, paper consumption declined by 38% from projections based on paper use at the Rio Earth Summit in 1992 and 27% of the electricity used was from renewable, clean energy sources. In other words, event greening contributes to the maintenance of a healthy environment capable of meeting resource demands in the future.

Event greening can also catalyse environmental best practice in the host region by improving environmental policies and infrastructure, acting as a launching pad for new initiatives, and setting a greening precedent. As part of the Greening the WSSD initiative, the Gauteng Department of Agriculture, Conservation, Environment and Land Affairs committed to converting the government garage fleet to cleaner technologies and setting up six air quality monitoring stations in Gauteng Province. Greening can also stimulate sustainable economic development in the host region through local investment and job creation. Many of the 400 unskilled labourers that were trained and employed as waste sorters during the WSSD continue to use their new skills at buy-back centres in South Africa.

Raising public awareness about event greening and related environmental issues can also enhance environmental best practice in the host region. It empowers local communities with the knowledge to make responsible choices for themselves. An environmental awareness campaign associated with the Greening the WSSD initiative inspired over 600 schools and 250 wards in Gauteng Province to participate in a clean and green schools, towns and wards competition. As local participation in
environmental best practice increases and communities become cleaner and greener, community pride will grow. Cleaner, prouder, more informed communities have a greater likelihood of contributing to and institutionalising environmental best practice.

Greening does not only mean “doing good for society” at the expense of your business or event. Significant cost reductions can also be achieved by using resources more efficiently and minimising waste. Likewise, streamlining activities and creating a positive and healthy work environment can result in better quality products. As a consequence of Northern Telecom’s (now Nortel Network, the leading Canadian telecommunications company) US $1 million investment in removing CFCs from production processes, fewer defective electrical boards were produced and savings of US $4 million were achieved within three years. In addition, organisations using triple bottom line reporting will enhance their environmental quality performance by participating in event greening. Regions or venues that have the capacity to host green events may also draw in further business from environmentally responsible event organisers.

Moreover, greening an event can attract positive media attention and raise the profile of the event, its host location and venue. Media coverage of the Greening the WSSD initiative reached approximately 5 million people, worth an estimated US $600,000 in advertising, and portrayed the event and the initiative positively. An improved public image will enhance public participation in and support for the event, minimising potential conflict and attracting further media attention. In addition, sponsors and donors often look for high profile opportunities to associate themselves with publicly supported causes. They may also be attracted by the chance to demonstrate their own environmental technologies, practices and achievements.

Greening your event will help make it an even greater success.

A recycling campaign targeting South Africans was launched at the WSSD.
Greening Your Event Involves Four Key Steps

• Defining the base from which you are starting by describing the event and context in which it is being held.

• Putting effective management practices in place for greening.

• Defining and implementing a greening action plan by applying greening practices to each area of event planning and staging.

• Incorporating monitoring and evaluation and awareness raising into the action plan to enhance its effectiveness and strengthen the greening legacy.

The guidelines below divide the greening process into five sections: Defining the Context; Management Principles for Event Greening; Greening Practices; Areas for Event Greening; and, Maximising Impact. Select the tips and suggestions from each of the sections that are relevant to your event or context; then use them as the basis of your greening plan. The quick reference greening checklist in Annex A and the list of greening resources in Annex B may also prove useful in designing your greening initiative.

2.1 Defining the Context

Greening strategies that are realistic and achievable take into account the context in which the event is being held, together with the financial, technological, and human resources available for greening. To define your greening strategy, first assess the event context.

Define the Context by Considering

• What event resources (human, financial, technological) are available for greening activities? What resources already exist in the host location?
• What environmental legislation exists in the host location? Does the legislation provide waste management, water use and quality, energy efficiency, pollution control, or resource use standards? Is the government willing and able to implement and enforce environmental legislation? If not, why not?

• What infrastructure relevant to event and greening activities (transportation, accommodation, meetings, waste management, energy efficiency, water conservation, pollution reduction) exists in the host location? Will new infrastructure need to be built or old infrastructure refurbished for the event?

• What technology is considered environmental best practice in the host location? What technologies are available? Could new technologies be introduced and maintained easily?

• Has environmental best practice been implemented in the host location before? Was it successful? Why or why not? Is it possible to exceed current best practice standards?

• What groups (participants, service providers, sectors of society) must participate in event greening for it to succeed?

• Is public buy-in essential for successful event greening? What is the level of public awareness of environmental best practice? Is this level consistent across sectors and social groups?

• What is the level of event management and participant awareness of environmental best practice? Is this level consistent across managers and participants?

• Where are the participants from? What are their values? What are their expectations?

• What type of event are you hosting? Are there any special considerations?

Identify the characteristics of your event and make the context work for you (see Text Box 1 for specific examples of greening strategies). Base your greening strategy on the “low hanging fruit” of the region or context. Build upon existing resources and focus on activities that are achievable and have high returns.
The infrastructural and technological resources available in developing countries may not support global environmental best practice. Recycling facilities, for example, may not exist and green products and appliances, such as solar panels and duplex printers, may have to be imported. This increases costs and reduces the local economic benefits of hosting the event. Fewer government policies, such as emissions standards, may exist to guide greening activities while public awareness of, and support for, environmental best practice may be limited. Contexts starting from a lower base often present greater opportunities for effecting change and leaving a greening legacy, particularly through awareness raising that leads to behavioural change. Under these circumstances, greening activities should be designed to build upon the base and implement the best possible environmental practice within the given parameters.

In developing countries, greening activities may also focus more heavily on locally relevant issues such as social and economic development in particular, labour intensive greening activities will help to combat high levels of unemployment and train unskilled workers at a relatively low cost.

Greening for small-scale events should follow the same principles discussed in these guidelines, although the size of the greening team and the scope of the activities will be reduced. Selection of the host venue will greatly influence how green the event is, as most of the event will take place in one facility. Greening activities that focus on improving the venue’s waste management, water and energy efficiency, pollution minimisation, and biodiversity conservation, as well as transport to and from the venue will have the greatest impact. Partnerships may be limited to venue managers and sponsors. Awareness activities will focus primarily on participants and service providers and may not involve mass media. In smaller groups, opportunities for personal interaction are greater and should be used to create awareness and educate participants on environmental best practice. Legacy activities may include improved venue operations, cost savings, and increased awareness of participants and service providers.

Political events, such as United Nations conferences, may increase opportunities for government partnerships and support, and improve the greening initiative’s ability to influence policy. Greening activities for such events may have to accommodate security measures. Recycling bins, for example, may have to be transparent and walking paths may not be viable transport options. Greening strategies for highly political events may have to include contingency plans for dealing with the excess waste and transport diversions associated with mass protests. They may also have to include campaigns to encourage protesters to act responsibly by not littering or damaging or defacing resources, as well as programmes for handling protesters in a manner that minimises damage to the environment and supports human rights.

**Text Box 1**

**Adapting to the Context**

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2.2 Management Principles for Event Greening

The management style and processes employed to green an event can determine its success or failure, especially since event organisation is fast paced and often unpredictable. While individual management styles may differ, the following suggestions will help streamline the cleaning and greening of an event.

- **Start Early.** Introduce the idea of greening as early as possible. Set up structures and define plans for greening as soon as event organisation begins.

- **Create a High-Level Team.** Greening teams should include high-level decision-makers and managers, environmental and sustainable development experts, key operations staff, such as venue and transportation managers, and event communications staff. Urban planners, architects, and engineers should be incorporated into teams for mega-events, especially when permanent or temporary structures need to be built or refurbished. Integrating the greening team into the overall event management team will improve buy-in and participation from all staff. This can be facilitated by ensuring that each key event planning and staging committee includes a greening team member that understands both environmental issues and the event.

- **Adopt a Greening Policy.** Design a greening policy that outlines key objectives and principles. Consult environmental experts, venue managers and community leaders when defining the policy. Have all major institutions involved in event planning and staging adopt the policy publicly. Document and communicate the policy to all staff and the public.

- **Integrate.** Make the greening initiative an integral aspect of event organisation and not a separate project. If separate institutions are responsible for greening and event organisation, sign a memorandum of understanding (MoU) to clearly define roles and guarantee greening staff access to planning and staging information. Have staff from both institutions on the greening team.

- **Obtain High-Level Support.** High-level political and managerial support for event greening encourages the participation of operations staff, service providers and sponsors. Endorsement from key international and domestic institutions will also help gain further support for the initiative.
• Identify a Champion. Select one or more high profile event participants or celebrities to endorse the greening initiative and act as its champion/s. Have the champion encourage event participants to get involved in greening.

• Define a Greening Action Plan. Assess the host location, type of event, potential impact of the event, and resources available for greening (see Annex A and Text Box 2 for major factors to consider during plan development; see Annex B for references to relevant international standards). Define a greening action plan with objectives and achievable targets based on international standards and the local context. Consider the short and long-term impact of activities and select ones that will leave a positive legacy. Determine whether Environmental Impact Assessments (EIAs) should be incorporated into the plan and identify measures, such as event security, that may limit greening activities. Develop contingency plans for high-risk areas, such as sewage overflows, pollution and extreme weather; and incorporate flexibility into the plan. Include a monitoring and evaluation schedule to measure progress. Identify a responsible person for each activity. Integrate the greening action plan into planning and staging action plans, so that time frames are linked to planning and staging deadlines. Document and communicate the plan to operations staff, service providers and sponsors. Encourage feedback and incorporate it into the plan where appropriate.

• Consult Broadly. Create an advisory body of relevant stakeholders (community members, government departments and agencies, non-governmental organisations and businesses). Involve the advisory body in the definition of greening plans, the implementation of greening activities and monitoring and evaluation. Draw on the advisory body and its members when additional expertise is needed for greening. This will strengthen the greening initiative, help to identify partnerships and prevent potential conflict.

• Attract Green Sponsors and Donors. Solicit sponsorship from companies committed to the environment and/or sustainable development. Encourage sponsors and donors to green their daily operations by implementing environmental management plans in their organisations. Acknowledge sponsors when communicating greening successes.

• Allocate Sufficient Funds. Set aside a portion of the planning and staging budget for greening activities. This will enable environmentally responsible decisions to be made for event planning and staging, as environmental services sometimes have higher initial costs and greater...
long-term cost savings than readily available alternatives. Encourage sponsors or donors to donate funds and services directly to the greening initiative.

- Communicate Greening Plans. Keep operations staff, service providers (including temporary workers and volunteers), and sponsors up to date on greening plans, progress and changes to maintain accountability and support. Ensure participants and the public are aware of greening plans prior to the event, so that they are prepared to act responsibly. Encourage participation.

- Train Employees. Where necessary, train employees in environmental best practice relevant to their areas of responsibility. Provide training for service providers and temporary employees, such as waste collectors, as needed.

- Create Partnerships. Identify partnership opportunities with key stakeholders to provide support and expertise to greening activities. Prevent repetition and use resources efficiently by linking up with existing initiatives or endorsing them as green. Approach institutions responsible for key greening areas, such as municipal waste management companies, energy suppliers and legal enforcement bodies. Such partnerships will enable the implementation and institutionalisation of activities in the long term. Partner with a range of institutions to draw in support from different sectors. Mitigate conflict by signing MoUs detailing each organisation’s role in, and financial contribution to, the partnership. Specify deliverables for each organisation. Include agreements around branding initiatives and a conflict resolution strategy in the MoUs. Appoint a greening team member to be responsible for managing and reporting on specific partnership activities to ensure timely implementation and reporting.

- Manage for Flexibility. Ensure that greening activities can adjust to rapidly changing conditions by creating flexible action plans and hiring adaptable staff. Flexibility also creates room for innovation.

- Manage for Transparency and Clarity. Provide a more efficient work environment by clarifying team members’ roles and be transparent about management decisions and actions.
Text Box 2
Defining Your Greening Action Plan: Questions to consider

- Has the team or agency accountable for greening been identified?
- Are Environmental Impact Assessments needed? Have they been prepared?
- Can energy and water conservation technologies and principles, waste management measures and pollution minimisation strategies guide the design, redesign, or selection of facilities?
- What impact will the event have on waste management infrastructure?
- What impact will the event have on energy, water, and other natural resources?
- How will the anticipated demand for natural resources be addressed?
- What additional pollution will result from the event?
- What impact will the event have on transportation levels?
- How will the anticipated demand for transport be addressed?
- What external environmental costs will there be to service the site/event with roads and other municipal services (water, waste management, electricity)? How can these be avoided?
- Will old industrial sites be redeveloped?
- Will any natural spaces or wilderness be developed or used?
- Will buildings be expanded into protected natural areas?
- Will any habitat or species be harmed beyond redemption or even eliminated?
- What steps can be taken to protect natural spaces, habitats or species?
- What restorative or rehabilitative methods can be taken?
- Will any significant cultural sites be affected by the event?
- What steps can be taken to protect such cultural sites?
- What steps have been taken to ensure a positive legacy of economically, socially and environmentally sustainable development?
2.3 Greening Practices

There are six fundamental greening practices which contribute to environmental best practice: waste minimisation and management; water efficiency and conservation; energy efficiency and conservation; pollution reduction; biodiversity conservation; and social and economic development. To define a greening action plan, each of these practices should be incorporated into event planning and staging activities before, during and after the event. To help with this process, background information and useful event greening tips for each practice are provided below. Tips are generally arranged from least resource intensive and/or minimal requirements for greening to most resource intensive and/or additional greening possibilities to facilitate the identification of tips that are relevant to your event. Wherever possible, greening activities should be designed to leave durable environmental best practice legacies through improved permanent infrastructure and raised awareness.

Waste Minimisation and Management

In industrialised nations, per capita waste generation can be as high as 510kg per year\(^4\) and most materials are used only once before they are discarded.\(^5\) Waste management (minimisation, collection, treatment and disposal) is a highly visible activity with great greening potential. Small changes in waste management strategies can lead to measurable reductions in the demand for natural resources and the amount of waste going to landfill, reducing material and disposal costs and curbing environmental degradation.

Green waste management practices focus on minimising waste by reducing, reusing, and recycling waste. This limits the resources needed for the management of waste after it is disposed of. It also increases the lifespan of landfill sites, reduces the financial and environmental costs of transporting waste, and minimises pollution. Suggestions for green waste management are outlined below.

Develop a Waste Minimisation and Management Strategy

- Partner with municipal or regional waste management organisations, other relevant municipal departments, and venue managers to access waste management information and resources; ensure smooth implementation of the waste management strategy for the event; and improve capacity and infrastructure for waste management in the region.

- Assess current waste management practices in the host region and event venues. Determine waste collection, separation, treatment, and disposal practices. Gauge the effectiveness of current facilities to deal with expected increases in waste and the types of additional materials anticipated. Identify areas for improvement.
• Develop a waste management strategy for all aspects of the event, including management and offices, venues, activities, transportation, accommodation, and public education and awareness. Consider waste that may be produced before, during and after the event.

- Set realistic goals and define activities for waste management that build on current practices and levels of public awareness. Goals that are set too high will likely result in poor waste management practices because activities will not be fully implemented.
- Aim to reduce, reuse, recycle, treat and dispose of waste in that order of priority. (see Text Box 3). Focus efforts on high impact materials.
- Develop contingency plans based on possible risks, such as insufficient capacity to sort and recycle the quantity of waste generated.

• Develop a waste minimisation and management awareness campaign targeting venue staff, event participants, and the public. Focus on why waste minimisation is important and practical ways they can minimise waste (e.g. recycling and crush)ing cans, bottles, and boxes before disposing of them to reduce the volume of waste).

- Train venue staff in waste management techniques. This is particularly important as the majority of waste generated at events will be dealt with by caterers, cleaners, and merchandisers. At Ubuntu Village at the WSSD, the overall recycling rate was only 17% due to wet waste from caterers, while the public recycling rate was 65%.
- Ensure participants know how to use the waste management system at the event.
- Calculate waste reductions and cost savings at the event or in a venue and publicise the results to encourage greater participation.

Reduce Waste Before it is Created

• Think before you purchase. Is the product really necessary? Are there more efficient alternatives? Can you rent the product cost-effectively?

• Use materials and goods that are manufactured in a waste efficient manner, are produced from recycled materials, are reusable and recyclable, and have minimal packaging.

• Appoint service providers that implement waste minimisation strategies.

• Use technologies and appliances that assist with waste minimisation, such as printers capable of double sided printing, can crushers, and electronic communication. Ensure that staff and participants know how to use such technologies.
Reuse and Recycle

- Reuse used or excess materials for future events.
- Sell or donate used or excess materials.
- Where recycling facilities do not exist, focus resources on minimising waste through green purchasing (see section 2.4 for tips on Green Purchasing, p43) and by raising awareness about reducing consumption and reusing materials.
  - Separate wet and dry waste at sources to enable reclamation of dry waste and create awareness about recycling.
  - Explore the option of initiating recycling or buy-back programmes, especially for glass bottles, cans, plastic and paper products. Approach manufacturers about collecting and recycling used products. Mondi Paper agreed to sponsor and recycle paper for the WSSD.
  - For small-scale events, consider setting up composting facilities that provide compost for landscaping, community gardens or urban agriculture.
- Where infrastructure permits, separate waste at source for recycling, reclamation and composting. Use a simple two-bin system that separates wet and dry waste if awareness about recycling is limited. Alternatively, separate plastic, glass, metal, paper and organic waste at source using a multi-bin system.
  - Use a uniform multi-bin system to raise awareness about recycling, even if waste is already being separated and recycled after collection. Clearly mark bins and place them in strategic locations. Offer bins for specialised recycling, such as battery or printer cartridge recycling, where they are likely to be used. (see Text Box 4 for detailed guidelines on creating an effective multi-bin system).
  - Familiarise participants with recycling practices through a waste management and minimisation awareness campaign.
  - Train volunteers or staff to act as waste monitors. Have them stand near waste bins and assist people with waste separation.
  - Where it is not possible to have separation at source bins, inform people that waste is being sorted and recycled after it is collected.
- Collect and sort waste into varying grades to maximise recycling benefits. Post collection waste can be sorted on site and then sent to recycling facilities or sorted at the facilities.
  - Collect and recycle materials in large volumes to reduce transport and labour costs.

Text Box 3
Waste Management Hierarchy

In the waste management hierarchy, source reduction is prioritised, followed by reuse and recycling. Treatment is considered only once waste minimisation techniques have been explored. Disposal is considered as a last resort. Green waste management strategies should be based on the waste management hierarchy.
- Store collected materials safely to prevent contamination.
- Ensure sufficient sorting facilities exist for post-collection separation.
- During sorting, reclaim products that can be reused.
- Compost organic waste or take it to farms that utilise organic compost.
- Train unskilled workers in waste sorting techniques and use small, medium, and micro-enterprises (SMMEs) for recycling, where possible.

General Waste Management

- Ensure health and safety requirements are met during waste collection and sorting.
- Monitor the waste management system regularly and make adjustments as problems arise.
  - Check bins for proper separation.
  - Oversee sorting processes.
  - Visit recycling facilities to ensure materials are being recycled.
  - Calculate landfill to recycling ratios over the period of the event.
- Maintain a litter free environment as part of regular waste management or by initiating a waste pick up campaign. Clean environments encourage clean behaviour.
  - Work with the local police to enforce fines for littering.
- Ensure storage facilities and waste collection plans are sufficient. Work with the local waste authority to add extra collection shifts during peak waste generation to avoid bin overflow. Arrange waste collection during periods of low traffic.
- Provide bins for specialised non-recyclable waste, such as hazardous or medical waste. Place bins in locations where this waste is likely to be generated.
- Store, collect and dispose of hazardous waste safely and according to local regulations. Hazardous waste thrown into regular waste bins will reduce reuse, recycling and composting possibilities. Leakages and spills during storage and disposal will result in environmental contamination.

Save Costs by Minimising Waste

An Australian construction company, Fletcher Construction, saved 55% of its waste removal costs by minimising its inputs and recycling. It reduced the volume of waste sent to landfill by 43%. It also achieved a 20% saving in costs by using recycled products and reusing and recycling waste in the construction of local police and court complexes. 56

Leading up to the WSSD, unskilled workers were trained in waste sorting techniques. Many sorters continue to be employed at buy-back centres.
"No More Waste"
Waste Management at the WSSD

The Greening the WSSD Team partnered with waste management authorities and organisations in Johannesburg to define a Waste Minimisation and Management Strategy for the WSSD. Six-bin waste stations that will be used in downtown Johannesburg were tested at two of the main venues. Colour distinguished bins for recyclable materials and non-recyclable materials. Different designs were used for indoor, outdoor and portable stations. Waste monitors were appointed to assist delegates with waste separation and 400 unskilled workers were trained to sort and reclaim waste on-site. Extra waste collection shifts were implemented and landfill sites were upgraded to accommodate increases in waste generation. Small, medium, and micro-enterprises were used for recycling. A “Joburg Unite” waste awareness campaign was launched prior to the Summit with a Clean Up Joburg Day.

The waste team worked closely with the South African Police and other municipal departments to keep Johannesburg clean, handing out fines for littering. Progress was monitored by measuring waste to landfill and recycling over the period of the Summit. As a result of the waste strategy, 27% of the waste generated was recycled. This is a significant achievement in a province with an average yearly recycling rate of 5%.

The success of this initiative is largely due to the collaboration of various government departments and waste related organisations, as well as the presence of waste monitors at waste stations. Clear messaging on bins, uniform waste stations, waste management training for and monitoring of caterers, and training sessions for waste sorters in their first languages would have further enhanced its legacy value.
Text Box 4
Keeping it Simple: Tips for an effective multi-bin system\textsuperscript{16}

- Design a simple, uniform multi-bin system. Consistency is critical when trying to influence behaviour.
- Use different colours and shapes to differentiate recycling and trash bins. Use different colours to identify recycling bins for each recyclable material. Design bins with closed tops and openings for disposal to prevent mass dumping.
- Clearly mark bins and recycling stations. Use a picture to represent what the bin is for. Make use of universal decals. List what can be recycled on each bin in writing. The bin openings can also be designed in shapes that mimic the recyclable materials (e.g. use a circular hole for cans and a slot for newspapers).
- Locate waste stations centrally and near areas that generate large amounts of waste, such as kitchens, exhibition areas, and business centres. Main waste stations should include all bins. Smaller waste stations focusing on specific waste types may be located in areas where those waste types are generated in high concentrations (e.g. paper recycling facilities should be abundant near meeting rooms and business centres, and composting bins should accompany restaurants and kitchens).
- Place specialised bins in areas where those waste types are being produced (e.g. locate waste facilities for batteries and film developers near the media centre).
- If space to store recyclable waste is a problem, use crushers for glass, paper, metal and plastic. Can crushers not only reduce the volume of waste to be collected and transported, but also help to create awareness about recycling because people enjoy using them. Locate can crushers at the waste stations. Other crushers can be placed at sorting areas.
- Train staff thoroughly in waste collection. Ensure that waste bins are not removed from stations for long periods of time and are replaced in the same location after being emptied. Better still, empty on site. Do not throw waste from all bins together during collection. This makes post-collection separation more difficult and discourages people from separating their waste at source.
- Train volunteers or staff to stand at waste stations and assist people with waste separation.
- Keep recycling areas clean, well lit and odour free. Collect litter and maintain signage and containers regularly.
- Avoid bin overflow by collecting waste on a regular basis.
- Monitor bins for contamination, measure results, and communicate progress.
The Sandton Convention Centre reduced kitchen water use by 70% in two weeks by creating staff awareness about water efficiency and installing a water meter in the kitchen to monitoring use. Further savings will be achieved by installing timers on the kitchen extraction hoods.

Water Efficiency and Conservation

Over the past century, freshwater consumption has risen at twice the rate of population growth. To meet this demand, 45 000 large dams have been built, destroying habitat for threatened species and displacing between 40 and 80 million people. Simultaneously, over half of the world’s rivers and lakes have become severely polluted, contributing to the death of 15 million children under five and illness in 1.2 billion people annually.

By the year 2025, two thirds of the global population is expected to live in water-stressed areas, exacerbating water-related illness, food shortages and environmental degradation; and resulting in higher water costs for both domestic and industrial use. Using water efficiently today will help to reduce current water supply and treatment costs, minimise future increases, conserve ecosystems, and make water more accessible to all.

As a rule of thumb, a 20% reduction in water supply and effluent bills can be achieved by implementing water saving practices at little or no cost. Savings of up to 40% can be achieved if measures with two year payback periods are taken. Water efficiency and conservation measures at the Sydney Olympics, for example, resulted in a 20 to 40% reduction in water use over industry norms at minimal cost. To achieve these savings and conserve water resources, water must be used efficiently. This involves reducing the initial demand for water; and reusing and recycling water to minimise future demand.

Develop a Water Conservation Strategy

- Partner with key water-related government departments and agencies, non-governmental organisations and venue managers to ensure access to information; build on existing water efficiency and conservation initiatives; workshop water conservation strategies for the event; and maximise the effectiveness of water saving strategies for the region.
- Conduct water audits of the venues to assess how water is used, why it is used, and how much is used (see Text Box 4 for a list of things to look for during your water audit). Identify areas for improvement.
- Define and implement a water saving strategy for the event and/or each venue. Estimate and focus on the main sources of water demand (cooking, sanitation, cleaning, cooling, and landscaping) to increase impact.
• Partner with local conservation organisations to promote the conservation of natural wetlands and coastal areas on or near the event site. Incorporate wetland and coastal conservation activities into the water conservation strategy for the event.

Water Saving Behaviour

• Initiate an awareness campaign on using water efficiently and conserving water resources. Target staff, participants, and the public. Tell each target audience what it can do to save water. Suggestions may be as simple as turning off the tap completely after use, taking short showers instead of baths, and reusing water where possible.

  - Train event and venue staff in water saving practices, including how to use water saving technologies. Some examples include reducing valve settings to decrease the rate of water flow, securing water control areas to prevent unauthorised use, watering plants during the coolest part of the day to minimise evaporation, using indigenous vegetation for landscaping, and sweeping or mopping floors instead of hosing them down.

• Ensure proper waste disposal practices are implemented. Educate staff and participants on waste disposal techniques through the waste management awareness campaign. Store and dispose of hazardous

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**Text Box 5**

**What to Look for in Your Water Audit**

Conducting a water use survey and developing a water balance for your site will help you identify where water savings can be achieved. Below is a list of areas to include in your survey and water-related inefficiencies to look for.27

A survey of water distribution systems and points of use typically reveals:

• Unidentified connections;
• Cross connections;
• Broken valves;
• Incorrectly set valves; and
• Leaks, including underground water supply leaks.

A survey of water use and patterns of use typically reveals:

• Excessive or unnecessary use;
• Unknown use; and
• Unauthorised use.

A survey of effluent discharges and routes to sewer typically reveals:

• Clean water discharges directly to effluent;
• Unauthorised discharges to effluent;
• Unnecessary surface water discharges to effluent; and
• Contaminated water discharges to effluent.
Using Water Wisely
Empty water bottles were handed out at the WSSD to raise awareness about the high quality of tap water in Johannesburg and promote its use.

...materials safely to prevent leaks from going into drains and contaminating water. Monitor the quality of water effluent to ensure that regulations are adhered to.

- Monitor and maintain water systems regularly. The use of old, unkept delivery technologies in Mexico City, for example, results in water losses sufficient to supply the city of Rome.²⁴
  - Maintain water pipes, valves, joints, pump seals, hoses, boilers and appliances regularly to prevent problems before they occur.
  - Ensure meters are installed and working correctly. Install data loggers on meters for constant monitoring.
  - Look for fluctuations in pressure, flow and water use patterns to detect problems (see Text Box 5 for a list of things to look for when monitoring your system).
  - Fix problems immediately to minimise water loss. Water losses of 0,1litre/minute will lead to annual losses of 53m³ or enough water to service over 2 000 South Africans for one year.²⁵
- Measure water savings due to new initiatives and circulate results to staff and event participants to provide encouragement.

Water Efficient Technologies

- Use water efficient technologies and appliances (see Text Box 6 for a list of water saving appliances). In the United States, industrial use of water has declined by 40% since 1970 as a result of water saving technologies.²⁶ Incorporate such technologies into the design and management of new buildings, retrofit them to old buildings and use them at home. Before selecting water saving technologies, ensure that the energy required to use them does not outweigh their water saving benefits.

- Design or retrofit facilities to maximise water efficiency.
  - Design water systems to collect stormwater for use in cleaning or landscaping. Stormwater can be collected in tanks from eaves troughs and then diverted to pipes or bowsers for use.
  - Incorporate root-fed water tanks into the water system.
  - Design systems that allow effluent water to be separated into reusable and non-reusable streams. Use greywater from baths, showers, and basins for landscaping and in toilets. Regularly monitor greywater quality to ensure it has not been contaminated. Use signs to clearly distinguish potable from non-potable water.²⁷
Text Box 6
Water Saving Technologies and Appliances

- Smart pressure valves to regulate flow.
- Flow limiting valves and orifices to optimise flushing rates.
- Level controllers to avoid overflow.
- Solenoid valves to release water only when required.
- Insulation for water pipes and boilers to prevent heat loss or gain. Insulation can reduce heat loss by 25 to 40% and will pay for itself in less than a year.28
- Non-removable, trigger operated spray gun nozzles on hoses.
- High pressure spray packs.
- Permeable pipes for slow, underground water release in landscaping.
- Tap aerators and low flow showerheads. They use 60% less water than conventional equipment.29
- Small sinks.
- Low flow or dual flush toilets. In Mexico City, the replacement of 350,000 normal toilets with low flow toilets saved enough water to service an additional 250,000 residents.30
- Waterless urinals.
- Motion sensors for taps and toilet flushing, to prevent dripping.
- Water efficient versions of regular appliances such as washing machines and dishwashers. Water efficient dishwashers use as little as 15 litres of water per cycle.31
- Irrigation technologies, such as timed sprinklers and drip irrigation. Water saving irrigation technologies can increase water use efficiency by 60 to 90%.32

Energy Efficiency and Conservation

Most of the world’s energy comes from burning non-renewable fossil fuels, such as coal, oil or natural gas. Burning these fossil fuels results in high levels of air polluting emissions, particularly greenhouse gases that contribute to climate change. Since 1971, global energy use has increased by 70% and is expected to continue increasing at a rate of 2% per year over the next 15 years. As a result of this growing demand, energy resources will be depleted while pollution levels will rise drastically. Greenhouse gas emissions, for example, are projected to increase by 50% in the next 15 years.33 Conserving energy resources by using them efficiently and adopting renewable, “clean” energy sources that reduce pollution during collection, conversion and disposal will minimise the negative environmental impact of energy use. It will also help to ensure that future energy demand is met, and, in most cases, reduce long-term energy costs.
Develop an Energy Conservation and Energy Efficient Strategy

• Partner with venue managers, electricity suppliers, and energy related government agencies and non-governmental organisations to ensure access to information; identify existing energy conservation initiatives; and workshop energy conservation and efficiency strategies for the event and the region.

• Conduct energy audits of the venues and transportation systems. Identify where energy can be used more efficiently or derived from alternative, clean sources.

• Define an energy conservation and efficiency strategy for the event. Include each venue and the transportation system. Estimate energy demand for the event and focus improvements on energy intensive activities or facilities (heating, ventilation, and cooling; lighting; water heating and provision; cooking; and cleaning processes account for most of a structure’s energy use). Aim to improve energy efficiency and make use of renewable, less polluting energy sources.

Use Energy Efficiently

• Minimise the need for air travel to the event by selecting a host region that is easily accessible for the majority of participants.

• Design a campaign to raise staff, participant, and public awareness about using energy efficiently. Emphasise the importance of reducing energy demand through behavioural change. Provide tips on how to be energy efficient. (see Text Box 7 for examples of energy efficient behaviour). Supply staff and participants with feedback on the energy saved during the event to reinforce the value of energy efficient behaviour.

– Train staff in energy efficient practices for the operation of facilities, how to use energy efficient technologies and energy efficient behaviour.

• Reduce energy requirements by maintaining facilities regularly.

• Use energy efficient technologies and appliances, such as low voltage lighting and fuel efficient vehicles (see Text Box 8 for examples of energy efficient technologies). In some cases, energy efficient technologies are more expensive than other technologies and appliances. However, the long-term savings in energy costs usually far exceed the initial expense.

• Incorporate energy efficient design into the construction or adaptation of facilities.
Energy efficient behaviour is key to reducing energy demand, especially in countries where efficient technologies and appliances may not be available. Some energy efficient behaviours and tips follow:

- Select energy efficient forms of travel. Walk or cycle wherever possible.
- Schedule vehicular transport during off-peak traffic hours.
- Maintain all electrical equipment and vehicles to ensure optimum performance. This includes cleaning filters on heating and cooling systems regularly. Replace old systems if necessary.
- Keep the doors and windows of airconditioned or heated rooms closed.
- Do not obstruct radiators and ventilators. Doing this may result in heating, ventilation, or cooling being adjusted higher than necessary to compensate for the obstruction.
- Do not over light spaces. Use daylight whenever possible.
- Shut off lights, heating, ventilation and cooling appliances in rooms that are unoccupied. Train cleaning staff to do this.
- Clean all light fittings so that additional lights are not required to provide sufficient lighting.
- Use appliances such as dishwashers and washing machines at the lowest temperature practical.

- Keep refrigerator doors closed. Where it is not possible to keep chiller room and freezer doors closed (e.g. during loading) install plastic sheets, strips or air curtains to limit heat flux.
- Use shutters or blinds to regulate temperature.
- Monitor hot water and air temperatures to prevent overheating or overcooling (60°C is usually sufficient for hot water). Limit short-term temperature fluctuations.
Supplying Green Power to the WSSD.

Before the WSSD, all significant sustainable electricity generators in South Africa were identified and as many as possible were connected to the power grid. A premium for green electricity was calculated and endorsed by South Africa’s National Electricity Regulator (NER). The United States Agency for International Development (USAID) donated funds to cover the premium for green power supplied to Summit venues. As a result, two of the key Summit venues, Ubuntu Village and NASREC, were supplied with green power. This effort raised public awareness about energy issues and in doing so, contributed to creating a market for green power in South Africa.

- Landscape to create shade or wind breaks.

- Select building materials; design space shape, size and orientation; and place windows, walls and other structures in a manner that maximises the use of natural light. Collect, store and distribute natural solar energy. Use wind and temperature differences to create airflow for natural ventilation. Tailor building materials and design for the climate in the host region (e.g. use insulation creatively by choosing windows with glazing to let in daylight without heat gain in warm regions and doors that close automatically to prevent heat loss in cold climates; or paint walls and window ledges in light colours to increase light reflection).

- Design the operating systems for the building (cooling and heating, power and water delivery, lighting and waste disposal) to minimise energy use. Focus on the heating, ventilation and cooling system as this uses the most energy. Some examples include integrating space and water heating; insulating heating pipes; and minimising the travelling distance of power and water by positioning water tanks close to the point of use and using several water boilers in different locations.

Use Energy Sources that are Renewable, Efficient and Minimise Pollution

- Use alternative fuel sources in vehicles. Explore the option of using ethanol-gasoline and water-gasoline mixes, ethanol and biodiesel to fuel vehicles. Also consider using electric-gasoline hybrid, electric, hydrogen or solar powered vehicles, especially in regions with clean electricity production processes.

- Use clean or green power to run facilities. Clean power comes from renewable energy sources that minimise pollution. Green power is clean power that has been produced sustainably, such as solar, wind, thermal or small-scale hydro.

- Pay a premium for green power to be supplied to event facilities or find a donor that is willing to sponsor the green power premium. Raise awareness and help create a market for green electricity by telling people what you are doing.

- If green power is not currently incorporated into the power grid, partner with local power providers to include it.

- Incorporate clean off-grid energy sources into facilities design. For example, use roof top solar panels for water heating.
Text Box 8

Energy Efficient Technologies and Appliances

Energy Efficient Technologies and Appliances can be used in your household, during the construction of massive conference centres or as part of the event transport system. Examples include:

- Insulation on windows (solar glazing or storm windows), in roofs and around cooling and heating pipes and structures. Insulation will significantly reduce heat flux and energy requirements.

- Compact fluorescent tubes with electronic ballasts that burn cooler, low voltage lighting. These energy efficient options can often be used in existing incandescent light fittings and will save up to 75% of the energy used by incandescent bulbs.\(^\text{36}\)

- Reflectors fitted behind light fixtures. Reflectors increase the amount of ambient light and reduce the need for high wattage lamps.

- Energy efficient fuels and technologies for transportation, such as biodiesel-petroleum diesel blends, ethanol-gasoline blends, hydrogen, compressed natural gas, light-weight vehicles; as well as electric, hybrid, and flexible fuel vehicles (see Transportation in Section 2.4 for more information on green transport, p.50).

- Energy efficient versions of regular appliances, such as dishwashers, washing machines and photocopiers.

- Low-flow showerheads and tap aerators. Reducing the demand for hot water leads to lower energy use.

- Revolving or automatically closing doors. These doors prevent loss of heat or cool air.

- Timers on heating and cooling systems and programmable thermostats. These must be monitored and changed as needed.

- Building Management Systems. Central, computerised systems ensure that only areas in use are lit, ventilated or heated. In older buildings, it may not be possible to isolate areas or it may be done manually.

- Energy key cards. These cards are widely used in the hotel industry. They are keys to guests’ hotel rooms and must be inserted into outlets in the rooms to enable electricity use. In some cases, guests are required to pay for their electricity use, reducing energy demand even further. Energy key cards can also be used in office complexes, homes and other buildings.
Pollution Reduction

Current levels of air, land, water, noise and visual pollution are threatening human and ecosystem health, as well as the availability of natural resources. Annually, one billion urban residents are exposed to health threatening levels of air pollution. In China, forest and crop losses due to acid rain are valued at US $5 billion. Although growing consciousness about pollution has led to decreases in the use of certain polluting substances over the last few decades, such as ozone depleting materials, pollution levels from other sources continue to escalate.37

Greening efforts should focus on preventing pollution, as well as managing the pollution generated. This entails avoiding or minimising the use of substances that are harmful to human or environmental well being at any point during their lifecycle (growth, harvesting, production, use or disposal). It also involves implementing measures to mitigate the impact of pollution, such as using pollution reducing technologies or breaking down harmful substances into benign derivatives.

Develop a Pollution Reduction Strategy

- Partner with venue managers, transport officials, relevant government departments and non-governmental organisations, community leaders, and pollution experts to ensure access to information; workshop pollution reduction strategies for the event; and build on pollution minimisation initiatives in the region.

- Devise a strategy for reducing pollution at the event and/or for each venue. Base the strategy on minimising and managing the event’s key sources of pollution. Include contingency plans for containing and cleaning up pollution.

General Pollution Reduction

- Design a pollution awareness campaign for staff, participants and the public. Focus on the causes and negative impacts of pollution, and what people can do to minimise all types of pollution. Highlight the use of less polluting products, energy efficient behaviour and proper waste disposal techniques (see Text Box 7 for examples of energy efficient behaviour).
  - Train staff in pollution reducing practices and teach them how to use pollution minimisation technologies.
  - Measure and circulate reductions in pollution resulting from new practices.

Text Box 9
POPsin Pest Management

Persistent Organic Pollutants (PoPs) are chemicals that bioaccumulate and pose a long-term threat. The most likely event-related sources of POPs are indoor pest control products and pesticides for landscaping. Aim to reduce the need for these products through design and behaviour that minimises pest infestation. Designate specific eating areas, keep facilities clean, collect waste regularly and design landscapes to maximise the use of bio-regulators (natural pest control). If pest control products must be used, prioritise trapping, especially for cockroaches and rodents, and select gels and sprays least detrimental to environment. When potentially hazardous pest control methods are used, ensure that the product is stored, used and disposed of strictly in accordance with manufacturer specifications.
As part of Greening the WSSD, delegates and organisations were asked to offset their Summit-related carbon emissions by purchasing climate legacy certificates. Funds raised were invested in carbon-reducing sustainable development projects in South Africa. The goal was to invest in enough projects to reduce the same amount of carbon emissions produced by the Summit. The carbon footprint for the Summit was calculated based on travel to and from the event, operating venues and event activities. Due to limited time and funds for marketing the initiative, the whole footprint was not offset. However, the Johannesburg Climate Legacy (JCL) succeeded in funding two carbon-reducing sustainable development projects and raising awareness about climate change. In addition, several South African organisations and individuals now have the expertise necessary to implement climate change mitigation projects. The JCL model has been improved for the World Parks Congress being held in Durban in September 2003. Participants are being encouraged to offset their emissions by paying an additional fee when registering for the Congress. They will also have an opportunity to offset their emissions when picking up their registration packages in Durban and at various points in the airport, key hotels and the convention centre.

At the Salt Lake City Olympics in 2002, American companies were encouraged to donate their emission reduction credits to the Salt Lake City Olympic Committee. The credits were used to offset the estimated 180,000 tonnes of carbon that were emitted as a result of the Olympic Games. Companies including DuPont, Kennecott Utah Copper, Waste Management Inc., and Blue Source donated more than enough credits to offset the carbon footprint. The credits were permanently retired, meaning companies could no longer trade them.

Text Box 10
Offsetting Your Carbon Footprint: Two Examples

As part of Greening the WSSD, delegates and organisations were asked to offset their Summit-related carbon emissions by purchasing climate legacy certificates. Funds raised were invested in carbon-reducing sustainable development projects in South Africa. The goal was to invest in enough projects to reduce the same amount of carbon emissions produced by the Summit. The carbon footprint for the Summit was calculated based on travel to and from the event, operating venues and event activities. Due to limited time and funds for marketing the initiative, the whole footprint was not offset. However, the Johannesburg Climate Legacy (JCL) succeeded in funding two carbon-reducing sustainable development projects and raising awareness about climate change. In addition, several South African organisations and individuals now have the expertise necessary to implement climate change mitigation projects. The JCL model has been improved for the World Parks Congress being held in Durban in September 2003. Participants are being encouraged to offset their emissions by paying an additional fee when registering for the Congress. They will also have an opportunity to offset their emissions when picking up their registration packages in Durban and at various points in the airport, key hotels and the convention centre.

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Reduce Air, Land and Water Pollution

- Limit the use of toxic, hazardous, or harmful materials and products during event activities; as well as in venue design and construction. Purchase materials that minimise pollution at all lifecycle stages.

Substances to avoid include:

- Organic solvents, which are used in several industrial processes and can be found in paints, glues, cleaning agents, insecticides and other household products.
- Volatile Organic Compounds (VOCs). Sources may be products with organic solvents in them, such as paints, varnishes, cleaning and dry-cleaning agents or stored fuels.
- Chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), and hydrochlorofluorocarbons (HCFCs). These are most commonly used as refrigerants and in some aerosol products.
- Other organochlorines, such as Polychlorinates Biphenyls (PCBs), Poly Vinyl Chlorides (PVCs) and chlorine bleach, which are often found in plastics, paints, dyes and cleaning agents.
- Persistent Organic Pollutants (POPs), such as aldrin, PCBs and DDT. These may be by-products of industrial processes or used as pesticides (see Text Box 9 for more information on POPs).
- Phosphorous is frequently found in fertilizers and detergents.
- Heavy metals, such as mercury, lead and cadmium (e.g. leaded gasoline, lead-based paint, and batteries).
- Particulates. Tiny particles are often released into the air during the burning of fossil fuels.
- Reactive, corrosive or highly flammable substances. Look for warning labels on products.
- Carcinogens or mutagens.

- Minimise greenhouse gas emissions. Greenhouse gases, such as water vapour (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆), contribute to climate change, which is expected to result in a 50 cm increase in sea level by 2100. To mitigate the impact of greenhouse gas emissions:
  - Sequester carbon (remove and store it) from the air by planting trees or through methane farms.
  - Reduce emissions through energy efficiency (see subsection on Energy Efficiency and Conservation in section 2.3, p.27).
  - Use and maintain emission reduction technologies, such as filters on boilers, cookers and vehicles.
- Use energy sources that cause fewer emissions, e.g. low-sulphur diesel, biodiesel, ethanol-gasoline blends, compressed natural gas, clean or green electricity.
- Offset greenhouse gas emissions. Calculate the event-related greenhouse gas emissions. Offset these emissions by investing in emissions-reducing projects, asking sponsors to donate their carbon credits to the event, or purchasing carbon credits from companies. Retire all carbon credits. (see Text Box 10 for examples of event-related carbon offset projects).

Minimise Noise and Visual Pollution

- Regulate noise levels by encouraging responsible behaviour, e.g. limited late night use of facilities and greater use of public transportation.
- Use noise-reducing appliances and building techniques, such as quieter road surfaces, noise mounds and specialised building finishes.
- Design facilities to include sound barriers. Vegetation is an effective sound barrier that also addresses of visual pollution issues.
- Design facilities so that lighting is directed specifically to where it is needed.
- Design structures that fit in with the natural landscape, where possible.

Biodiversity Conservation

In the last 30 years, biological diversity (biodiversity) and the availability of renewable resources have declined by 33%, while demand for resources has doubled. This loss in diversity has reduced the environment’s ability to provide resources for a growing population and economy. Genetic uniformity, for example, makes crops more susceptible to disease and production failure. Loss in diversity also limits the ecosystem’s ability to deliver key services, such as protection from natural disasters, supply of clean water, and cycling of essential nutrients. Such services are estimated to be worth US $33 trillion annually.

Conserving biodiversity during event greening will contribute to maintaining the ecosystem’s health and ability to support human life and livelihoods. It may also increase public appeal and support for your event. When incorporating biodiversity conservation into your greening plan, seek to minimise its greatest threats: habitat degradation, loss or fragmentation due to land use change; the introduction of invasive, exotic species; and pollution. Aim to reduce the event’s impact on biodiversity and improve conservation measures on the event site and in the host region.

Sustainably harvested indigenous fynbos was sourced from Flower Valley Conservation and the Cape Floral Kingdom for use at the WSSD.
Develop a Biodiversity Conservation Strategy

- Partner with local conservation organisations, venue managers, relevant government agencies and community leaders to ensure access to information; build on existing initiatives in the host region; and discuss a biodiversity conservation strategy for the event and/or the region.
- Define a biodiversity conservation strategy for the event and/or each venue. Contribute to or devise regional conservation plans and activities, where possible.

Direct Measures to Conserve Biodiversity

- Limit access to environmentally sensitive areas during the event. Create a buffer zone between environmentally sensitive areas and the event venues.44
- Use natural resources sustainably.
- Landscape using indigenous plant species. Avoid planting invasive and exotic species.
- Use biological controls carefully to prevent them from developing into new pests.
- Include wildlife management in operations plans for your venue, if applicable.
- Design buildings and grounds to accommodate wildlife on the site.
- Rehabilitate natural sites that were degraded during the event.
- Implement long-term conservation projects, such as campaigns to conserve threatened species in the area, rehabilitate degraded or industrial sites or plant native species in public parks and green spaces.

Indirect Measures to Conserve Biodiversity

- Design an awareness campaign on biodiversity conservation for staff, participants and the public. Focus on why biodiversity is important and what each target audience can do to conserve it (e.g. reduce consumption, plant indigenous species in their gardens, buy certified products). Encourage interest in wildlife on the site and in the host region.
  - Inform staff and participants about on site conservation measures. Explain why measures have been taken, so that people comply.
  - Let participants know what wildlife they can find on the event site, if applicable.
  - Provide information on nature reserves and parks to visit in the region.

Golfing Goes Green45

Twenty areas of biological significance have been identified on the Gleneagles Golf Estate in Scotland. Buffer zones have been established around each of these sites and during the Scottish PGA Championship and other major golf tournaments, these areas are roped off. Annual wildlife surveys are conducted at Gleneagles and information on plants, birds and mammals that can be seen on the course is made available to golfers. Gleneagles has teamed up with local conservation and forestry agencies to implement a woodland planting scheme to expand red squirrel habitat. Green venues lead to greener events.
• Use materials and resources efficiently to minimise demand for natural resources. This includes purchasing and using only what is necessary.

• Purchase and use materials and products that support biodiversity conservation. Several countries and organisations have product certification schemes that can help you identify products with minimal impact on biodiversity. Links to some of these certification schemes are listed in Annex B.

  - Avoid using materials or products from threatened plant or animal species or from environmentally sensitive regions. (e.g. limit the use of tropical hardwoods and virgin wood).
  - Select materials and products with recycled content to minimise demand for natural resources.
  - Use natural resources that were harvested sustainably.

• Avoid using habitat for threatened species or environmentally sensitive areas, such as breeding grounds or migratory routes, as event sites.
Sustainable Social and Economic Development

Stimulating economic growth in sectors that implement environmental best practice and creating markets for green products and services will contribute to the development of a sustainable economy capable of meeting people’s needs. In a world in which one fifth of the population lives on less than a dollar a day and lacks access to safe drinking water, half the population does not have clean sanitation facilities, and one in six adults cannot read or write, environmental issues cannot be isolated from those of economic and social development.45

Where possible, initiatives to stimulate the local economy and empower the host community should be incorporated into greening activities. This can be achieved through job creation, buying and employing locally, or considering human health during event organisation. It can also be done by raising public awareness about the event and about environmental best practice. Equipping people with the knowledge and resources necessary to contribute to environmental best practice gives them the power to make responsible decisions. This often results in increased pride and makes them more likely to be supportive of both the event and your greening initiative.

Develop a Social and Economic Development Strategy

- Partner with venue managers, community leaders and relevant government agencies and non-governmental organisations to identify the social and economic issues in the host region. Determine how to build on existing initiatives or create new ones through your greening initiative.
- Devise a strategy to incorporate sustainable social and economic development into event and greening activities. Where possible, integrate development initiatives into established programmes or institutions to ensure that they continue after the event.

Implement Sustainable Social and Economic Development

- Improve awareness of environmental best practice. Design an awareness campaign targeting staff, participants and the public. Integrate all subject specific awareness campaigns into one overall campaign. Encourage behavioural change that will lead to cleaner, prouder communities and a greener event.
- Promote community goodwill
  - Consult local communities during event organisation and involve them in the event.
  - Celebrate local cultural heritage by arranging special meals or shows for participants.
- Avoid damaging cultural heritage sites during the event.
- Build or retrofit venues such that they meet community needs after the event.
- Maximise the local population’s access to essential services.

• Generate local employment
  - Follow employment equity practices and contract service providers that do the same.
  - Hire local staff wherever possible. Where sufficient expertise does not exist, train local staff or partner them with international experts. Where possible, train unskilled labour in a useful skill.
  - Create jobs by developing a new demand for green products or services.

• Purchase goods and services that promote sustainable social and economic development through production processes or delivery. Certification schemes assist with the identification of such products (see Annex B for links to some certification schemes).
  - Purchase local products and services (see Text Box 11 to explore the benefits of buying locally), especially those that encourage community development.

Text Box 11
Why Buy Locally?

- You will be investing in the community that will bear the environmental costs of the event.
- Purchasing existing products and services and creating jobs through new initiatives stimulates the local economy and contributes to improved social conditions.
- Local communities have the opportunity to learn new skills and gain exposure to larger markets, which will result in greater economic growth and social development.
- Local products and services will become more efficient and environmentally responsible as a result of greening requirements. Products and services will be more marketable and competitive on a larger scale.
- Transport and storage costs will be cheaper and import taxes will be avoided.
- Avoid using goods or practices that are hazardous to human health. Ensure that legal requirements for human health are met when carrying out activities.
- Contract services from small, medium, and micro-enterprises, including community based organisations. Assist them to implement environmental best practice in their daily activities.

2.4 Areas for Event Greening

Now that you have a clear idea of the issues to cover when greening your event, you can think about applying each greening practice to the various areas of event organisation. Examples of greening activities for the major components of event planning and staging are given below. In most cases, tips and suggestions are arranged from least resource intensive or most critical to most resource intensive. The scale of activities and the areas of focus will change according to the type of event you are holding and the host location. Define the main event planning and staging activities for your event and identify ways of greening them. Target the activities with significant environmental impact or the highest greening potential first. Aim to incorporate legacy elements into all greening activities.

Host Region

If possible, select a host region that is already very green or has high greening potential. This may be a region in which green products, services and facilities are available; or one with little environmental best practice experience, but opportunities for change or a great need for facilities.

- Conduct an assessment of the environmental and social impact of hosting the event in each potential host region. Select a region in which impact can be minimised or offset.

Event Operations and Office Practices

One of the greatest educational tools is demonstration through action. Greening event management practices and facilities will help the greening initiative gain credibility and show participants and service providers how greening is “done.”

Practical Tips for Greening Management Practices

- Train staff in environmental best practice. Ensure staff understand the organisation’s environmental policies, objectives and key targets; and are aware of how they can contribute to achieving those objectives.
• Encourage staff to behave responsibly by providing incentives for “being green.” Offer subsidies for public transportation; have a green employee of the week; or hold a greening competition among operational departments.

• Adopt employment equity policies.

• Implement green purchasing, waste minimisation, water conservation, energy efficiency and pollution reduction practices in all offices. Focus on minimising waste and purchasing resource efficient appliances that reduce pollution. (see Text Box 12 for a discussion on purchasing paper products).

Do the energy costs of collecting and recycling used paper and paper products outweigh the benefits of reusing material? Is paper from sustainably harvested forests a better option? The following arguments will help you decide.

• In general, manufacturing one tonne of recycled paper creates 34% less water pollution, 74% less air pollution, and 80% fewer CO2 emissions than producing one tonne of virgin paper. It also uses 40% less energy. 47

• Recycling causes less air and water pollution than incineration and produces fewer CO2 emissions than landfill. 48

• Buying recycled paper stimulates markets for recycled products, creates jobs, encourages new enterprises and increases the competitiveness of existing manufacturers. In the UK, recycling paper creates three times as many jobs as waste disposal does. 49

• Recycling paper locally reduces the cost of importing paper or pulp for paper manufacturing, making paper more accessible to local populations.

• Recycling may be necessary to meet global paper demand, which is expected to double by 2020. 50

• Sustainable forestry certification requirements range from replanting trees that were cut down to ensuring that the whole cropping and replanting process is sustainable. Ask to see certification requirements when purchasing paper from sustainably harvested forests.

**Text Box 12**

**Recycled versus Sustainably Harvested Paper: Which is better?**

Do the energy costs of collecting and recycling used paper and paper products outweigh the benefits of reusing material? Is paper from sustainably harvested forests a better option? The following arguments will help you decide.

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Green Procurement at the WSSD

The following was achieved as a result of green purchasing for the WSSD:

• Most of the paper used at the Summit was FSC certified paper.

• Many of the flowers used at Ubuntu Village were sustainably harvested, indigenous flowers.

• Non-recyclable packaging used by caterers and suppliers to Ubuntu Village as well as gift suppliers was greatly reduced.

• 200 buses bought by the City of Joburg to provide transport for the Summit were fitted with emission reduction technology.

• Organic food was made available to delegates at Ubuntu Village, the Sandton Convention Centre and Southern Sun Hotels.

A well communicated policy, greater access to contracts, the means to verify environmental commitments and funds available for green purchasing preferences would have made goods and services at the WSSD even greener.

• Locate offices in buildings that are designed and operated according to environmental best practice (see Event Venues in section 2.4, p.49 and Energy Efficiency and Conservation in section 2.3, p.30 for tips on environmental design, construction and management).

Minimise Paper Use

• Communicate and distribute information to staff, service providers and participants electronically or by targeting large groups at once.

  - Have a central message board in each office.

  - Photocopy presentations or reports on demand. Make them available on the web. Have a sign up sheet or collect business cards and e-mail requested information. Provide a limited number of photocopies at the front of the meeting room.

  - Post critical information at a number of centrally located kiosks, in hotel lobbies, or on the web. Staff each kiosk and enable participants to order extra copies of information packs or other event-related material.

  - Provide computer stations for participants to enable them to access event information electronically. Use a dedicated television station in each hotel to disseminate information.

• Reuse scrap paper before it is recycled, keep mailing lists up to date, use whiteboards at meetings, and print on both sides of the page.

• Purchase photocopiers and printers capable of double-sided printing.

Minimise Waste and Improve Resource Efficiency

• Ensure staff members know how to use equipment, such as photocopiers, efficiently and effectively.

• Turn off computers if they will be idle for longer than two hours.

• Use natural ventilation where possible and ensure air vents are not blocked.

• Use stairs, carpool, or work from home.

• Reuse office supplies and recycle printer cartridges.

• Minimise business travel.

• Use multi-purpose equipment, equipment with energy efficient sleep modes, inkjet or dot matrix instead of laser printers, plain paper fax machines and laptops instead of desktops.¹¹

• Purchase recycled, non-bleached paper with high post-consumer content.
Green Purchasing

Greening the procurement of event-related goods and services is central to hosting a green event. Other than changing peoples’ behaviour, it is the most effective method of reducing resource consumption, minimising waste and pollution and promoting environmental best practice. Green purchasing enables organisations to apply monetary pressure to industry, thereby encouraging industry to devise innovative solutions to meet environmental or other requirements. It also creates a market for green goods, making them cheaper and more widely accessible.

Green purchasing practices should be applied to procurement for the event, as well as for the event management offices. The first step to greening procurement is determining if new products are necessary. Can old ones be repaired or can products be borrowed or rented cost-effectively? Are the quantities being requested appropriate for the purpose? Once these questions have been answered and the need for products and services has been agreed upon, green purchasing can begin. The purpose of green purchasing is to buy and use the best possible products and services for the environment. Options will vary according to the financial resources available for event operations and the context in which an event is being held.

Green Purchasing Tips

• Ensure at least one greening team member is included in the event procurement process from the beginning. If the greening initiative is not fully integrated into event organisation, sign a memorandum of understanding with event organisers to guarantee the initiative’s involvement in the entire procurement process.

• Include environmental specifications in tenders, as criteria for judging tenders, and in contracts. (see Text Box 13 for an example of a tender insert).

• General environmental specifications may be as simple as “To what extent does your product or service contribute to the objectives and targets of this organisation?” or as detailed as:
  - Does your company have an environmental management policy? If yes, please provide a copy of the policy. If not, is your company willing to develop one?
  - Describe the environmental management practices in place in your company, specifically in relation to the product or service in question.
Address issues of waste minimisation and management, water conservation, energy efficiency, pollution reduction, resource use practices and social responsibility.

- Does your company meet all legal requirements and environmental and health standards associated with the manufacture of the product or provision of the service in question?
- Does your product hold any form of certification? If yes, name the certifying body and purpose of the certification.
- What contributions does your company make to social and economic development? How does the manufacture of the product or provision of the service in question contribute to social and economic development?

- Prioritise tenders and focus resources on ones that can be greened easily and will have the greatest impact.
- Include more detailed specifications for goods or services where appropriate. These may be based on international or national standards. Divide tenders into groups requiring the same specifications for efficiency.
- Ensure that goods and services procured through sponsorship deals are subject to environmental specifications. This may require selection of the best possible sponsorship opportunities for the environment or clever negotiation with key sponsors to encourage them to deliver green or greener products and services.
- Evaluate tenders and select the greenest product or service that best meets non-environmental requirements, such as cost. Consider the long-term savings of green purchasing when assessing cost. In cases where green products and services are more costly than their alternatives, allow for a slight (up to 10%) cost preference for greener goods and services. This will help to create a market for them and reduce their costs in the future. (see Text Box 14 for issues to consider when assessing products).
- Negotiate and agree upon environmental requirements with selected service providers. Include them in contracts. Consult a lawyer to verify that contracts hold service providers accountable for environmental requirements.
- Ensure that any subcontracted service providers are selected according to environmental specifications.

Gift bags for the WSSD were handmade by local communities using natural, recyclable materials.
Green products are produced in a way that consumes fewer natural resources, involves less energy and water and minimises hazardous and other waste. They may require less energy to operate, contain fewer toxic or hazardous substances, or be recyclable. They generally offer long-term cost savings through efficient use of energy, longer lifespan and the production of less toxic waste that is expensive to transport, dispose of and obtain permits for.

When assessing how green a product is, consider all aspects of the product’s lifecycle, including the acquisition of materials, manufacturing, distribution, use, maintenance and disposal (see Pollution Reduction in section 2.3 for a list of substances to avoid, p.34). Also calculate the total annual cost of the product across its lifetime to identify value for money.

Questions to ask when assessing products are:

**Certification**
- Has the product been certified by a credible institution? Does the national government in the host region or an internationally recognised specialist in the field support the certification? If not, what are the requirements for certification? Why has the product not been certified?

**Acquisition of Materials**
- Were natural resources used in the product sustainably harvested?
- Were other materials used produced in an environmentally responsible manner?
- Were materials purchased from small, medium, or micro-enterprises?

**Manufacturing**
- Were products from threatened plants or animals, or resources from threatened environments used to manufacture the product?
- Were recycled materials used to manufacture the product?
- Were production methods energy, water and resource efficient?
- Were production methods designed to minimise waste and pollution?
- Was the use of toxic and hazardous materials minimised?
- Was hazardous waste disposed of safely?
- Are staff informed about environmental practices in place?
- Do manufacturers comply with human health standards and practice employment equity?

**Distribution**
- Is packaging minimised?
- Can packaging be reused or locally recycled by the end user?
- Do manufacturers accept packaging for reuse or recycling?
- Is packaging made of recycled materials?
- Is the transport strategy designed to minimise waste and pollution and use energy efficiently?
- Are transport suppliers small, medium, or micro enterprises?

**Use and Maintenance**
- Does the product have a long lifespan?
- Are clear operating and maintenance instructions available?
- Can the product be easily and cost-effectively maintained and repaired?
- Can the product be upgraded easily?
- Is the product designed to use resources efficiently?
- Is the product designed to minimise waste?
- Is the product less polluting than its competitors?
- What is the payback period of the product?

**Disposal**
- Is the product or are its parts reusable? Can it/they be sold?
- Is the product recyclable or biodegradable? Is it recyclable locally?
- Can the product be returned to the manufacturer for reuse or recycling?
- Does the product contain any banned or restricted substances?
- Does the product contain hazardous materials requiring special disposal?
- Do disposal methods include small, medium, or micro enterprises?
Greening the People’s Earth Summit

The People’s Earth Summit (PES) was held at St Stithians College, a private school in Johannesburg. The Greening the WSSD Team and PES staff worked with eager St. Stithians staff to green the event and venue. Waste was minimised through procurement and regulations on what could be brought into the event. Most of the waste generated was recycled. Energy was conserved by shutting down systems each night and St. Stithians started converting to low energy light bulbs. The school board also committed to a long-term investment in solar energy. The school altered its automated irrigation cycle to low evaporation times and agreed to implement permaculture water management systems. All food served at the PES was local and organic and any excess materials were distributed to less privileged schools to sensitise young people to sustainable development issues.

- Require service providers to prove compliance with environmental requirements.
- Verify that environmental requirements have been fulfilled for key tenders through documentation, site visits or product analyses.
- Provide incentives for other service providers to green themselves by communicating successes and rewarding service providers that comply with environmental requirements.

Examples of Environmental Requirements for Specific Tenders

1. Paper and Promotional Materials
   - Certified as made from sustainably harvested timber by a credible organisation, such as the Forest Stewardship Council.
   - Recycled with high post-consumer content.
   - Chlorine bleach free.
   - Non-de-inked.
   - Non-glossy.
   - Vegetable or soy-based ink. No petroleum based, metallic or fluorescent inks.
   - Minimal use of colours.
   - Bound with biodegradable glue.

2. Gifts and Merchandise
   - Minimal and/or recyclable packaging.
   - Made from recycled materials.
   - Animal and plant products are sustainably harvested.
   - Minimal use of toxic substances during manufacture.
   - Energy and water conservation and waste minimisation during manufacture.
   - Reusable and recyclable or biodegradable products.
   - Production of goods supports community enterprises.

3. Equipment, Furniture and Exhibition Materials
   - Minimal, reusable, recyclable and biodegradable packaging.
   - Reusable and recyclable or biodegradable products.
   - Animal and plant products used are sustainably harvested and not from threatened species.
   - Made from recycled materials with high post-consumer content.
   - Non-toxic adhesives and finishes.
   - Community enhanced through production of goods.
Registration and Accreditation

- Allow participants to register online. Make all necessary information available online.
- Choose reusable and recyclable name tags or accreditation badges.
- Have small registration packs and extra information available online or at central kiosks, at events or in hotel lobbies.
- Consider varying registration costs to ensure diversity of participants or accessibility to community members if applicable.

Event Venues

Events may be held in one building, a central location or in various locations across a region. The event venue refers to all grounds and facilities used for the event. Event venues may be existing buildings or temporary and permanent structures built specifically for the event.

Select Venues that

- Have managers that are willing and eager to improve environmental practices.
- Are located in areas safe for participants to walk in.
- Are near each other, near accommodation and easily accessible via public transport.
- Were built and operate according to environmental best practice (see Energy Efficiency and Conservation in section 2.3 for tips on green design, p.30). Assess possible venues’ policies for procurement, waste minimisation and management, water conservation, energy efficiency, pollution reduction, biodiversity conservation, contributing to social and economic development and staff training in environmental best practice. Look at their most recent environmental audits.
- Can be easily adapted or upgraded.
- Are located near regional sites of interest.

Venue Construction and Adaptation

- Consult community members prior to the construction of facilities, identify their needs and address their concerns.
- Design venues that can be reused or easily converted to meet the needs of the host community.

Text Box 15

Keep Your Landscape Green

Minimise the demand for water in landscaping through the use of indigenous plant species, efficient irrigation and design techniques. Use alternative sources of water, such as non-potable storm or greywater for irrigation (see Water Efficiency and Conservation in section 2.3). Reduce pollution by using non-toxic, organic fertilizers, weedkillers and pesticides, where possible. Use topsoil that has been sourced sustainably. Use integrated pest management and biological pest controls carefully to ensure that the control does not multiply and become an even greater pest. When chemical supplies must be used, comply with manufacturer specifications and take measures to minimise pollution, such as stopping the use of chemical pesticides at least 2m from water sources. Employ small, medium, and micro-enterprises to provide landscaping services where possible.
• Avoid building facilities on or near environmentally sensitive sites.

• Design facilities that are easily and cost-effectively maintained.

• Implement green purchasing strategies, particularly for construction materials.

• Train construction staff in environmental best practice.

• Use building practices that minimise waste and pollution, and are energy, water and resource efficient (see section 2.3 for suggestions on improving efficiency in each of these areas).

• Install or retrofit buildings with energy and water efficient appliances (see Text Box 5 for examples).

• Design facilities according to green waste, water, energy, pollution and natural resource use practices (see section 2.3 for tips on greening each of these areas and Text Box 15 on minimising waste and pollution through green design and construction). Appoint architects that specialise in green design, as well as environmental experts to assist with building plans. Green design may be more costly in the short-run, but long-term economic, social and environmental benefits will far outweigh initial costs.

• Design facilities to meet social requirements, such as wheelchair accessibility and health standards, and promote economic development. Test construction sites for contamination prior to site construction and avoid using finishes that emit radiation or harmful gases. Use small, medium, and micro-enterprises as service providers where possible.

• Ensure sufficient parking is available to prevent overflow onto green spaces.

Venue Operations

• Devise a crowd control strategy to limit the use of environmentally sensitive areas.

• Train venue staff in environmental best practice and encourage them to behave responsibly. Provide incentives for participation in environmental best practice (see Text Box 7 for examples of energy efficient behaviour).

• Ensure environmental management practices are in place for all operational activities.

  - Green the procurement of goods and services and implement strategies for waste minimisation, water conservation, energy...
efficiency, pollution reduction, biodiversity conservation and use of small, medium, and micro-enterprises.

- Apply each of these practices to venue services, including food and beverage, cleaning, maintenance and landscaping (see Text Box 16 for green landscaping practices).

Exhibitions

Over four times as much waste was generated at the main WSSD exhibition site, Ubuntu Village, than was generated at any of the other venues. This suggests that greening of exhibitions should focus heavily on minimising waste through reducing, reusing and recycling packaging and materials.

Green Your Exhibition

- Encourage exhibitors to bring fewer promotional materials and use the web, e-mail or the post to meet excess demand.

- Encourage exhibitors to drop off reusable items at a designated location after the event. Donate needed items to charitable organisations.

Text Box 16
Design to Minimise Waste and Pollution

- Design durable and generic signage so that it can be reused.

- Maximise the use of excavation material in landscaping.

- Plant vegetation in critical areas to minimise dust pollution.

- Standardise dimensions of trusses, sheet metal and wood to minimise the amount of cutting waste.

- Design structures that can be maintained easily to prolong the structure’s life and minimise waste.

- Design to minimise noise and light pollution by using noise/light breakers, insulation and specialised lighting (see Pollution Reduction in section 2.3 for suggestions on limiting noise and light pollution, p.35).

- Avoid the use of products that contain or emit toxic or hazardous substances. Examples include asbestos, oil based paints high in Volatile Organic Compounds (VOCs), and Poly Vinyl Chloride (PVC) (see Pollution Reduction in section 2.3 for a list of substances to avoid, p.34).

- Use recycled materials such as recycled concrete aggregate and metals in construction.

- Design for demolition by using materials that can be reused and recycled when the structure is taken down.
• Ask local schools and charitable organisations what they need. Provide this list to exhibitors and ask them to base promotional materials on these items (e.g. pens, notepads and folders).

• Consider hosting a competition or providing a discount for the most sustainable exhibition design.

• Work with shipping companies to minimise packaging and use recycled, recyclable and biodegradable packaging, such as paper and corrugated boxes.

• Implement green purchasing and environmental best practice (waste minimisation, water conservation, energy efficiency, pollution reduction and biodiversity conservation) criteria in exhibition design, construction and operations.
  - Regulate the use of audio equipment and lights to ensure noise and light pollution do not drive viewers away.

• Outline procurement and environmental requirements for exhibitors. Base criteria on the procurement requirements for exhibitions listed in the subsection on Green Purchasing, as well as the points above.

• Consider subsidising exhibition space for less resourced organisations to ensure diversity.

**Transportation**

Event-related transport produces more carbon emissions than any other event activity and consumes large amounts of energy. Air travel to and from the WSSD accounted for 95% of the Summit-related carbon emissions. The main objectives of greening transport are to conserve energy by using it efficiently and to minimise harmful vehicle emissions. When defining green transport plans, weigh the initial cost of alternative practices with the long-term savings and ensure that green practices are made as convenient as possible to encourage use.

**Minimise Transport Needs**

• Aim to minimise participants’ airline travel when selecting a location for the event. Where airline travel is unavoidable, suggest airlines with good environmental policies and provide opportunities for participants to offset their travel-induced carbon emissions (see Pollution Reduction in section 2.3 for information on carbon offset projects, p.33).

• Select event and accommodation facilities that are near each other. Hold meetings at hotels where participants are staying.
Promoting Mass Transport

- Raise staff, participant and public awareness about the merits of mass transport. Tell them where it goes and how to use it. Put transport route maps in registration packs and provide participants with information on greener airlines, bus companies and taxi services.

- Provide walking and cycling options by creating routes, supplying maps and offering secure bicycle parking at venues.

- Choose facilities that are accessible to each other, as well as major airports and train stations, via public transportation.

- Introduce a mass transit system for event staff and participants if public transportation is insufficient. Partner with local transport authorities, organisations and companies to design the system. Leave a legacy by designing a permanent system.

  - Vary frequency of transport to match demand. An efficient system will attract users.
- Match vehicle size to transport demand so that vehicles do not travel empty.

- Offer motor vehicle parking facilities at major transport hubs so that participants can park and ride.

- Create incentives for using mass transportation by obtaining transport subsidies or sponsorship from transportation authorities, thereby making it easier to access facilities using mass transport; or include the price of mass transport in event tickets or accreditation. Allow staff and service providers free access to mass transport.

- Where mass transport is not available, create incentives for carpooling by reducing parking costs for multi-passenger vehicles or giving them preferred parking.

General Transport Practices

- Time events, such that most travel is during off-peak hours.

- Train vehicle drivers and maintenance staff in environmental best practice.

- Apply environmental best practice criteria to transport practices and offices.
  - Keep idling to a minimum and drive at steady, moderate speeds.
  - Regularly inspect and maintain vehicles. This includes inflating tires, checking for leaks and testing vehicle emissions.
  - Use vehicle airconditioning and heating sparingly. Put timers on heating and cooling systems.
  - Have spill clean up kits at each transport depot.
  - Purchase green products and services, such as re-refined oil.
  - Use biodegradable soaps and high-pressure spray packs with trigger-operated guns for cleaning vehicles.
  - Recycle used oil, vehicle batteries, antifreeze and tyres, as well as waste from vehicles and transport depots.
  - Green office practices.

- Use energy efficient and emission reduction technologies and fuels.
  - Use light-weight vehicles and vehicle parts, including appropriately sized motors.
  - Purchase or retrofit vehicles with catalytic converters and particulate filters.
Transport at the WSSD

Johannesburg’s public transportation system was not sufficient to service delegates for the WSSD, so a mass transit system was designed to bus delegates from hotels to Summit venues, key tourist destinations and neighbourhoods. Roads were upgraded to reduce congestion and 200 new buses with emission reduction technologies were purchased. These buses have since been incorporated into the Johannesburg public transportation system. Bus drivers were trained in environmentally responsible driving techniques and vehicle care, while recycling stations were placed at transport hubs. The transport tender required that companies comply with environmental standards by testing vehicle emissions regularly; using biodegradable products during cleaning; and recycling waste. Monitoring the transport initiative indicated that, for the most part, environmental requirements were fulfilled and driver training was successful. Approximately 25 000 bus passes for unlimited travel were sold during the Summit. Use of the system would have been even greater if routes had been more widely advertised, accreditation badges acted as passes, and the system had been integrated into Johannesburg’s regular public transport system.

Greening the WSSD also partnered with the Gauteng Economic Development Agency (GEDA) to showcase cleaner transport technologies at the main WSSD exhibition site and teach schoolchildren about alternative technologies at a workshop with GEDA and Gauteng’s Minister of Agriculture, Conservation, Environment and Land Affairs.

- Use alternative fuel sources, such as ethanol, biodiesel, hydrogen and electricity for VIP or high profile vehicles, where available. Since these alternative fuels are not yet available for large-scale use, use ethanol-gasoline, methanol-gasoline, hydrogen-natural gas, biodiesel-petroleum diesel blends, unleaded gasoline, low-sulphur diesel, compressed natural gas or propane for regular vehicles.
- Use alternative vehicle technologies, such as electric or hybrid vehicles.
- Partner with industries to showcase alternative technologies at the event.
Accommodation and Tourism

Responsible tourism is based on environmental, social and economic principles. It aims to minimise the environmental impact of tourism, benefit local communities and reduce poverty. Several countries already have national responsible tourism programmes or accreditation facilities. When greening accommodation and tourism for your event, consult responsible tourism authorities for information on green hotels and activities in the region (Annex B provides links to responsible tourism associations and initiatives).

Select Accommodation

• Assess environmental management policies and practices in the hospitality industry. Consult the tourism authority, send out surveys, or conduct site visits and follow up by telephone.
  
  – Determine whether or not hospitality institutions are certified as green or responsible.
  
  – Look at policies for green procurement, waste minimisation and management, water conservation, energy efficiency, pollution reduction, biodiversity conservation and contribution to social and economic development (see Text Box 17 for basic green hotel practices to look for when assessing accommodation facilities). Consider how these policies are applied to specific hotel services, such as food and beverage, cleaning, laundry, maintenance and landscaping.

• Select the greenest accommodation facilities in the host region or venues with managers that are willing to implement environmental best practice.

Promote Responsible Tourism

• Tell participants what responsible tourism is and how they can be responsible tourists (e.g. minimising water use, requesting sheet and towel changes every few days instead of everyday and selecting certified facilities).

• Make information on responsible tourism ventures in the region available to participants through the hotel concierge, information booths at the event and the website. Participants may choose to travel before or after the event.

• Create incentives for greening the hospitality industry.
  
  – Inform hotels and bed and breakfast establishments (B&Bs) about your plans to green accommodation and tourism for the event.

Promote Responsible Tourism Nationally

In the lead up to the Summit, Greening the WSSD and the Federated Hospitality Association of South Africa (FEDHASA) launched a responsible tourism campaign to promote the South African government’s Guidelines for Responsible Tourism. By the beginning of the WSSD, 76 institutions had committed themselves to implementing responsible tourism by signing a statement of intent.

Ten winners were selected for the Imvelo Responsible Tourism Awards that were given out immediately prior to the WSSD. A Responsible Tourism Guide Book was developed to promote Imvelo Award winners.

The success of the event was attributed to the cooperation and commitment of government, non-governmental organisations, and business during the campaign. Partnerships with all major tourism and hospitality associations in South Africa would have strengthened the initiative even further.
Communicate environmental policies to staff and guests.

Allow guests to decide when their linen and towels need to be replaced instead of changing them everyday.

Minimise packaging of complementary gifts.

Have paperless check in, billing and check out.

Employ locally and use small, medium, and micro-enterprises as service providers.

Locate recycling bins in hotel rooms and lobbies.

- Use bulk dispensers for soap and shampoo.
- Ensure decorative flowers are sustainably harvested and indigenous.
- Use fluorescent lights and dispose of them at registered locations.
- Use low flow taps and showerheads and dual flush toilets.
- Use low toxicity finishes on walls and furniture.
- Use key cards for electricity.
Food and Beverage Services

The provision of food and beverages for events generates vast amounts of waste, including food waste that could have gone to feed the 800 million under-nourished people in the world today.59 Food waste accounted for the majority of waste sent to landfill at the main exhibition site at the WSSD. Greening activities for the supply of food and beverages at your event should address all greening practices, while concentrating on reducing waste by using resources efficiently and minimising packaging. This may be done through the procurement process or by working with existing service providers.

Green Food and Beverage Services

- Train staff in environmental best practice as it relates to food and beverage services.
- Be as accurate as possible when supplying numbers of guests to food and beverage service providers.
- Serve small portions with the option of having more or serve buffet style.
- Donate excess food to foodbanks.60
- Compost food waste. If compost facilities do not exist, take food waste to farms using organic compost (e.g. pig farms).
- Implement green purchasing.
  - Avoid serving threatened plant or animal species.
  - Use local, seasonal and organic produce.
  - Buy and serve in bulk instead of individual packets. Serve water in pitchers, sugar in bowls and snacks on plates.
  - Use reusable, recycled and recyclable flatware, cutlery, napkins and centrepieces.
  - Minimise packaging subject to appropriate health standards.
  - Use reusable, recyclable or biodegradable packaging, such as cornstarch “plastic.”
  - Use non-toxic, biodegradable cleaning aids.
  - Use CFC and HCFC-free refrigerants and products (see Text Box 18 for a list of alternatives to CFCs and HCFCs).
  - Apply green practices to all aspects of food and beverage provision.

Going Organic

Organic farmers aim to minimise environmental and human health impact by using renewable resources, minimising the use of toxic or chemical substances and conserving soil and water. They produce food without using most conventional pesticides, fertilizers made with synthetic ingredients or sewage sludge, bioengineering or ionising radiation. Organic meat, poultry, eggs and dairy products come from animals that are not given antibiotics or growth hormones. Organic food may be expensive and difficult to obtain in large quantities, especially in developing countries. As demand increases, however, more farmers will turn to organic techniques. More organic products will become available and costs will decrease. Organic certification schemes help consumers identify organic products. They are abundant in developed countries, but lacking in the developing world.

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Text Box 18
Refrigerating without CFCs

Many refrigerants used today are CFCs (chlorofluorocarbons) and HCFCs (hydrochlorofluorocarbons). These gases contribute to the depletion of the earth’s ozone layer, which filters out harmful ultraviolet rays from the sun. Over 180 countries have signed the Montreal Protocol, which identifies CFCs to be phased out (e.g. R11, R12 and R502) and used in transitional periods (R22). Alternatives are available, but are not always drop-in replacements. Some non-CFC refrigerants are MP39, MP66, HP81, R134a, 69S, 69L, HP80, FX10, HP62, FX40, KLEA60 and ammonia.
2.5 Maximising Impact: Awareness Raising and Monitoring and Evaluation

Awareness raising and monitoring and evaluation may not directly green your event, but are critical to leaving a legacy of environmental best practice. Resource efficient designs, technologies and practices are only effective if people use them. Arming people with information about environmental issues and best practice will encourage them to use efficient technologies and behave responsibly. Environmentally responsible behaviour contributes greatly to the greening of events and communities, particularly in regions with limited green technologies and resources.

Monitoring and evaluating your greening process enables you to identify areas that need improvement and distil lessons that will help green future events more successfully. It also provides you with statistics on each initiative’s success that can be used to encourage participation in greening and as a baseline for comparison with future greening initiatives. The following two subsections outline issues to think about while designing awareness and monitoring and evaluation strategies for your greening initiative.

Text Box 19
Appeal to People’s Competitive Spirit

The Bontle ke Botho (BkB) competition to clean and green schools, towns and wards in Gauteng Province, South Africa, was part of the Greening the WSSD’s strategy to involve the public in environmental best practice. Schools, towns and wards were encouraged to design environmental management plans and begin implementing them. Schools and wards with high quality plans that had been successfully initiated and/or implemented were rewarded with prize money to implement their plans. Prizes were presented by the Premier of Gauteng at an awards ceremony prior to the WSSD.

Over 600 schools and 250 wards participated in the competition. The success of the initiative was largely due to extensive marketing and high levels of support from provincial departments, municipalities and non-governmental and community based organisations. Road shows to schools and wards helped to motivate people and provide marginalised groups with the tools to compete.

Green the Media
Be sure to make the media centre as green as possible, so that members of the media are impressed with the initiative from the start. Provide media with information on greening electronically. Offer recycling or disposal facilities for film developers, video and audio cassettes, and batteries. Let the media know how they can green their activities and encourage them to assist with public awareness and participant buy-in.
Education and Awareness Raising

Awareness raising means showing people that choices exist and equipping them with the knowledge to choose responsibly. People that do not know why greening is important or that green options exist are unlikely to take public transport or recycle. Educating event participants and local residents in environmental best practice will increase green behaviour at the event and leave an invaluable legacy to the host region.

Guidelines for Successful Education and Awareness

• Develop an awareness and education strategy with pre, during, and post event elements.
  - Prior to the event, inform staff and participants what is being done to green the event, why it is being done and how they can contribute to event greening. Throughout the event, remind participants what they can do to keep the event green and provide them with feedback on how they are doing.
  - After the event, communicate the successes and lessons learned from greening your event to staff, participants, the public and organisers of future events. Use the web and direct mail to make lessons learned accessible.
  - Integrate the greening awareness and education strategy into the awareness and education strategy for the entire event. Consistent messages will improve credibility and help to make greening a regular part of event organisation instead of a side project.

• Develop a sub-strategy for each target audience. Focus solely on staff and event participants or aim to reach the public and/or relevant government agencies, non-governmental organisations and businesses.
  - Define clear and simple greening messages for each target audience. For staff and participants, concentrate on how they can help green the event. Link this to greening their daily activities. Focus the public strategy more broadly on environmental best practice. Be practical about what they can do to green their lifestyles. Highlight behaviour that will strengthen greening legacy activities. Emphasise the cost savings of greening for all audiences.
  - Use media that will reach your target audience most effectively. Target staff through personal interaction, internal memos and notices in key locations, such as kitchens and toilets. Influence participants by placing greening messages and images in highly visible places, such as washrooms.

Text Box 20

Training Tips

Greening the WSSD designed a training workshop on environmental best practice that was used to train over 3000 WSSD volunteers, some of whom took greening plans back to their universities. It was also used to train WSSD service providers, including the South African Police Service, public transport officials and hotel staff. Training was extremely interactive and personal. Activities were designed to get people to think about sustainable development issues and form their own opinions, not just feed them information. Examples and activities related environmental best practice to people’s daily lives. Trainers were able to adapt the examples, activities and level of training to suit the target audience. After training sessions, trainees were asked for feedback, so that trainers could make the training more effective.
as registration packs, event schedules, venue or transport maps, airports, airline magazines, public transportation, taxis, shopping malls, hotel rooms, screensavers in meeting rooms and stadium televisions. Have a centrally located display on greening activities staffed by knowledgeable individuals. Radio, television, road shows, youth camps and competitions are excellent ways to reach the public, especially schoolchildren. Hold a competition and host an awards ceremony at the event to encourage participation (see Text Box 19 for an example of a green schools competition). Take a road show to hard to reach areas.

- An up to date website will give all target audiences access to information on the event and help minimise paper use. Integrate the greening website with the event website and link it to the websites of key sponsors and institutions involved in the event. Count the number of hits on the website to evaluate its effectiveness.

- Design a greening logo that can be used to identify green services and products at the event. Encourage people to wear logo pins to show their support for greening. Place the logo on highly visible event gifts, such as cloth bags and reusable coffee mugs. If greening has been fully integrated into event organisation, a separate logo may be unnecessary.

- Have high profile event participants or celebrities act as spokespeople for the greening initiative.

- Take advantage of free publicity by involving the media in greening. Provide the media with up to date briefs on greening activities and achievements. Make it easy for media to access information by keeping your website up to date. Have spokespeople readily available to talk to the media. Invite the media to milestone events in the planning of the event greening process. Include the media in event greening by telling them what they can do to green themselves. Partner with media to create special green editions of newspapers, magazines or television shows for the event.

- Use volunteers to act as hosts and to assist with general operations and logistics. Train all volunteers in environmental best practice so that they set an example for participants and can help participants to be green (see Text Box 20 for training tips). Volunteers will take their new knowledge back to their communities and help make them cleaner and greener.

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Text Box 21
Let People Know How They’re Doing

A Consumption Barometer at the WSSD measured waste generation, water and energy use, and carbon emissions related to the Summit and compared them to a baseline of business as usual. Recycling, use of green energy, and carbon offsets resulting from Greening the WSSD were factored into Summit figures to measure how effective the greening initiative was.

Barometers located in newspapers and at exhibition sites gave delegates an indication of the impact of their behaviour on a daily basis. The barometer was accompanied by informative messages, such as “Yesterday we recycled 70% of our waste.” The idea was complex, but the message was simple. The barometer kept people informed about how they were doing in their greening effort and motivated them to work harder.

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• Ensure that all awareness materials are produced in a manner that reflects environmental best practice (see Green Purchasing in section 2.4 for greening requirements for promotional material, p.46). This handbook, for example, is printed on locally sourced non-chlorine bleached recycled paper with high post consumer content, bound using biodegradable glue, and printed using vegetable-based ink.

Monitoring and Evaluation

Measuring effectiveness and impact through monitoring and evaluation allows you to improve greening activities during implementation; demonstrate the successes of your initiative and the value of environmental best practice and strengthen future greening initiatives. Monitoring and evaluation can be conducted by the greening team, but is most credible when carried out by an independent organisation.

Guidelines for Monitoring and Evaluation

• Define the objectives of your greening initiative. Objectives for a large-scale greening initiative may include minimising the environmental impact of the event on the host region, contributing to economic and social development in the host region, improving infrastructure or capacity to implement environmental best practice in the host region or raising awareness of environmental best practice in the host region. Objectives for a smaller-scale greening initiative may be as specific as waste minimisation, water conservation, energy efficiency, pollution reduction, biodiversity conservation and social and economic development (see Section 2.2 for the Greening the WSSD initiative’s objectives, p.14).

• Identify indicators of success for each objective. Indicators are criteria for measuring outcomes against expectations, such as percent of waste recycled over the event period or number of people reached through media coverage of the greening initiative from July to October 2002. Each objective may have several indicators (see Table 1 for an example of indicators).

  - Indicators should include measurable time frames and be accompanied by targets (e.g. 20% or 2 million). Targets may be based on international or local standards, previous events or business as usual (conditions without the event). If measures are being compared to business as usual, define a baseline by auditing key venues and industries prior to event greening.

Over 3 000 Summit volunteers were trained in environmental best practice.

Be specific about what event participants can do to be green.
- Measuring the legacy of the greening initiative will require data collection long after the event is over. A time lapse of at least twelve months between the event and legacy measurements is preferred.

- Define a strategy for collecting and analysing data. Include venue managers and other stakeholders to ensure access to data. Surveys are useful tools for measuring less quantitative activities, such as awareness raising.

- Measurements can be taken once the greening initiative is over to determine its impact, or regularly to track progress. Periodic measurements enable you to assess effectiveness and improve the results of service provision and greening activities.

- Have monitoring and evaluation team members responsible for collecting data. Do not rely on venue managers for timely reporting of data.

- Communicate results throughout the event (see Text Box 21 for one method of communicating results).

- Assess reasons for successes or failures.

- Communicate lessons learned as broadly as possible, so that future event organisers can benefit from your experience.

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**Table 1**

**Sample Monitoring and Evaluation Table**

<table>
<thead>
<tr>
<th>Objective</th>
<th>Indicators</th>
<th>Target</th>
<th>Result</th>
<th>Assessment of Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimise waste</td>
<td>% less waste (in volume) generated than at previous year’s event</td>
<td>20%</td>
<td>20%</td>
<td>Successful due to green procurement process.</td>
</tr>
<tr>
<td></td>
<td>% more waste (in volume) recycled than at previous year’s event</td>
<td>50%</td>
<td>60%</td>
<td>Very successful due to clear signage and awareness activities.</td>
</tr>
<tr>
<td>Minimise pollution</td>
<td>% of the event-related carbon emissions offset within 5 years of the event</td>
<td>90%</td>
<td>65%</td>
<td>Moderately successful. Challenges: late start to the project and lack of political buy in.</td>
</tr>
<tr>
<td>Improve Awareness about</td>
<td>% more event staff, volunteers and service providers trained in environmental best practice than at previous years event</td>
<td>40%</td>
<td>30%</td>
<td>Moderately successful. Challenges: getting service providers to train their staff.</td>
</tr>
</tbody>
</table>
Section III: Conclusion

This handbook provides you with guidelines on greening your event. It defines a set of principles and practices that underpin greening, whether for events, industries or your household. Activities for event greening can be defined by applying the greening principles and practices to each area of event planning and staging. Greening activities will vary depending on the technological resources and environmental infrastructure as well as awareness levels in the host region. They will also differ according to the financial resources available for event greening; and the size and type of event.

It is up to you to choose the best possible environmental practice for your event and context. To maximise the greening potential of your event, seek to build on the resources and practices that already exist. Partnering with established initiatives and institutions will assist with this and greatly strengthen the positive long-term impact of your greening effort. Integrating awareness raising into each greening activity will also contribute to leaving a positive environmental best practice legacy, as will communicating your lessons learned. When defining your greening initiative, think long-term. Aim to leave a legacy of the best possible environmental practice.
### Annex A: Greening Checklist

This quick reference greening checklist will help you plan and evaluate your greening initiative. It outlines basic greening activities to complete for each area of event planning and staging; and allows you to rate your success in achieving results. Adapt the checklist to suite your event and the context in which it is being held and refer to it throughout the greening process.

#### Management for Event Greening
- High-level support obtained.
- Greening policy adopted.
- External environmental and social costs of the event identified.
- Greening action plan defined and integrated into the event planning and staging plan.
- Plan communicated to event staff and the public.
- Funds allocated to greening.
- Strategic partnerships for greening activities created.

#### Host Location
- Location with high greening potential selected.

#### Event Operations and Office Practices
- Offices located in building with green design and/or practices.
- Green procurement implemented.
- Staff trained in and implementing environmental best practice.

#### Green Purchasing
- Demand for products minimised.
- Environmental specifications inserted into key tenders and used as judging criteria.
- Environmental requirements included in contracts.
- Implementation of environmental requirements verified.

#### Registration and Accreditation
- Electronic registration and communication used.
- Reusable and recyclable accreditation badges sourced.

#### Event Venues
- Working relationship built with venue managers.
- Audit conducted of existing venues.
- Venues selected based on high potential for greening.
- Green procurement implemented for venue construction and operations.
- Culturally or environmentally sensitive or protected areas avoided as venue sites.
- Need for environmental impact assessments identified and assessments conducted.
- Venues built and/or operated using environmental best practice:
  - Waste management strategies focusing on waste minimisation implemented;
  - Energy efficient technologies and behaviour in place;
  - Venues powered by renewable, clean energy sources;
  - Water saving technologies and behaviour in place;
  - Pollution minimising technologies and behaviour in place.
- Wildlife conservation strategies implemented on grounds.
- Regular monitoring and maintenance of the venues implemented.
- Local staff and small, medium, and micro-enterprises employed.
- Venue staff trained in and implementing environmental best practices.

#### Waste Management – Overall Venue
- Waste assessment of overall venue and region conducted.
- Uniform waste management and minimisation strategy defined for entire site.
- Multi-bin system clearly marked for recycling.
- Awareness raised about waste management and recycling in particular.
- Jobs created and small, medium, and micro-enterprises employed.
- Waste bins monitored regularly and waste to landfill compared to recycled waste.

**Exhibition**
- Green procurement practices implemented.
- Packaging used during shipment of exhibitions minimised.
- Waste minimised by reusing and recycling exhibitions and promotional material.
- Light and noise pollution minimised.

**Transportation**
- Travel distances minimised.
- Public transport used or mass transport system designed and promoted.
- Incentives for using mass transport provided.
- Alternative fuels and technologies used to minimise energy consumption and pollution.
- Waste minimised at transport hubs.
- Water minimised during vehicle cleaning.
- Vehicles maintained regularly.
- Transport staff trained in environmentally responsible behaviour.

**Accommodation and Tourism**
- Accommodation selected based on environmental criteria.
- Incentives for greening the hospitality industry created.
- Green procurement and improved waste management, water and energy efficiency, pollution minimisation, and social and economic development measures implemented in the hospitality industry.
- Staff trained in and implementing environmental best practice.
- Responsible tourism promoted to delegates.

**Food and Beverage**
- Green procurement strategies implemented.
- Composting and recycling maximised and packaging minimised.
- Water saving, energy efficient and pollution reducing technologies and behaviours used.
- Food served in bulk, using reusable flatware and cutlery.
- Staff trained in and implementing environmental best practice.
- Local, organic produce used.
- Small, medium, and micro-enterprises employed.
- Health standards met.

**Awareness and Education**
- Awareness strategy defined for staff, participants, and the public.
- Awareness strategy integrated into the overall event awareness strategy.
- Promotional materials reflect environmental best practice and green procurement.
- Website constantly updated.
- Media given easy access to information and people for interviews.

**Monitoring and Evaluation**
- Baseline, objectives indicators and targets defined.
- Measures of success defined.
- Data collected and analysed.
- Results and lessons learned communicated widely.

**Legacy Activities**
- Carbon footprint for the event offset.
- Greening activities integrated into existing governmental, non-governmental, or private sector initiatives and institutions to ensure they have a lasting impact.
Annex B: Useful References

Greening: An Introduction
Books & Publications


Internet Resources


Waste Minimisation and Management
Books & Publications

Internet Resources


Water Efficiency and Conservation

Internet Resources

   http://www.csir.co.za/akani/2002/nov/06.html

2. Greater Hermanus Water Conservation Programme – Water saving strategies that can be implemented by post-event “inheritors”, especially local authorities and other bulk suppliers.
   http://www.hermanus.co.za/info/water.htm


4. UNESCO – The “Water Portal” lists links to UN agencies and other organisations involved in water management and conservation.

5. United States EPA – Practical approaches to water use efficiency.
   http://www.epa.gov/owm/water-efficiency/, water accounting and loss control
   http://www.mrsc.org/Subjects/Environment/water/wc-leak.aspx, and water conservation in schools
   http://www.epa.gov/region01/eco/drinkwater/water_conservation_schools.html


Energy Efficiency and Conservation

Books & Publications


Internet Resources

2. Energy Star – Advice and links on developing and implementing energy management strategies for schools, hospitals, and stores.
   http://208.254.22.6/index.cfm?c=business.bus_index

   http://www.sustainable.doe.gov/freshstart/articles/ptipub.htm

   http://cfpub.epa.gov/schools/top_sub.cfm?t_id=23

Pollution Reduction

Books & Publications


Internet Resources

2. Clean Air Champions – partnerships to reduce pollution. www.cleanairchampions.ca/partners

3. EBEX 21 – tips on controlling and offsetting greenhouse gas emissions.

4. New York State Department of Environmental Conservation – Pollution prevention sites.
   http://www.dec.state.ny.us/website/ppu/p2links.html
Biodiversity Conservation

Books & Publications

Internet Resources

Sustainable Social and Economic Development

Books & Publications

Event Operations and Office Practices

Books & Publications

Internet Resources
4. IIEC/ CERF – African guide to energy conservation in low cost housing and sustainable transport. http://www.cerf.org/iiec/offices/af-project.htm#8
5. ISO-14001 Implementation Toolkit. www.iso14001tools.com
8. Sustainable Development International Corp. – Social and environmental development in the business environment. Incorporates construction and design as well as transportation. http://www.smartoffice.com/links.htm#recy
Green Purchasing

Books & Publications


Internet Resources


Event Venues (Selection, Design, and Construction)

Books & Publications


Internet Resources

4. Google - The Green Directory has links to sustainable living categories ranging from home-made power to sustainable architecture, intentional communities and household wastewater management. It is at http://directory.google.com/Top/Science/Environment/Sustainability/Sustainable_Living/
5. Oceans Blue Foundation – How meeting venues can be greened and benefit from greening. http://www.bluegreenmeetings.org/Supplier/MeetingVenues.cfm

Exhibitions

Internet Resources

Transportation

Internet Resources

   www1.oecd.org/cem/topics/council/cmpdf/2000/CM0012Fe.pdf or
   http://www.vcacarfueldata.org.uk/e_emissions.htm


3. UK Department for Transport – Introduction to transport cost savings through travel plans and useful links to other transport and sustainable energy sites. http://www.local-transport.dft.gov.uk/travelplans/


Accommodation and Tourism

Internet Resources


Food and Beverage

Internet Resources


Education and Awareness

Internet Resources


Monitoring and Evaluation

Books & Publications


Internet Resources


Environmental Standards

Books & Publications


Internet Resources

Annex C: Glossary of Terms

Aerosol Products – Products using specialised propellants to spray and disperse substances.

Bagasse – Fibrous remnants of sugar cane after the juice has been squeezed out.

Biodiesel – Clean burning fuel derived from animal fats and vegetable oils. It can be used alone or combined with conventional diesel.

Biodiversity – Biological diversity is the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems. It includes diversity within species (genetic diversity), among species, and within and among ecosystems.

Bioregulators – Elements that influence biological processes in an organism.

Bowser – A tanker for supplying water.

Carbon Trading – A system in which organisations or governments are given quotas for carbon emissions. Quotas consist of a number of carbon credits which can be sold, bought, or used.

Carcinogen – Cancer causing substance.

Cornstarch ‘Plastic’ – A biodegradable plastic-like substance made from renewable corn resources.

De-inked – Ink has been removed from paper during paper recycling. Ink removal is generally chemically intensive.

Environmental Best Practice – Activities and actions that minimise negative environmental impacts as much as possible.

EIAs – Environmental Impact Assessments are studies of the effects of proposed actions on the environment.

Exotic Species – Any species that is not native to an ecosystem.

Fossil Fuels – Nonrenewable, incompletely oxidised and decayed organic material that can be burned or consumed to produce heat, e.g. oil, natural gas and coal.

Greenhouse Gases – Atmospheric gases that have heat-trapping properties. They may be naturally occurring or emitted as a result of human activity. Greenhouse gases included carbon dioxide, methane, nitrous oxide, water vapour, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

Greywater –Any water that has already been used and has the potential for reuse without treatment. This includes most water used in households and industries, excluding toilet water and industrial waste.

Indigenous Plants – Plants that are native to or that have evolved in a particular region.

Integrated Pest Management – Long-term, environmentally responsible prevention of pests through a combination of techniques, such as plant selection, habitat manipulation, biological control and behavioural change.

Invasive Species – Any species that did not evolve in the region in which it is growing.

JOWSCO – The Johannesburg World Summit Company, set up by the South African government to lead the operations and logistics for the 2002 World Summit on Sustainable Development in Johannesburg.

Methane Farm – Anaerobic digesters convert manure into methane which can generate electricity.

Mutagen – A substance causing an increase in the rate of change in genes, which may lead to defects.
Organic Products – Products produced according to the principle of sustainability and without the use of chemicals (pesticides, fertilizers, growth hormones, antibiotics) that may be harmful to human health or the environment.

Organic Solvents – Volatile organic substances used for dissolving, dispersing, adjusting viscosity and cleaning.

Organochlorines – Chlorine combined with organic (carbon containing) substances.

Particulates – Tiny particles occurring in the air. They may be caused by natural processes or human activity, such as burning fossil fuels.

Persistent Organic Pollutants (POPs) – Chemical substances that remain in the environment for long periods and can accumulate to potentially hazardous levels.

Phosphorous – Natural element high in nutrients and essential for life. It stimulates plant growth and, in excess quantities, causes eutrophication; thereby decreasing water quality.

Procurement – Acquisition of goods and/or services.

Product Lifecycle – All stages of development from growth and harvesting of inputs to manufacturing, use, disposal and decomposition.

Refrigerants – Cooling agents.

Responsible Tourism – Tourism based on sound environmental, social and economic principles. It seeks to minimise the environmental impact of tourism, benefit local communities and promote poverty alleviation and economic development in the host region.

Solar Power – Power harnessed from the sun’s energy and light through the use of photovoltaic solar cells or careful design and selection of materials.

Sustainable Development – Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Thermal Power – Power harnessed from the heat of the earth.

Triple Bottom Line Reporting – Where sustainability reporting measures a company’s performance according to environmental, social and economic practices and achievements.

Volatile Organic Compounds – Organic (carbon containing) substances that evaporate easily at room temperature.

Waste Separation at Source – Division of waste types (paper, plastic, metal, glass, organic) prior to waste collection and disposal. It is facilitated by the availability of waste bins for different waste types.

Waste Reclamation – Identification and use of waste after it has been collected, but prior to final disposal.

Water Audit – An assessment of the efficiency of a water system.

Wind Power – Power harnessed from the wind through the use of wind turbines.

WSSD (The World Summit on Sustainable Development) – The United Nations summit that brought together tens of thousands of leaders from government, civil society and business to assess sustainable development since the 1992 United Nations Conference on Environment and Development and define a plan of action for addressing social, economic and environmental issues in a more sustainable manner in the future. It was held in Johannesburg, South Africa, from August 26 to September 4, 2002.
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The Gauteng Department of Agriculture, Conservation, Environment and Land Affairs (DACEL)
The Gauteng Department of Agriculture, Conservation, Environment and Land Affairs is the government department charged with promoting and implementing sustainable development, conservation and environmental and natural resource management in Gauteng Province, South Africa. The Department’s mission is “working together to enhance the quality of life,” which it achieves through the activities of its Conservation, Environment, Agriculture, Veterinary Services, Cradle of Humankind World Heritage Site and Dinokeng components. http://www.dacel.gpg.gov.za

The Global Environment Facility (GEF)
The Global Environment Facility forges international cooperation and finances actions to address six critical threats to the global environment: biodiversity loss, climate change, degradation of international waters, ozone depletion, land degradation, and persistent organic pollutants (POPs). The GEF has allocated $4 billion in grants and leveraged an additional $12 billion in co-financing from other sources to support more than 1,000 projects in over 140 developing nations and countries with economies in transition. In August 2002, 32 donor nations pledged nearly $3 billion to fund the work of the GEF for the next four years. GEF brings together 173 member governments, working in partnership with the private sector, NGOs, and international institutions to address complex environmental issues while supporting national sustainable development initiatives. http://www.gefweb.org

The United Nations Development Programme (UNDP)
As the UN’s development agency, UNDP has a special mandate from the UN General Assembly and global conventions to further the UN’s agenda for sustainable development. At the UN Millennium Summit, held in New York in 2000, world leaders pledged to cut poverty in half by 2015. UNDP is charged with helping to achieve this and other key development goals, in the areas of environmental management and sustainable energy, democratic governance, crisis prevention and recovery, information and communications technology and HIV/AIDS. UNDP provides policy support, and supports pilot projects, demonstrating good policy practice and innovative approaches to sustainable development. With 135 offices covering 185 countries world wide, UNDP has established wide-reaching partnerships with governments, development agencies, academic institutions, the private sector, civil society and key non-government organisations. UNDP facilitates information flow and networking in order to substantively link global, national and local development objectives, strategies and activities, and plays a major role in developing national capacities for sustainable development. http://www.undp.org

The World Conservation Union (IUCN)
Founded in 1948, The World Conservation Union brings together States, government agencies and a range of nongovernmental organisations in a unique world partnership: over 980 members in all, spread across some 140 countries. IUCN provides a meeting ground or forum for a wide range of conservation interests. Through IUCN, practical knowledge, ideas, ethics and values are converted into responsible policies, programmes and actions. In pursuit of this mission, the Union attempts to integrate nature conservation with people’s needs. IUCN operations are becoming increasingly decentralised and are carried forward by an expanding network of global and regional country offices, located principally in developing countries where the focus is on pursuing practical solutions to both conservation and development challenges. http://www.iucn.org

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