environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

NATIONAL
GREENING

NATIONAL GREENING FRAMEWORK
FOR EVENTS MANAGEMENT AND THE BUILT ENVIRONMENT

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Our sincere gratitude to all our partners who have contributed and supported our efforts in the compilation of the National Greening Framework.

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Acronyms

BNG	Breaking New Ground
BRT	Bus Rapid Transit
BUSA	Business Unity South Africa
CFLs	Compact Fluorescent Lamps
CNG	Compressed Natural Gas
CSIR	Centre for Scientific and Industrial Research
COGTA	Co-Operative Governance and Traditional Affairs
DAFF	Department of Agriculture, Forestry and Fisheries
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
DFA	Development Facilitation Act
DOE	Department of Energy
DSM	Demand Site Management
DTI	Department of Trade and Industry
DWA	Department of Water Affairs
EEDSM	Energy Efficiency Demand-side Management
EIA	Environmental Impact Assessment
EGF	Event Greening Forum
EPR	Extended Producer Responsibility
EPWP	Expanded Public Works Programme
FEDHASA	Federation Hospitality Association of South Africa
FSC	Forestry Stewardship Council
FTTSA	Fair Trade in Tourism South Africa
GBCSA	Green Building Council of South Africa
GEC	Green Energy Certificate
GGND	Global Green New Deal
GHG	Green House Gases
HDI	Historically Disadvantaged Individuals
HOVs	High Occupancy Vehicles
HVAC	Heat Ventilation and Air Conditioning
IAAF	International Athletics Association Federation
IDP	Integrated Development Plans
IMF	International Monitory Fund
Kl	Kilolitre
LED	Light Emitting Diodes
LED	Local Economic Development
LGTS	Local Government Turnaround Strategy
LTMS	Long Term Mitigation Scenarios
MDGs	Millennium Development Goals
MRF	Material Recovery Framework
MSC	Marine Stewardship Council
MTSF	the Medium Term Strategic Framework
NBF	National Biodiversity Framework
NBSAP	National Biodiversity Strategy and Action Plan
NEEA	National Energy Efficiency Agency
NEMA	National Environment Management Act
NERSA	National Energy Regulator of South Africa
NFSD	National Framework for Sustainable Development
NGF	National Greening Framework
NMSRT	National Minimum Standard for Responsible Tourism
NMT	None Motorised Transport
NPC	National Planning Commission
NSASD	National Strategy and Action Plan for Sustainable Development
NWA	National Water Act
NWMS	National Waste Management Strategy
PLTF	Provincial Land Transport Framework
REC	Renewable Energy Certificate
REFIT	Renewable Energy Feed in Tariff
SABS	South African Bureau of Standards
SANAS	South African National Accreditation System
SANBI	South African National Botanical Institute
SANERI	South African National Energy Research Institute
SANS	South African National Standard
SARS	South African Revenue Services
SASSI	South African Sustainable Seafood Initiative
SMMEs	Small, Macro and Medium Enterprises
Stats SA	Statistics South Africa
TGCSA	Tourism Grading Council of South Africa
UAW	Unaccounted for Water
UN	United Nations
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
WESSA	Wildlife and Environment Society of South Africa
WHO	World Health Organisation
WSSD	World Summit on Sustainable Development
WTO	World Tourism Organisation

Glossary

Air quality management: The minimisation of pollution and improvement of air quality through vigorous control, cleaner technologies and cleaner production practices.

Biodegradable Waste: A type of waste, typically originating from plant or animal sources, which may be degraded by other living organisms.

Biodiversity: The variability among living organisms on the earth, including the variability within and between species and within and between ecosystems.

Built Environment: It refers to all human-made structures and infrastructure that provide the setting for human activity and ranges in scale from personal shelter and buildings to neighbourhoods and cities. In practice, it usually describes a multi-disciplinary practice incorporating the design, construction, management and use of human-made surroundings as an inter-related whole as well as their relationship to human activities over time.

Carbon footprint: The term "carbon footprint" refers to the amount of carbon dioxide equivalent (C02eq) or greenhouse gases we emit individually in any one-year period.
C02eq is produced from many sources and is one of the reasons for global warming and the resulting devastating changes in our climate.

Carbon offsetting: Interventions to offset the carbon footprint of events once their carbon footprint has been calculated. Interventions that aim to reduce the carbon footprint are known as mitigation.

Centralised renewable energy: Renewable energy generation which is connected to the high-voltage transmission system (typically greater than 66 kV).

Clean Fuels: The use of electric, solar, hydrogen, LPG or hybrid (combined fuel sources such as diesel-electric) powered vehicles or machinery that uses an alternative fuel source.

Climate Change: Any change in global weather patterns, such as temperatures and precipitation, over time due to natural variability or human activity. Anthropogenic climate change specifically refers to the impact of human activities on climate change.

Demand Side Management: refers to what an electricity utility would do to manage demand on the electricity grid. In South Africa, the biggest demand would be from industrial sources and municipalities. Here, Eskom's DSM projects are designed to do load shifting in order to reduce the demand during peak periods.

Distributed (or embedded) renewable energy: Renewable energy generation which is connected to a piped distribution system for gas (or hot water) or to an electricity distribution systems (typically in a local authority at <66 kV)

Eco Tourism: The responsible travel to fragile, pristine, and usually protected areas that strive to be low impact and (often) small scale (as an alternative to mass tourism). Its purpose is to educate the traveller; provide funds for ecological conservation and ensuring the lowest carbon footprint is achieved.

Ecosystem: A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit. Emissions: Pollution discharged into the atmosphere from smokestacks, other vents, and surface areas of commercial or industrial facilities; from residential dwellings; and from motor vehicle, locomotive, or aircraft exhausts.

Energy Development: A field concerned with providing abundant and accessible energy to all humans. It is the progressive development of knowledge, skills and institutions for capturing ever more copious and diverse primary energy sources and converting them to ever more convenient secondary energy forms, such as electrical energy and cleaner fuels.

Energy Efficiency: Using less energy to provide the same level of energy service, or using the same amount of energy to provide an improved energy service and this would be applicable to industrial, commercial and residential energy consumers.

Environmental best practices: An undertaking to take all appropriate measures to control and minimize land and sea based pollution, as well as the substantive reduction of the load of pollutants most harmful to the ecosystem.

Event Greening: The concept and process of incorporating socially and environmentally responsible decision making into the planning and hosting of events.

Extended Producer Responsibility: The concept of duty of care, whereby the producer takes responsibility for a product or a component of a product at a post consumer stage.

Green economy: A green economy can be defined as a system of economic activities related to the production, distribution and consumption of goods and services that result in improved human well-being over the long term, while not exposing future generations to significant environmental risks or ecological scarcities. A green economy implies the decoupling of resource use and environmental impacts from economic growth.

Green Energy: Renewable energy that is produced from wind, solar, water (hydro, wave, and tide), geothermal sources and biomass, while it excludes electricity generated from nuclear power, landfill waste and non-renewable sources such as coal.

Greenhouse gases: A gas, such as carbon dioxide or methane, which contributes to potential climate change.

Human Settlement: Cities, towns, villages, and other concentrations of human populations which inhabit a given segment or area of the environment. Human settlements are associated with numerous and complex environmental, pollution, and living condition problems for planning and management.

Natural Habitat: A place where an organism or a community of organisms lives, including all living and non-living factors or conditions of the surrounding environment.

Non-Motorized Transport: Walking and cycling are the most familiar forms of non-motorized transportation (NMT). Other common form of NMT include tricycles; human porterage; hand-carts / wheelbarrows; animal drawn carts; and other human powered vehicles.

Pollution: The act or process of polluting or the state of being polluted, especially the contamination of soil, water, or the atmosphere by the discharge of harmful substances.

Recycling: The collection of used materials that would otherwise be waste that are either re-used recycled or used for energy recovery.

Renewable Energy: Energy generated from natural non-depleting resources including solar energy, wind energy, biomass energy, biological waste energy, hydro energy, geothermal energy and ocean and tidal energy (from National Energy Act, No.34, 2008). Renewable energy is derived from an energy resource that is replaced by a natural process at a rate that is equal to or faster than the rate at which the resource is being consumed.

Renewable Energy Certificates: The concept of purchasing renewable energy through a certification process, where the amount of energy needed / used is equivalent to an amount of renewable energy generated and placed onto the grid. The certificate will be valid for a specific venue over a specific time based on the amount of energy required.

Responsible Tourism: Tourism that promotes responsibility to the environment through its sustainable use; responsibility to involve local communities in the tourism industry; responsibility for the safety and security of visitors and responsible government, employees, employers, unions and local communities.

Re-use: Reuse is collecting recyclable waste such as food and drink containers to be cleaned, refilled and resold.

Standalone on-site energy services: energy services provided by converting primary renewable energy directly and supplying an energy service without reliance on a national energy transmission or distribution system, such as the national electricity grid or pipelines.

Sustainability: The acknowledgement that human wellbeing is dependent on healthy ecosystems and natural resources, and that there is indeed a limit to the goods and services that they can supply. It is the goal to conserve the resources we have for future use.

Sustainable Development: The integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations.

Sustainable Energy: The provision of energy that meets the needs of present consumers without compromising the ability of future generations to meet their energy needs.

Sustainable Infrastructure: Ensuring that all forms of infrastructure are treated as valuable resources with a finite carrying capacity that should not be surpassed.

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

Sustainable Transport: The reduction in carbon emissions in transport by promoting non-motorised transport (primarily walking and cycling); to make vehicular and air transport as energy (fuel) efficient and as low in carbon emissions as possible.

Sustainable Water: The provision of an adequate supply of water to each water user without having a detrimental effect on any of the other water users both now and in the future.

Urbanisation: The physical growth of urban areas as a result of global change. Urbanization is closely linked to modernization, industrialization, and the sociological process of rationalization.

Urban Greening: Urban greening refers to an integrated approach to the planting, care and management of all vegetation in cities, towns, townships, informal settlements and peri-urban areas.

Waste Management: Waste management concerns the effective management of waste through the application of the waste management hierarchy, which promotes waste minimisation as the preferred management option and the safe disposal of the least amount of waste possible as a last resort.

Waste Minimization: Measures or techniques that reduce the amount of wastes generated during industrial production processes as well as the amount of post-consumer waste generated.

Water conservation: The protection, development, and efficient management of water resources for the benefit of people, animals and ecosystems. Ensuring that wastage is minimized.

Foreword

A foreword from Nosipho Ngcaba, Director-General of the Department of Environmental Affairs

Our journey toward a sustainable development path commenced in earnest in 2002 when South Africa hosted the World Summit on Sustainable Development (WSSD). We ensured that we took the appropriate steps to minimise the footprint of the event that saw thousands of people coming to Johannesburg for this illustrious occasion.

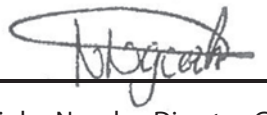
We internalised the lessons from the WSSD and as we prepared to host the 2010 FIFA World Cup™ . We honed in on our ability to apply greening principles and practices based on experiences stemming from WSSD 2002. Two main realisations from the organisation of this international event have led to the development of this framework, referred to as the National Greening Framework for Events Management and the Built Environment.

The first realisation was the integral linkages between event greening and the greening of the built environment. One cannot have one without the other and the greener the built environment, the greener an event. By way of example, the availability of an effective public transportation system helps to reduce the carbon footprint of an event.

The second realisation was the considerable scope for every event to have a smaller ecological footprint and to leave a positive legacy. Greening does not and should not be the preserve of major international events only; it should become a fundamental part of the way every single event is planned and executed. Furthermore, event greening has the power to leave enduring positive environmental and social change and we want this power to materialise.

The National Framework for Greening of Events and the Built Environment has consolidated a set of perspectives on how to achieve greener results for both events management and the built environment across an array of sectors. This perspective includes an appreciation of the policy and legal environment that lends itself to the greening of events and the built environment. It presents objectives in relation to each sector that affects these greening efforts and some practical suggestions on how to achieve these objectives. It also contains a set of appendices that provide guidelines for the greening of events and the built environment.

We view this document as the synthesis of a great body of knowledge especially as both events and the built environment straddle various sectors. We trust that it will be a useful resource and a source of inspiration for communities of professionals that are seeking to enhance the environmental and social outcomes of their activities. However, we also understand that this body of knowledge is not static and we therefore undertake to remain abreast with the developments in policy and legislation and the evolution of greening practice, thereby maintaining the relevance and applicability of its contents. We trust that you will find this document useful in its application.



Ms Nosipho Ngcaba, Director-General of the Department of Environmental Affairs

1. Executive Summary

The purpose of the National Greening Framework for Event Greening and the Built Environment is to promote the application of sustainable development principles and practices to the built environment and events management.

The synergies between the two areas are in relation to the design and construction of infrastructure, the impact of such infrastructure and the supply of essential services (electricity, water, waste management). There are many opportunities for enhanced greening of events and the built environment but these are not being adequately or consistently realised either due to low levels of awareness or lack of prioritisation among various role-players. There are also ways of stepping up the greening of events and the built environment and one important mechanism is through procurement, which is also a focus of the National Greening Framework.

The National Greening Framework compliments the broader economic process to green the economy, which is the economic transition towards a low carbon, resource efficient economy in which growth to satisfy the country's development needs does not happen at the expense of the environment or the wellbeing of the broader population. It also supports the drive towards a coherent response to climate change as there is a correlation between climate change mitigation; greening of events and the built environment.

Effective planning systems are fundamental for achieving sustainability in the built environment and require sound spatial planning that factor in biodiversity considerations. This invariably should guide integrated planning as well as land use planning. Sustainability considerations also need to be factored into individual projects and a guideline for this has been included in Appendix A. Risks to effective planning are posed through the plethora of legislation influencing planning, prompting the recommendation for the rationalisation of planning legislation. A key roleplayer is the local government sphere of government, as it is at the grassroots level at which development takes place.

Municipal planning systems influence the location of event venues, what the impact will be on local biodiversity and communities (i.e., determined through an Environmental Impact Assessment process), and access to green public transport including non-motorised transportation. A major opportunity for the greening of events is through the permit applications to municipalities to host events, as municipalities may stipulate greening conditions as part of the permit approval.

In line with planning systems ,the design of built environment is equally significant , which when sustainably designed, is characterised by urban greening, biodiversity conservation and enhancement, effective waste management services with greater levels recycling, and green public transportation including the prevalence of non-motorised transportation infrastructure. This is an area that encourages the aesthetic appeal of urban environments through landscape architecture and urban beautification projects. The environmental benefits of urban greening in terms of carbon sequestration cannot be overlooked.

Similarly the green design of infrastructure has its advantages. The design and construction of buildings, including venues, influences how much energy is used and sources of energy if energy is produced on-site; how much water is consumed and sources of water (rainwater harvesting, grey water recycling); the building materials used with a preference for recycled building materials where practical; the protection and enhancement of biodiversity; and provision of waste recycling infrastructure. The location of venues is preferably in relation to tourism infrastructure and public transportation, with safe access to non-motorised transportation for shorter journeys.

One of the most important opportunities for greening of the built environment (and events) is the planning and implementation of non-motorised transportation plans. The primary driver in such an instance is not purely on environmental concerns, although the impact on local air quality is indisputable, but also the recognition that as an overwhelming pedestrian population, the need for safe modes of non-motorised transport should be a fundamental right. These plans must be part of municipal integrated transport plans and part of the broader public transport networks which each municipality is required to develop. National and provincial government have an obligation to ensure that municipalities have the capacity to draft and implement their integrated transport plans.

In complementing supporting green infrastructure, urban greening, which is a facet of biodiversity conservation and enhancement, has multiple attributes that point to its role in the greening of the built environment. Apart from its role in climate change mitigation, it contributes to the aesthetic appeal of often unattractive areas with application to every facet of the built environment. It should contribute to biodiversity conservation and enhancement provided that endemic species are used. It assists in the creation of attractive public space as a compliment to urban densification, which has numerous psycho-social benefits. It offers a source of food security where fruit trees and vegetable gardens are planted. Urban greening in this form is supported by the provision of rain tanks to enable rainwater harvesting and household composting schemes.

In addressing sustainable resource use, including water and energy consumption, management of waste, and air quality is equally vital for both green events and the built environment. Both water and energy consumption are influenced by building design at a micro level and the maintenance of infrastructure at a macro level.

Energy consumption in being a key factor, is not limited to buildings only. It is also influenced by transportation. Improvements in relation to transport-related energy use require the more consistent implementation of non-motorised transportation infrastruc-

ture, the greening of public transportation as well as private transportation. Efforts to provide comprehensive public transport service, which is a long term measure, is complimented by the drive to ensure that new vehicles are energy efficient.

In addition, the improved use of water is also greatly influenced by design with options to use grey water recycling systems and rainwater harvesting systems as well as the development of water-wise gardens at the micro level. At the macro level, the challenge is to invest in distribution systems and minimise unnecessary losses through the distribution networks. This will be partly achieved through the enforcement of the regulation to prohibit the use of sub-standard plumbing products. It is also anticipated that water use targets will be set to promote water demand management as has been the case for energy.

With regard to waste management which is not typically regarded as a form of resource use, there is undoubtedly a growing recognition that effective waste management relies on the collective understanding that waste is a valuable resource that can be used again, produce new products or energy. With this understanding and accompanying investment comes the development of new industries and jobs. The value of waste is recognised through the provision of recycling infrastructure for the collection and processing of waste. In the built environment, different types of infrastructure are required to accommodate the different waste streams being produced. An important intervention is the introduction of separation at-source at household level and the necessary collection systems to support the process.

With the reduction and/or avoidance of burning of domestic waste by households which takes place in the absence of adequate refuse collection, air quality is also improved upon. One of the significant outcomes of greening the built environment is the improvement in air quality since industrialised urban environments typically have poor levels of air quality. Air quality is influenced by the energy requirements of buildings, yielding the promotion of, energy efficiency and renewable energy for both the residential and non-residential sectors urban greening and biodiversity conservation, and green public transportation and in particular, non-motorised transportation.

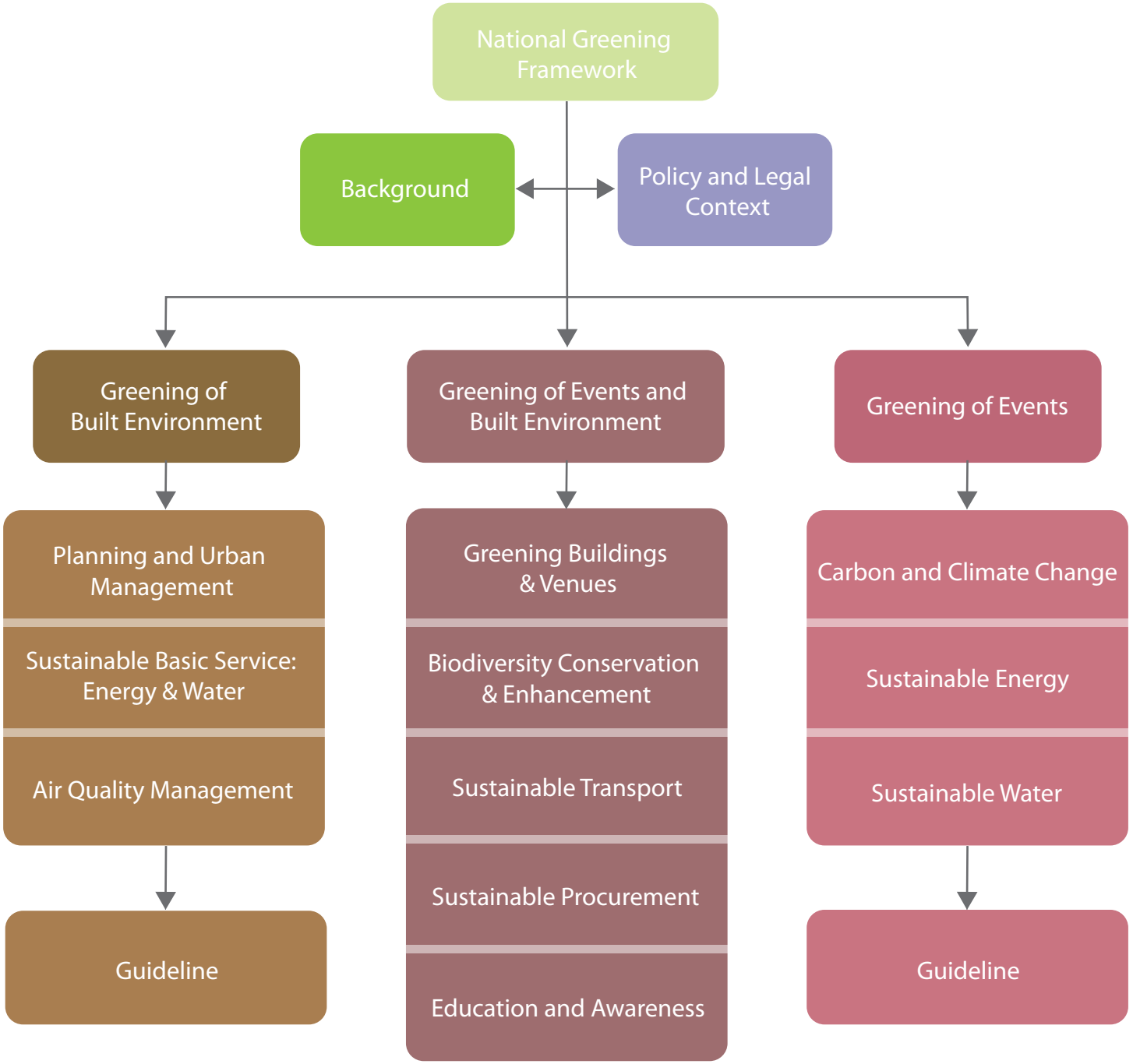
In the residential sector and of particular concern, is the inhalation of harmful gases that can be mitigated through simple interventions such as the Department of Energy's Basa Njengo Magogo campaign. In the commercial and public sector, building design, in combination with, well maintained HVAC systems and education, will assist in managing indoor air quality.

Whilst green infrastructure development and efficient use of resources is key to sustainable development, sustainable procurement ensures that whilst hosting an event, products used and services engaged ascribe to sustainable development principles which is supported through the establishment of standards, accreditation and certification systems. Sustainable procurement also enables the choice of products that produce minimal waste in product packaging and that which can be recycled.

The role of sustainable procurement emerges strongly in the discussion of event greening as one of three major areas that impact upon event greening. Green procurement is an essential factor in the promotion of sustainable production and consumption patterns. Through the establishment of standards, accreditation and certification systems, both the public and private sectors are able to request suppliers to supply credible certified products. Current opportunities for green procurement include appliances, paper, catering, fleets, and accommodation. Strides have been made to incorporate sustainable development principles in the preferential procurement policy through the drafting of regulations that, once gazetted, will promote the support of local manufacturers and suppliers, which contributes to local economic development.

Another significant area is the impact that the Tourism Industry could have on achieving green objectives set, when hosting an event as well as its impact from the built environment perspective. A responsible tourism industry is a necessary accompaniment to the events industry. The events industry's greening profile is implicitly enhanced when the accommodation facilities that host its participants ascribe to and practice sustainable development principles. The publication of the National Minimum Standards for Responsible Tourism by the SABS enables the uniform accreditation of existing and new green rating systems and the nationally recognisable certification of green tourism establishments.

Finally, the role of education and awareness is key to achieving greening objectives. The better educated and the more aware citizens are about the environment and the consequences of unsustainable consumption and production, the more likely they are to support sustainable development initiatives. The role of education and awareness in invoking behaviour change as an important component of a shift to a low carbon, resource efficient economy is vital. Communication strategies for awareness-raising must be designed with the target audience/s in mind and careful alignment between these and the messages and methods of disseminating these messages is required. Education is a longer term undertaking but is key to achieving meaningful and sustained attitudinal and behaviour change.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