



CITY OF TSHWANE METROPOLITAN MUNICIPALITY
AGRICULTURE AND ENVIRONMENTAL MANAGEMENT
DEPARTMENT
Environmental Policy and Resource Management Section

ENVIRONMENTAL PLAN FOR THE 2010 FIFA WORLD CUP

AUGUST 2007

1. INTRODUCTION

Despite repeated calls for sustainable living, humankind is currently in a state of global "overshoot" as it consumes more natural resources than the Earth can generate, which inevitably leads to the degradation and depletion of the natural resources we depend on for our survival. Big international events such as the 2010 FIFA World Cup consume a great deal of natural resources, and often have major environmental consequences which can contribute in a major way to resource depletion for the host population.

In recognition of the tremendous environmental impact of activities, products, services and facilities for the 2010 World Cup, the City of Tshwane's Agriculture and Environmental Management Department has realised that guidelines for environmental obligations and activities which embrace sustainable development are needed to mitigate the environmental impacts associated with the event where possible.

The City of Tshwane's obligation to manage the 2010 World Cup in an environmentally conscious manner is further underlined by the following legislative provisions:

- The Bill of Rights in the Constitution of the Republic of South Africa specifically includes an environmental clause (section 24 (b)) that everyone has the right "... *to have the environment protected, for the benefit of present and future generations ...*".
- The National Environmental Management Act (NEMA), 1998 (Act 107 of 1998), embraces the concept and principles of sustainable development and contains various principles in section 2 which can be related directly to sustainability. Regulations are also included in the NEMA about the execution of environmental impact assessments for certain listed activities. All departments need to familiarise themselves with the regulations and identify possible listed activities in good time so that they can comply with time frames provided for in these regulations.
- The Local Government: Municipal Structures Act, 1998 (Act 117 of 1998), sets out the objectives for local government and includes an objective to "*promote a safe and healthy environment*".
- The Local Government: Municipal Systems Act, 2000 (Act 32 of 2000), "*recognises the links between the environment, development and poverty*", and states that municipalities are obligated to render services that are financially and environmentally sustainable, while being equitable and accessible to its community.

The City of Tshwane's environmental obligations are described by the Tshwane Integrated Environmental Policy (TIEP), with which all departments in the City of Tshwane must comply. The TIEP specifically prescribes corporate environmental responsibility in the following:

- "Subscribing to green technology and reducing reliance on non-renewable resources for activities and development in Tshwane"
- "Implementing the best practicable environmental option for all activities and developments in Tshwane"
- "Investigating and implementing mechanisms for the minimisation of all types of waste in Tshwane"

The TIEP also contains objectives related to –

- sustainable transport planning;
- environmental health management;
- the planning and development of infrastructure, housing and services delivery which takes environmental opportunities and constraints into account;
- sustainable management of biodiversity, open spaces, conservation areas and natural resources;
- consideration of environmental matters when planning economic and social activities;
- sustainable energy approaches, improvement of air quality and sustainable water management; and
- the conservation of cultural resources.

This document focuses mainly on a discussion of environmental matters for 2010, and makes recommendations to ensure sustainable planning and management of the 2010 World Cup in Tshwane in an environmentally conscious manner.

2. 2010: EMBRACING SUSTAINABLE DEVELOPMENT

To ensure that the 2010 World Cup is planned and managed in an environmentally conscious manner which embraces sustainable development, it is critical to understand the City of Tshwane's obligations for sustainable development.

The National Environmental Management Act, 1998, defines sustainable development as "*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*".

This definition is supported by Gertsakis and Lewis (2003:4) in their statement that sustainability relates to "*economic and social development that protects and enhances the natural environment*".

Sustainability can be schematically displayed as follows:

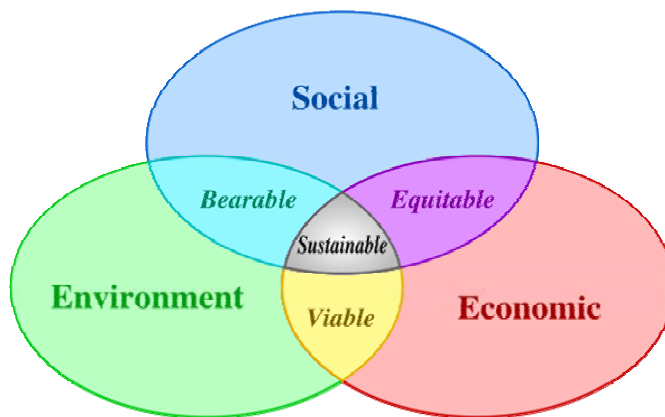


Figure 1: The core principles of sustainability (Wikipedia, 2007)

According to this diagram, sustainability can only be achieved through an integrated approach and that all social and economic activities must be executed in an environmentally conscious manner. To ensure sustainability of all products, services, activities and facilities related to the 2010 World Cup in Tshwane, this concept must be applied by the City of Tshwane.

Although this document mainly focuses on environmental sustainability, it is important to note that to be sustainable, activities should also be economically viable and socially equitable.

Integrating environmental matters into all 2010 activities, products, services and facilities is problematic because environmental matters are seen as the sole responsibility of the Agriculture and Environmental Management Department, and it is therefore not integrated, as prescribed by the principle of sustainability (refer to figure 1), into every aspect of the 2010 World Cup planning in Tshwane.

Most of the current 2010 planning activities in Tshwane can be regarded as unsustainable!

The environmentally sustainable management of the 2010 soccer World Cup can have the following benefits:

- Minimised environmental impacts and related cost savings as the potential is created for minimised natural resource consumption (less water and electricity will be consumed and less waste will be generated)
- Image enhancement of the City of Tshwane, stakeholders involved and the community of Tshwane as organisations and people who care for the environment they live in and are committed to sustainability of the environment
- Possibly less environmental legislative liabilities
- It can set an important precedent for organising future events in a sustainable manner by establishing environmentally friendly "best practices" in Tshwane.

- It will raise awareness of environmental issues in Tshwane communities and the business sector, and encourage other South Africans to become personally responsible for their environment.
- It will be a positive and proactive way to promote the City of Tshwane and the area as a whole.

3. WHAT HAS BEEN DONE?

All City of Tshwane roleplayers should integrate environmental matters into all their City of Tshwane 2010 planning activities to achieve true sustainability. The following must be borne in mind:

3.1 Strategic environmental documents

The following is a list of environment-related documents which can assist in guiding the City of Tshwane in environmentally sustainable planning for the 2010 World Cup. All roleplayers should integrate these into their 2010 planning activities where applicable:

Table 1: Strategic City of Tshwane environmental documents

DOCUMENT	AIM	CONTACT PERSON
Tshwane Integrated Environmental Policy	To ensure that all activities in Tshwane incorporate the environmental principle of sustainable development	Ilse Kotze 012 358 8665
Tshwane Open Space Framework	To facilitate sustainable management and interlinking of Tshwane's open spaces	Madeleine Oosthuizen 012 358 8731
Green Infrastructure and Facilities Guidelines	To guide environmentally friendly facilities and infrastructure in Tshwane	Basiliki Gericke 012 358 8709
Environmental Best Practices Guidelines	To align procurement in the City of Tshwane towards environmental best practices	Dr Jan Olivier 012 358 8916
Tshwane Air Quality Management Plan	To plan for air quality improvement and management	Juan Mostert 012 358 3759
Environmental Noise Policy	To ensure environmental noise management in Tshwane	Pieter Nel 012 358 8665
Sustainable Energy and Climate Change Strategy	To ensure sustainable energy management in Tshwane	Sam Mutswari 012 358 3596

3.2 Basic environmental guidelines

The following basic environmental guidelines have been drafted to guide the City of Tshwane in environmentally sustainable planning for the 2010 World Cup. All roleplayers should integrate these guidelines into their 2010 planning activities where applicable.

3.2.1 Energy consumption

- As a priority, the use of renewable energy technologies, such as solar panels, must be promoted and utilised for all infrastructure related to the 2010 World Cup and provided by the City of Tshwane, and developers and stakeholders must be encouraged to follow suit.
- Energy-efficient technologies and equipment such as timing systems, geyser blankets, motion sensors, energy-efficient light fittings, light colours for roofing and wall-finish materials, wall and ceiling insulation, efficient window sizes and glazing, etc must be provided for all infrastructure related to the 2010 World Cup and provided by the City of Tshwane, and developers and stakeholders must be encouraged to follow suit.
- Development sites must take advantage of existing public transport and social infrastructure (schools, health care facilities, etc) or integrate these into development project planning to minimise energy demands.
- Passive design, such as building shape and orientation, passive solar design and natural lighting must be encouraged.
- The following are general guidelines to minimise energy consumption:
 - All lights must be switched off at night, except in high-risk security areas.
 - All lights must be switched off when leaving facilities for more than ten minutes.
 - Lights must be used only when there is inadequate lighting.
 - Windows must be closed at night to save on heating and cooling costs.
 - Machinery, kitchen equipment and computers must be switched off or the energy-saving function must be selected when not in use.

3.2.2 Paper consumption

- Where possible, paper use must be minimised by using alternatives such as emails, circulation lists or central message boards in strategic areas.
- Scrap paper must be re-used for internal personal use.
- Double-sided copying (if possible) and single-line spacing must be used.
- "Bold" characters and excessive background printing must be limited – it uses a lot of ink which is toxic to the environment.
- Documents must only be printed on demand – publish it on the web instead.

3.2.3 Vehicle use (private and official)

- Unleaded petrol/ or bio-diesel must be used where possible.
- All official vehicles must be inspected daily for oil leaks and immediate corrective action must be taken where needed.

- Any oil, diesel or petrol spills must be reported immediately and cleaned up following specified operating procedures.
- Private vehicle use must be limited – the use of public transport (strategy specified in the City of Tshwane's Transport Development Plan) must be encouraged.

3.2.4 Water use and water pollution

- Water-efficient technologies and equipment such as push taps, dual-flush toilet systems, drip irrigation systems, etc must be provided for all infrastructure related to the 2010 World Cup and provided by the City of Tshwane, and developers and stakeholders must be encouraged to follow suit.
- Taps, fire hoses and pipes must be inspected daily for leaks and defects and must be repaired quickly.
- The following are general guidelines:
 - Do not leave taps running while washing hands.
 - Throw tissues in dustbins, do not flush them.
 - Water gardens in the early morning or at sunset.
 - Hose down streets etc according to schedule and not unnecessarily.
 - Use a bucket and sponge rather than a hosepipe to wash vehicles.
 - Sweep or mop floors instead of hosing them down (where possible).
- No hazardous material, chemicals or used cooking oil may be disposed of in the municipal drainage system, but should be disposed of according to the manufacturer's prescriptions.
- No abuse or unauthorised use of fire hoses will be tolerated.
- Efficient plumbing layout must be provided to prevent the "dead leg", ie a long pipe between the geyser and tap which causes cool water to be drawn before hot water is discharged.
- Sufficient water pressure and pipe sizing must be provided for optimum performance of water-saving devices.
- Rainwater harvesting must be provided for all infrastructure provided by the City of Tshwane, and developers and stakeholders must be encouraged to follow suit.
- Grey-water harvesting for gardens or toilets must be provided for all infrastructure provided by the City of Tshwane, and developers and stakeholders must be encouraged to follow suit.
- Sustainable stormwater management must be provided for all infrastructure provided by the City of Tshwane, and developers and stakeholders must be encouraged to follow suit.

3.2.5 Waste minimisation

- All roleplayers must be encouraged to recycle waste at its source and to dispose of it at recycling plants of the City of Tshwane.
- Polystyrene, bubble wrap, clean wrap and aluminium foil is not recyclable and its use must be limited.
- Construction and demolition materials must be recycled and/or re-used.

- Standard operating procedures must be developed for waste minimisation, re-use and recycling.

3.2.6 Green procurement

- Standard operating procedures must be developed for the following:
 - Use only biodegradable, environmentally friendly or aerosol-free products, cleaners, herbicides, pesticides, and chemicals.
 - Display only indigenous, sustainably harvested flowers and pot plants.
 - Procure materials with minimal, biodegradable or returnable packaging.
 - Strive to use only recycled, non-glossy, non-de-inked and unbleached office paper, toilet paper, and soy-based inks.
 - Use paper bags rather than plastic bags, polystyrene (not recyclable) and clear wrap (not recyclable).
 - Use construction materials and interior-finish products with zero or low chemical emissions, resistant to microbial growth, low or non-toxic, low VOC [volatile organic compounds] assembly, moisture-resistant.
- Plastic shopping or food-packaging bags that will be used must comply with the national Plastic Bag Regulations.
- Material Safety Data Sheets (MSDS) must be available at all times for all chemicals in use to ensure their correct handling, disposal and emergency management.
- Sustainable construction materials and products must be procured. These are materials and products which –
 - have a re-used and recycled content;
 - are manufactured from resources that are plentiful or renewable;
 - have zero or low emissions;
 - have zero or low toxicity;
 - are manufactured from sustainably harvested materials;
 - have high potential for recycling;
 - are durable;
 - are produced locally;
 - are re-usable and recyclable; and
 - have minimal packaging.

3.2.7 Horticultural efficiency

- The following must be applied to ensure sustainable horticulture efficiency:
 - Protection and retention of existing indigenous landscaping and natural features
 - Indigenous trees to shade and protect buildings
 - Water-wise plants with low pesticide needs
 - Water-efficient irrigation systems
 - Irrigation in the early morning or evening only

4. WHAT MUST BE DONE?

The following diagram represents a summary of obligations and activities which must be adhered to to achieve environmental sustainability for the 2010 World Cup in Tshwane:

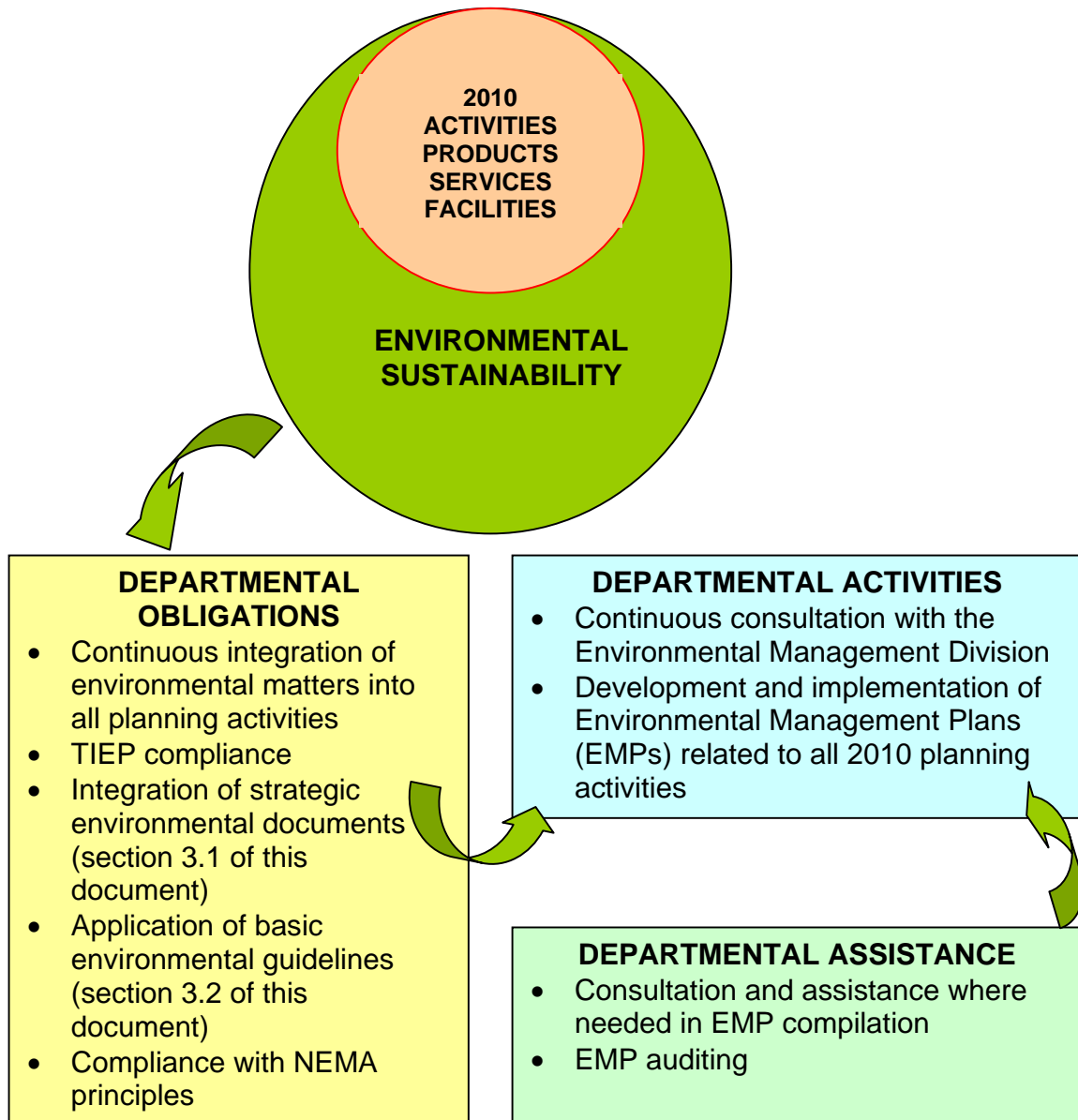


Diagram 1: Obligations and activities to steer the City of Tshwane's 2010 activities towards environmental sustainability

This diagram can be explained as follows:

- 4.1 Environmental sustainability can only be achieved if all 2010 activities, products, services and facilities are planned for and executed or provided

in an environmentally conscious milieu, ie only if it integrates environmental considerations into all aspects of the activities.

4.2 City of Tshwane departmental obligations to achieve environmental sustainability for 2010 mainly include the continuous integration of environmental matters into all their 2010 activities, products, services and facilities through –

4.2.1 continuous compliance with the TIEP;

4.2.2 integration of strategic environmental documents (section 3.1 of this document), which include the:

- Tshwane Integrated Environmental Policy
- Tshwane Open Space Framework
- Green Infrastructure and Facilities Guidelines
- Environmental Best Practices Guidelines
- Tshwane Air Quality Management Plan
- Environmental Noise Policy
- Sustainable Energy and Climate Change Strategy;

4.2.3 application of the basic environmental guidelines explained in section 3.2 of this document;

4.2.4 compliance with the NEMA principles, which state the following:

- Environmental management must place people and their needs at the forefront of its concerns, and serve their physical, psychological, developmental, cultural and social interests equitably.
- Development must be socially, environmentally and economically sustainable.
- Sustainable development requires the consideration of all relevant factors including the following:
 - That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied
 - That pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied
 - That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied
 - That waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner
 - That the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource

- That the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised
- That a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions
- That negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied
- Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.
- Environmental justice must be pursued so that adverse environmental impacts are not distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged people.
- Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access to them by categories of people disadvantaged by unfair discrimination.
- Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.
- The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged people must be ensured.
- Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.
- Community well-being and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.
- The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.
- The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.
- Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.
- There must be inter-governmental coordination and harmonisation of policies, legislation and actions relating to the environment.
- Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.

- Global and international responsibilities relating to the environment must be discharged in the national interest.
- The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.
- The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.
- The vital role of women and the youth in environmental management and development must be recognised and their full participation in it must be promoted.
- Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.

4.3 Departmental obligations must be fulfilled through the following activities:

4.3.1 Continuous consultation with the Environmental Management Division

4.3.2 Development and implementation of Environmental Management Plans (EMPs) related to all 2010 planning activities

4.4 To assist City of Tshwane departments in executing these obligations and activities, the Environmental Management Division will –

4.4.1 consult and assist where needed in the compilation of an EMP; and

4.4.2 audit compliance with all EMPs continuously.

5. IMPLEMENTATION FRAMEWORK

To ensure environmental sustainability for 2010, all departments must schedule a first-contact session with the Environmental Management Division as soon as possible to clarify their roles and responsibilities in compliance with the prescribed 2010 environmental obligations and activities (summarised in figure 1 of this document).

This contact session must be followed up with a preliminary EMP, drafted by the relevant department with the assistance of the Environmental Management Division, for all 2010 activities as soon as baseline departmental planning has been done.

The preliminary EMP will be studied by the Environmental Management Division for environmental compliance, after which it must be approved by the relevant departmental head, and implemented.

Once implemented, the Environmental Management Division will audit all EMPs continuously and suggest corrective action where needed.

The following is a diagrammatic summary of this:

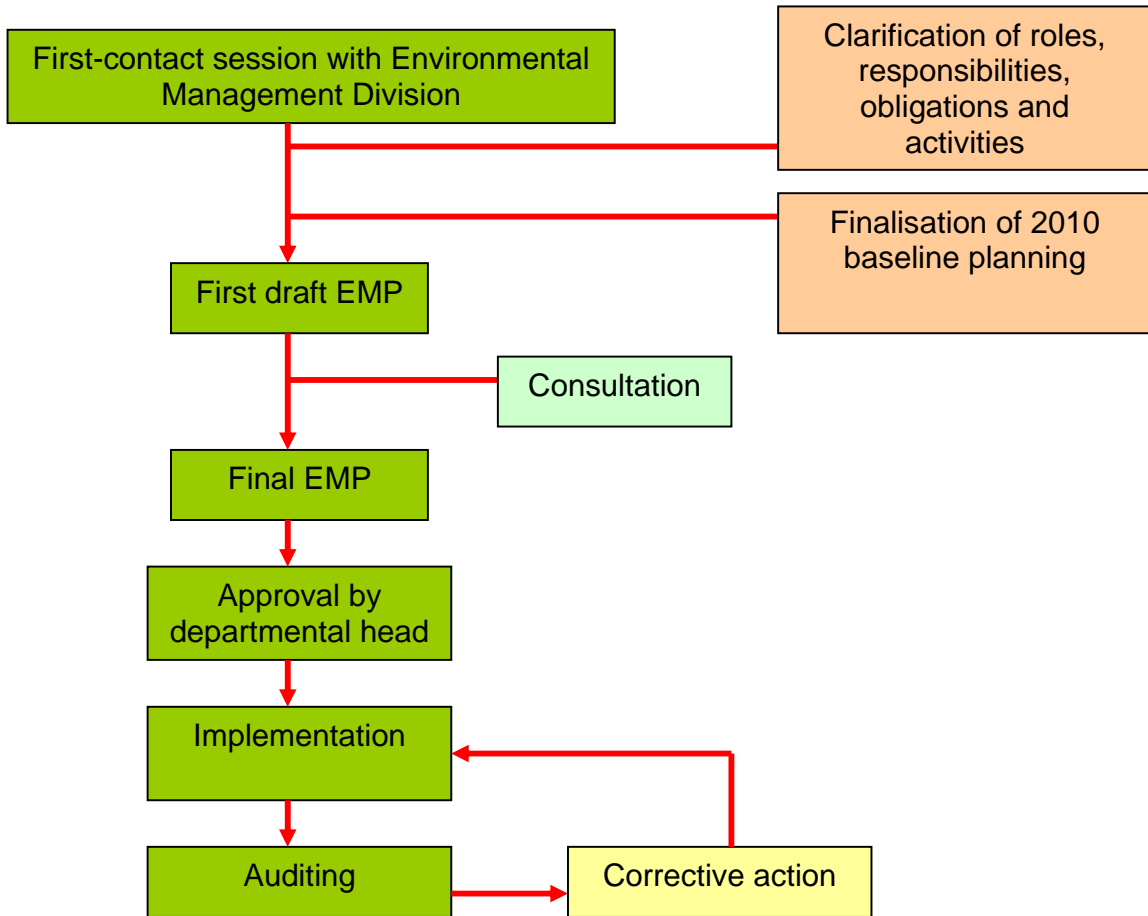


Diagram 2: Implementation framework for achieving environmental sustainability related to 2010

6. BUDGETING

Compliance with all the obligations and activities explained in this document will have severe impacts on departmental operational and capital budgets, which are already stretched to the limit in an effort to manage 2010 successfully. Therefore it is recommended that the current central environmental cost centre be significantly increased to R20 000 000 per year over the next five years to absorb incremental environmental expenditure to ensure environmental sustainability of the 2010 World Cup in Tshwane.

7. CONCLUSION

Only an integrated City of Tshwane approach will ensure true sustainability of the 2010 World Cup in Tshwane. Given the gravity of the impacts of relentless

environmental change, there is little time to lose – and blissful ignorance is the main obstacle.

The Environmental Management Division can be contacted on 012 358 8714.

8. REFERENCES

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