

A Framework for the National Waste Management Strategy

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Acronyms

CONNEPP	Consultative National Environmental Policy Process
DEAT	Department of Environmental Affairs and Tourism
DWAF	Department of Water Affairs and Forestry
HCRW	Healthcare Risk Waste
IDP	Integrated Development Plan
IdtWMP	Industry Waste Management Plans
IWMP	Integrated Waste Management Plans
NEMA	National Environmental Management Act
NWMS	National Waste Management Strategy

1. Introduction

In terms of environmental policy development, these are both exciting and challenging times. They are challenging in that the serious nature of threats to the integrity of environment as a result of human activities is becoming steadily clearer. They are exciting in that governments all over the world have begun to recognize the importance of environmental policy and planning in sustaining the societies they serve.

Waste Management is in many ways the lynch-pin of environmental planning. Successful management of its own waste products is fundamental to the sustainability of any society. As human societies have evolved in scale and complexity, so too have the management problems in terms of waste – in some ways, exponentially.

Waste management policy and practices have important economic and social impacts. They can support and facilitate economic growth through regulating waste producing industries and stimulating the development and consolidation of waste management activities in the economy. They can support and guide economic development, or result in an inefficient allocation of resources between sectors when the real costs of waste production are externalised from the production process. Producer responsibility is increasingly an important issue for manufacturers wishing to be globally competitive. Proper waste management can assist to combat poverty through reducing health risks for the poor, and providing jobs. In protecting public health, waste management also contributes to the health of the labour force which enables greater levels of productivity.

Waste management has historically been defined as the collection, transport, processing, recycling or disposal of waste materials; traditional approaches to waste management see its application only after a product has become waste. The National Environmental Management Act: Waste Act passed by the South African Parliament in 2008 (no. 59 of 2008) (“the Waste Act”) moves beyond this definition. Waste management begins with the prevention of waste as well as the minimisation of waste as a by-product of production. Waste management now has a cradle-to-cradle approach which differs from a cradle-to-grave approach in that it encourages conceptualisation of the future use of a product once its lifecycle as that product has ceased.

The Waste Act is the result of an ongoing process of evolution of national legislation, policy, agreements and research on waste management. It has also been informed by the evolving international system of environmental governance. The Waste Act requires the development of a National Waste Management Strategy (NWMS) to achieve its objectives. The NWMS will build on this process of policy development, and attempt to consolidate and advance it in strategic areas, such as waste minimisation, recycling, economic instruments and regulations and compliance.

In particular, the NWMS will draw on the policy foundation and experience with implementing the 1999 NWMS, published by the Department of Environmental Affairs and Tourism (DEAT) and the Department of Water Affairs and Forestry (DWAF) in 1999. This 1999 NWMS set out an integrated approach to waste management, cradle-to-grave management of waste products, and the waste hierarchy approach, which focused (in descending order of priority) on waste

reduction, reuse and recycling. The 1999 NWMS included a detailed series of action plans for implementing various aspects of the strategy.

In describing a framework for the NWMS, this draft document sets out the policy context that should inform the drafting of the NWMS. This includes a high-level overview of the evolution of the legislative and policy framework for environmental policy with respect to waste management, an overview of our obligations in terms of International and multi-lateral agreements, an overview of the 1999 NWMS and its implementation, and an identification of current challenges and opportunities in the sector. The NWMS should establish the context in which the measures provided in the Waste Act should be applied. Accordingly, the framework for the NWMS also draws on an analysis of the waste measures, institutional arrangements, and planning requirements of the Act itself. As part of the process of developing the NWMS it is important to look at the definition of waste provided in the Act and provide interpretation regarding the precise scope of this definition.

The objective of this framework is to provide a common platform from which to begin the development process for the NWMS. Whilst this document will provide guidance as to the focus and way forward, it is intended as a discussion document rather than a fixed framework.

2. The policy and legislative context

The Constitution of the Republic of South Africa, 1996 (Act 108 of 1996) is the foundation of the system of environmental regulation and policy, and creates a human rights foundation for society and government that includes ‘third generation’ development rights. Section 24 of Chapter 2 – the Bill of Rights establishes that everyone has the right to an environment that is not harmful to their health and well being, and that legislative and other measures should be used to ensure that the environment is conserved and protected for future generations.

Since the adoption of the Constitution, a number of significant policy and legislative steps have been taken to give effect to these environmental rights in relation to waste management, and they include:

- The 1997 White Paper on Environmental Management, which first defined a hierarchy of waste management practices that remains a key principle of our waste management policy
- The White Paper on Integrated Pollution and Waste Management (1998);
- National Water Act (1998); and
- The promulgation of the National Environmental Management Act (NEMA) (1998), which established the principles that govern all environmental management activities.

NEMA establishes the following principles which are relevant to waste management policy and implementation,:

- The waste hierarchy approach that establishes avoidance or minimization of waste as the most important objective of waste management;

- A life cycle approach to waste management encompassing extended producer responsibility;
- The Precautionary Principle which requires that decision-making on environmental issues takes into account the limits of current knowledge about the consequences of decisions and actions;
- A requirement for planning to anticipate, and therefore prevent, minimize, and remedy negative impacts on the environment and human health;
- The “polluter pays” principle, which indicates that the environmental and health costs of pollution must be paid for by those responsible for harming the environment.

By providing a coherent framework of principles for environmental planning within the context of co-operative governance, NEMA paved the way for the development of the first National Waste Management Strategy (NWMS), published in October 1999.

The 1999 NWMS represented a significant advance in terms of providing a coherent, integrated approach to waste management and in many respects provides the context for the new NWMS. For this reason, it is discussed in greater depth elsewhere in this document.

In the process of developing the 1999 NWMS, government realised the importance of developing an integrated approach to the management of pollution and waste, resulting in the White Paper on Integrated Pollution and Waste Management for South Africa, 2000. The White Paper specified the need to review legislation pertaining to waste management in light of the shift in focus from waste disposal to waste avoidance and minimization. This review process ultimately resulted in the Waste Act of 2008 which sets out the framework for the formulation of the NWMS.

The first DEAT National Waste Summit held at Polokwane in September 2001 highlighted the need for urgent action to reduce, re-use, or recycle waste so as to minimize environmental effects. The outcome of the summit was the signing of the Polokwane Declaration, whose main goal is to stabilize current waste generation, reduce waste disposal by 50% by 2012, and attain zero waste disposal by 2022. (DEAT 2006c) These targets have important economic consequences which need to be examined as part of the process of preparing the NWMS.

In terms of environmental policy, climate change has emerged as a priority area with implications for waste management. In October 2004, the DEAT launched the Climate Change Response Strategy, which was approved by Cabinet the following month. Whilst waste does contribute towards South Africa’s greenhouse gas emissions, according to the greenhouse gas inventory, these emissions contribute approximately 2% to overall emissions. Waste is currently not a focus of the four stakeholder committees set up by DEAT to inform and coordinate climate change issues. However, due to its potential for methane gas capturing, the clean development mechanism, borne out of the Kyoto Protocol, has important applications to the management of landfill sites.

Another development with implications for waste management is the detailed regulatory framework for the performance of Environmental Impact Assessments (EIAs) based on chapter 5

of NEMA, streamlining the previous system based on the Environment Conservation Act of 1973. Amongst others, these policy developments will inform the development of the NWMS.

3. International obligations

The Waste Act specifies as one of the requirements of the NWMS that it should give effect to South Africa's international obligations in terms of waste management. The evolving global framework of International declarations, agreements and treaties has provided an important context for the development of South African environmental policy in general, and waste management policy in particular.

In many respects, the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in June 1992 ushered in the modern period of global co-operation on environmental issues. The "Earth Summit" (as it became known) was significant for developing country negotiators because it linked the concepts of environment and development and thereby placed sustainable development firmly on the global agenda. The principal outcomes of the Earth Summit included:

- The Rio Declaration on Environment and Development, a non-binding declaration of principles of sustainable development and protection of the environment, which were defined as mutually inclusive objectives.
- A non-binding agreement known as Agenda 21, representing the United Nation's programme for sustainable development in the 21st century. Amongst others, Agenda 21 advocates the following four major waste-related programmes: minimizing wastes; maximizing environmentally sound waste reuse and recycling; promoting environmentally sound waste disposal and treatment; and extending waste service coverage.
- The United Nations Framework Convention on Climate Change, and the Convention on Biological Diversity, which were negotiated in parallel to the UNCED process, were opened for signature at the Earth Summit and are often regarded as UNCED agreements.

The Rio Summit was the pre-cursor to a series of multilateral environmental agreements (MEAs), including treaties on forests, regional trans-boundary air pollution, desertification, biotechnology safety, land-based sources of marine pollution, water quality, regional trans-boundary movement of hazardous waste, the management of toxic chemicals, and the trans-boundary movement of radioactive waste. Many of these instruments came into being during the 1990s, thereby creating the modern system of global environmental governance.

In the build up to the Rio Summit, the Basel Convention, held on 22 March 1989, called for control of the trans-boundary movement of hazardous waste and its disposal. Whilst South Africa subsequently acceded to this Convention, no legislation was passed at the time to give effect to it. The second Basel convention, held on 8 October 2005, set standards for the control of trans-boundary movements of hazardous wastes and their disposal, setting out the categorization of

hazardous wastes and the policies for their disposal between member countries. South Africa accedes to this convention and implements its provisions.

The Rotterdam Convention was held in September 1998 to promote shared responsibilities in relation to importation of hazardous chemicals. One of the key provisions is the Prior Informed Consent (PIC) procedure, which lists information on hazardous chemicals in Annex III. It became legally binding on its parties in 2004. The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling, include directions on safe handling, and inform purchasers of any known restrictions or bans. Parties can decide whether to allow or ban the importation of chemicals listed in the treaty, and exporting countries are obliged to make sure that producers within their jurisdiction comply. From this convention a "PIC circular" is distributed every six months giving updated information on the listed chemicals, member compliance, the final regulatory actions of that country in relation to chemicals listed in the convention, as well as their import responses related to other non-listed chemicals, and sources of supporting information.

In 1995, the United Nations Environment Programme called for global action to be taken on persistent organic pollutants (POPs), which pose a threat to both health and the environment. As a result, the negotiations for the Stockholm Convention on POPs were initiated and culminated in May 2001, and the convention entered into force in May 2004. South Africa accedes to this convention, whereby member countries have agreed to phase out POPs, and prevent their import or export.

Originally negotiated in 1987, and most recently revised in 1999, the Montreal Protocol treaty protects the ozone layer by phasing out the production of several substances which contribute to ozone depletion. If it is adhered to, it is anticipated that the ozone layer will recover by 2050.

Following the Millennium Summit convened by the General Assembly of the United Nations, which adopted the Millennium Development Goals, a ten year review progress on the implementation of Agenda 21 was convened in Johannesburg in 2002. In September 2002, the Johannesburg Plan of Implementation, which affirmed the United Nation's commitment to the full implementation of Agenda 21, was agreed to at the World Summit for Sustainable Development (WSSD). The Johannesburg Plan of Implementation sets out 37 targets for achieving sustainable development, which are inclusive of the Millennium Development Goals.

In fulfilment of the Johannesburg Plan of Implementation, DEAT developed the National Framework for Sustainable Development, which sets out a policy context and framework for sustainable development in South Africa, and provides a platform for the development of a national strategy to give effect to the targets set out at the WSSD. The National Framework for Sustainable Development was published in 2008.

In February 2006, the first session of the International Convention on Chemicals Management took place in Dubai, where it adopted the Strategic Approach to International Chemicals Management. This approach aims to support the achievement of the goals set at the WSSD. Currently South Africa, represented by DEAT, is preparing for the second session of the International Convention on Chemicals Management, which will take place in Geneva in May 2009.

South Africa has acceded to conventions intended to prevent pollution of the seas. These not only control the process of dumping waste at sea, but also prescribe measures to prevent waste on land contaminating the seas and waterways. These wastes include oil, solid waste, nuclear waste and debris from landfill sites.

4. Review of the 1999 NWMS and its implementation

The 1999 NWMS was the first integrated strategy for addressing South Africa's waste management challenges, and gave effect to the suite of policies and legislation which preceded it, including the Constitution (1996), the Environmental Management Policy for South Africa (1998), the Draft White Paper on Integrated Pollution & Waste Management (1998), the National Water Act (1998) and NEMA (1998). The overall objective of the strategy was to reduce the generation of waste and reduce the impact of all forms of waste on economic development, health and the quality of environmental resources. The 1999 NWMS sought to achieve three key goals:

1. Develop strategies for integrated waste management;
2. Develop action plans to implement the strategies; and
3. Build capacity within DEAT and DWAF to implement the action plans.

The 1999 NWMS was based on the waste hierarchy approach, and covers eight key elements which are:

- 1 integrated waste management & planning,
- 2 a waste information system,
- 3 waste minimisation & prevention,
- 4 recycling,
- 5 waste collection & transport,
- 6 waste treatment,
- 7 waste disposal, and
- 8 implementing instruments.

The 1999 NWMS set out strategies up to the year 2010 in which national, provincial, and local government were assigned functions and responsibilities, and in which quantifiable plans, objectives and targets were set. Consisting of two main parts and several supporting annexures, the 1999 NWMS identified priority initiatives for the short, medium and long term. Each priority initiative was rated against the criteria identified in the Draft White Paper on Integrated Pollution & Waste Management. Part two of the 1999 NWMS provides detailed information on both the background of each priority initiative and the detailed planning for the achievement of these.

An overview of the main proposals and progress with their implementation is set out below, structured according to the thematic areas identified in terms of the 1999 NWMS priority initiatives.

4.1 Integrated Waste Management Planning

The implementation of an Integrated Waste Management Planning system was seen as key to aligning and coordinating the activities of government and industry, in order to optimise waste management, maximise efficiency and minimise the associated environmental impacts and financial costs of waste. This was identified as a high priority short term initiative in the 1999 NWMS.

The Action Plan for the integrated waste management planning system required the promulgation and enforcement of regulations for integrated waste management planning, preparation of guidelines for the development of the plans, and awareness campaigns to promote the need for and approach to integrated waste management planning.

The following diagram represents the core of the integrated waste management planning system, which requires integrated hazardous waste management plans, integrated general waste plans and industrial waste management plans.



Three provinces have since developed **integrated hazardous waste management plans**, namely Gauteng, North West and Western Cape whilst the North West has integrated this into its IWMP. Mpumalanga is in the process of developing its integrated hazardous waste plan. Whilst not a requirement of the 1999 NWMS, the North West has finalized its IWMP and the Northern Cape is in the process of doing so. However, the Waste Act addresses this by specifying that the provinces are required to prepare IWMPs as provided by Chapter 3 Section 11.

Over two thirds of district municipalities have developed **integrated general waste management plans** whilst just over three-fifths of the municipalities have developed theirs, and the number of municipalities that have developed IWMPs in each province varies between 14% and 100%. However, these plans are not standardised and there is little evidence of their impact in improving waste management at municipal level .

The status of the **integrated waste management plans for industrial waste** is unconfirmed since there were no compulsory preparations or reporting requirements. This has been addressed by

the Act, which provides that the Minister or MEC may require individual persons or categories of persons or industries to submit industry waste management plans.

With respect to **guidelines** for the preparation of IWMPs, the National Framework Guideline for the development of IWMPs has been drafted and three provinces, namely Gauteng, Western Cape and KwaZulu-Natal, have also produced provincial guidelines.

These guidelines will go a long way to ensuring consistency and uniformity in the development of the IWMPs, which currently show great variances in content and quality, as well as the extent to which they are included in municipal IDPs, which is important for aligning priorities and influencing the allocation of resources for implementation. As a result there are varying degrees of implementation of municipal IWMPs.

In terms of Industry IWMPs, the Department has developed draft guidelines and the Department of Minerals and Energy has developed a list of technologies to reduce the hazardous nature of waste.

In terms of **regulations** to enforce the required planning documents, these will be prepared in due course now that the Waste Act has been promulgated. At a provincial level, Gauteng province has drafted IWMP regulations which make it mandatory for municipalities to prepare and submit IWMPs to province. The development of these regulations will be a significant enabling factor in the preparation of IWMPs by the provinces and municipalities.

4.2 Waste Information System

DEAT's vision has been to establish a Waste Information System for South Africa which supports the needs of local, provincial and national government with respect to the management of waste, by collecting reliable, national data on waste, and by providing "accessible information to interested and affected parties, that will support effective integrated pollution and waste management" (DEAT, 2000).

It is also DEAT's intent to collect this data without placing an undue financial and capacity burden onto industry and the private sector, which are responsible for providing the data, and government, which is responsible for collecting, verifying and disseminating the data and information.

Significant progress has been made in the development of the Waste Information System, which was one of the focal areas of the 1999 NWMS implementation project, with the development of the required software and launch of an online database. The system is currently underutilized as reporting has to date been done on a voluntary basis. The Waste Act has now made the supply of this information mandatory, which will ensure that a comprehensive database of waste information can be generated.

Draft national waste information regulations have been developed to regulate the procedures and criteria as contemplated in Chapter 6 of the Waste Act. These regulations will be applied nationally. However, in cases where a provincial waste information system has been established and regulations developed in terms of section 62 of the Act, these regulations must

be complied with by the waste facilities in that province. To date, Gauteng and Western Cape provinces have established provincial waste information systems, which should be aligned with the requirements of the national waste information system.

Key challenges with respect to the effective development and implementation of the Waste Information System will be to ensure that the database is populated and that the information is used to support effective integrated pollution and waste management, as anticipated by the White Paper. In addition, sustainable information systems require that information providers are not overloaded with reporting demands, that they can directly extract some value from the information that they provide, and that this information is independently verifiable. This suggests that streamlining of information collection, and the development of verification mechanisms, analysis and dissemination protocols will be important considerations. .

4.3 Waste minimization and waste recycling

Waste minimization and recycling has been one of three focal areas for the 1999 NWMS implementation project. The objectives of this component of the project were to increase and extend waste recycling in selected pilot areas; identify new waste streams for recycling; expand existing recycling initiatives and improve as well as implement new recycling initiatives; and identify and develop appropriate mechanisms to promote sustainable recycling by all members of the recycling chain. Several demonstration projects have been launched in a bid to boost waste recycling in the country.

A major initiative in respect to waste minimization was the introduction of the Plastic Bag Levy Regulations, which was also the first use of a tax instrument to effect a change in consumer and industry behaviour. In the NWMS, careful consideration will be given to whether this form of tax instrument has produced the desired result and whether it can be extended to other areas of waste minimization or if alternative initiatives should be considered.

Although not approved by Cabinet as yet, the drafting of the Cleaner Production Strategy in 2004 is an important milestone. Responsibility for the implementation of the strategy resides with the Department of Trade and Industry, which has overseen the establishment of the National Cleaner Production Centre with demonstration projects in three industries.

In terms of the **demonstration projects**, one of these has been the implementation of an Industrial Waste Exchange Pilot Project Programme, which aimed to develop an industrial waste exchange programme for the Sedibeng District Municipality (comprising three local authorities, i.e. Emfuleni, Lesedi and Midvaal), as a model for reducing industrial waste currently disposed to the permitted landfill sites or illegal dumps.

A second leg to the programme was an investigation of Extended Producer Responsibility as a mechanism for bringing about waste reduction in South Africa, through the minimisation, reuse and recycling of waste products. A key finding of the investigation was that there is no single universal model of Extended Producer Responsibility. The systems implemented internationally share no common set of goals, no uniform regulatory structure, and no comparable pricing

schemes. Hence, an Extended Producer Responsibility process for South Africa would need to be developed on a product specific basis.

The research process concluded that the following groups of products should be prioritised for further investigation and implementation for extended producer responsibility:

- 1 plastic bags (the plastic bag initiative and introduction of plastic bag tax in 2006);
- 2 glass (the Memorandum of Understanding);
- 3 waste tyres (the Memorandum of Agreement on Waste Tyres and establishment of a tyre levy); and
- 4 e-Waste (Waste from Electrical and Electronic Equipment).

The study also recommended that the experience gained and lessons learnt from the implementation of the Plastic Bag Regulations could be used to guide more effective and efficient implementation of future Extended Producer Responsibility initiatives for other products or commodities.

A third component of the recycling and waste minimization programme was the establishment of the Mbombela Recycling Pilot project to determine whether a recycling initiative could yield sustainable incomes for a co-operative comprised of historically disadvantaged women. The project recently received funding from Buyisa-e-Bag to establish a Materials Recovery Facility, and it is too early to assess whether such a project is viable and replicable.

The DTI has published a report on a road map for the recycling industry, including the establishment of a recycling industry body. In its overall estimation, the report finds that there is significant opportunity for job creation in the recycling industry, and identifies potential sources of funds and constitutional bodies that can support the process. The report found that in 2007 3,874,560 tons were recycled; however, the capacity to recycle was almost double this at 6,737,255 tons. (DTI 2009)

4.4 Waste collection and transportation

The starting point with regard to waste collection and transportation was to develop an understanding of the status of waste collection, and associated backlogs, at municipal level, which was achieved through a comprehensive baseline study in 2006. Local authorities are responsible for collecting, handling, and disposing of domestic waste from all households, and to ensure equitable service to their communities. Municipal waste collection has improved countrywide by only 2.7% between 1996 and 2001, and almost 50% of the population is still not receiving a regular waste collection service. (DEAT 2006c)

In terms of determining waste collection standards, the CSIR has been appointed to develop draft standards in line with the requirements of the Waste Act, a process that will run in parallel with the development of the NWMS. At a provincial level, Gauteng has drafted minimum waste collection standards and DEAT has developed guidelines for waste collection in dense areas.

There are high costs associated with the collection and transportation of waste, principally due to the cost of vehicles and fuel. The bulk of industrial waste and much commercial and domestic waste is collected by private sector companies, either through direct contracts or under contract to local authorities. The role of the private waste sector in waste collection and transport should thus be acknowledged and integrated into policy proposals outlined in the NWMS.

Alternative approaches to waste collection have been successfully explored throughout the country. This includes the use of community-based SME contractors to collect waste in traditionally unserved areas and 'food for waste' programmes whereby poor households collect domestic waste weekly in exchange for food parcels. There is significant scope for replication of these models and this will be considered in the NWMS.

4.5 Waste treatment

The 1999 NWMS Action Plan for Waste Treatment and Disposal focused on improvements in the regulation of all waste treatment facilities, including the revision and enforcement of air emissions standards. It sought to establish the status quo of these facilities and what actions should be taken to ensure sufficient waste treatment options for different categories of waste. It also aimed to ensure that treatment procedures comply with environmental, health and safety requirements.

A number of interventions have been put into effect to achieve the objectives of the 1999 NWMS. From a regulatory perspective, air emission standards have been reviewed and revised, and enforcement of standards has been significantly improved by DEAT. A review of the classification of hazardous waste is underway and the national policy on thermal treatment of general and hazardous waste has been drafted and made available for public comment. With regards to the status quo of waste treatment facilities, a great deal of attention has been invested in understanding the status of healthcare risk waste treatment, and demonstration projects in both an urban and rural context have yielded interesting results, which may address the challenges with regard to the effective and safe disposal of healthcare risk waste in poorly resourced environments. While the Department has taken great strides in relation to the priorities and action plans for waste treatment, it will be useful to ensure that all elements of the 1999 NWMS are fully implemented with regard to waste treatment.

It should also be noted that the national policy on thermal treatment of general and hazardous waste set national standards for the performance of dedicated incinerators, which have been taken up in the national air quality standards development process.

4.6 Waste disposal

Waste generated in the country is disposed of typically via landfill site and to a much lesser extent through incineration. There are approximately 475 general landfill permits that have been granted throughout the country, evidence of more than 760 unpermitted landfill sites and an estimated 15,000 unrecorded sites in the rural areas (DEAT, 2006c).

The challenges with regard to waste disposal are multiple, and underline the need for an updated understanding of the state of waste disposal, the extent of unpermitted landfill sites, the depletion of landfill space, the cost of operating landfill sites and the need to update the classification of hazardous waste. There are various initiatives underway or in place to address these issues. In terms of the need to improve waste information and statistics, the Waste Information System has been designed and implemented, although it is currently underutilized. There is a process underway to identify which landfill sites have not been permitted and to prioritise and fast-track their permitting. There is also a review of the classification of hazardous waste, which will culminate in a new classification system to replace DWAF's minimum requirements for waste categorization (2nd version, 1988). The intention of the new classification system would be to favour treatment of waste and try as far as possible to move away from landfilling.

The NWMS will be required to consider the extent of the unpermitted landfill sites, the rate at which municipal landfill sites are running out of airspace, and economically and environmentally viable alternative waste disposal methods. Such options include vitrification, use of cement kilns and anaerobic digestion. The possibility of sharing landfill sites through regionalisation will also be explored, as will the financing required to maintain landfill sites and ensure sufficient airspace for future disposal.

4.7 Healthcare risk waste management

Healthcare risk waste (HCRW) management cuts across the priority initiatives identified by the NWMS and comprises a third focal area of the 1999 NWMS Implementation Project. The overall objective has been to improve the standard of HCRW management in South Africa, starting with quantification of the HCRW stream as well as the available treatment/disposal capacities for the country. Information requirements for the measurement and monitoring of HCRW were developed for the Waste Information System. A study has recently been conducted to determine the available treatment and disposal capacity for the country (DEAT 2008b).

The study has established that, on the whole, HCRW treatment capacity exceeds generation capacity. However, there has been some reduction in treatment capacity due to air emission standards, which has impacted on the accessibility of treatment facilities. Incidents of large scale dumping have thus occurred either due to long distances between generation and treatment and/or unwillingness by treatment facilities to accept waste from competitors.

The 1999 NWMS Implementation Project resulted in a number of HCRW demonstration projects. The Ekurhuleni Metropolitan Municipality embarked upon a pilot project for improved HCRW management from smaller generators (those generators that generate up to 20kg per day of HCRW inclusive of all small health care facilities, health care private practitioners, and other specialised institutions such as tattoo artists, traditional healers, veterinarians, mortuaries, and the like). A second pilot was developed as part of Gauteng's extensive HCRW initiatives, for the Zeerust hospital complex as a means to develop a model to enhance HCRW management in a rural setting by developing safe, healthy and environmentally sound yet cost-effective systems

for HCRW management. Lastly, draft HCRW management policy and regulations have been developed.

The NWMS will address the accessibility of HCRW facilities and options for shared facilities as well as compliance with air emission standards for treatment facilities.

4.8 Key issues arising from the review of the implementation of 1999 NWMS

The 1999 NWMS was a detailed, comprehensive and carefully researched strategy, which has established some important pilots and innovations. It has transformed the approach to waste management in the country, aiming for integrated waste management and implementing the concept of the waste hierarchy. These achievements are largely in three core areas, namely putting a waste information system in place, waste minimization and recycling, and healthcare risk waste management. Voluntary reporting has limited the effectiveness of the Waste Information System, and the NWMS will review the system and ways in which it can be improved.

There has clearly been uneven and delayed implementation of the 1999 NWMS, and some aspects of it have not been implemented at all, largely due to institutional and regulatory constraints. This has undermined the credibility of the strategy.

In hindsight the 1999 NWMS was an overambitious strategy, which set out responsibilities for public and private sectors in excess of available capacity. This was compounded by the lack of regulatory provisions to enforce implementation of the strategy. Regulatory weaknesses, financing and capacity constraints, particularly at provincial and local levels, have hamstrung the effective implementation of the 1999 NWMS. The strategy was also unable to overcome the continued fragmentation of regulatory responsibilities between government departments, for example the historical regulation of waste disposal sites falling under DWAF.

At a policy level the main weakness of the strategy was an inadequate conceptualisation of the place and role local government and the domestic waste sector. The planning provisions set out in the strategy were not fully aligned with the Constitutional responsibilities of the three spheres of government and cooperative governance mechanisms. The strategy was not aligned with the emerging system of developmental local government, and it was not integrated with intergovernmental fiscal mechanisms such as the equitable share and the municipal infrastructure grant. The primary challenge of extending waste services to impoverished and unserved households was therefore not addressed.

While the 1999 NWMS did deal with economic instruments, these were not developed in concert with Treasury tax policy, and were ultimately not implemented.

Arising out of the 1999 NWMS implementation, there are a number of regulations and guidelines that are in draft form that require finalization and implementation. A number of pilot projects have been designed and implemented as part of the NWMS Implementation Project and the recommendations and lessons from these must be considered for further application. The

NWMS will take account of these various processes and integrate their outcomes into a coherent overall strategy.

Since the 1999 NWMS there have been a number of developments which will enable the more effective achievement of the concept of the waste hierarchy include the promulgation of the Waste Act with improved regulatory powers; greater compliance with respect to air emission standards; growing awareness among municipalities of the need for universal access to waste services; and an emerging awareness of alternative approaches to waste management and green economy opportunities such as waste-to-energy projects.

5. The Waste Act

The Waste Act is in many ways an outcome of the 1999 NWMS, reflecting its the legislative priorities established by the 1999 NWMS, and drawing on the distillation of important lessons learned in its implementation.

The Waste Act was promulgated after an extensive consultation process around the Waste Bill, including a 90-day period of public comment on the draft Waste Bill. During this period, in addition to public meetings in each province, DEAT held workshops with all relevant national government departments, all provincial departments of environment, individual municipalities and the South African Local Government Association (SALGA), Business Unity South Africa (BUSA) and Industry Associations, the Institute of Waste Management, and a number of Non-governmental organizations. The results of these consultations have been documented by DEAT, and will be taken into account in the drafting of the NWMS.

The main provisions of the Waste Act and their implications for the NWMS are dealt with below.

5.1 Objects of the Waste Act

The objects of the Act (which importantly are also the objects of the NWMS) are:

1. To protect health, well-being and the environment by providing reasonable measures for—
 - a. minimising the consumption of natural resources;
 - b. avoiding and minimising the generation of waste;
 - c. reducing, re-using, recycling and recovering waste;
 - d. treating and safely disposing of waste as a last resort;
 - e. preventing pollution and ecological degradation;
 - f. securing ecologically sustainable development while promoting justifiable economic and social development;
 - g. promoting and ensuring the effective delivery of waste services;
 - h. remediating land where contamination presents, or may present, a significant risk of harm to health or the environment; and
 - i. achieving integrated waste management reporting and planning;
2. To ensure that people are aware of the impact of waste on their health, well-being and the environment;
3. Generally, to give effect to section 24 of the Constitution in order to secure an environment that is not harmful to health and well-being.

The Waste Act stipulates that its objects should be read in conjunction with the environmental principles established in NEMA.

5.2 National Waste Management Strategy

Chapter 2 Part 1 of the Waste Act requires a national waste management strategy to be established within two years of the Act coming into effect (making the strategy due by 2011) to achieve the Act's objectives and give effect to the Republic's obligations in terms of relevant international agreements.

The Waste Act places the NWMS firmly within the context of co-operative governance, providing for the NWMS to identify the responsibilities of the different spheres of government and organs of state in terms of its implementation. Furthermore, state organs are required to align their waste management activities with the national waste management strategy.

To provide a suitably differentiated approach to waste management and the provision of waste services, the NWMS may differentiate between classes and categories of waste, and geographical areas. The Waste Act explicitly provides for the inclusion of targets in the NWMS, and a phased approach to its implementation.

The Waste Act further stipulates a requirement for a consultation process before the finalisation of the NWMS, similar to the process undertaken for the Act itself.

5.3 Norms and Standards

Chapter 2 Part 2 of the Waste Act requires the Minister to establish national norms and standards in relation to waste management. These will be of particular relevance to the implementation of the NWMS since they will represent minimum standards in relation to the provision of waste management services and the storage, treatment and disposal of waste that the NWMS will need to meet. DEAT has commissioned the CSIR to develop draft policy proposals for establishing national norms and standards.

The Waste Act envisages that norms and standards may be differentiated according to geographical areas and different types of waste. With respect to service delivery, the Act provides for equitable differentiation of services based upon both the type of service, and the type of user.

The Act explicitly provides for the development of norms and standards within the context of the waste hierarchy, including the separation of waste at the point of generation, and the setting of standards for extended producer responsibility.

5.4 Institutional arrangements

Chapter 3 of the Waste Act provides for the designation of a national waste management officer within DEAT with responsibility for co-ordinating waste management within government, as well as provincial waste management officers and municipal waste management officers within each municipality authorized to provide waste management services.

The NWMS will need to set out the manner in which waste officers fulfil their responsibilities. One such responsibility is likely to be the development and implementation of the integrated waste management plans contemplated by this chapter of the Waste Act.

5.5 Provincial and Municipal Waste Management Plans

The Waste Act requires the provinces and municipalities to develop integrated waste management plans that are co-ordinated and aligned with the relevant integrated development plans and other plans and programmes of provincial and national government, as well as relevant legislation, such as the Municipal Systems Act.

Provincial and municipal integrated waste management plans will play an important role in implementing the NWMS. The plans must include a situational analysis of waste management challenges. The plans must establish targets for waste management in terms of the hierarchy of waste management measures, and include planning for new disposal facilities systems and decommissioning of existing systems if required. The plans must also include an indication of the financial resources required and how these are to be financed.

The Waste Act requires annual reporting on the implementation of waste management plans. The prescriptions in terms of the content of provincial and municipal waste management plans include many of the features that will be required in the NWMS, with which these plans must be aligned.

5.6 Waste Management Measures

An important feature of the Waste Act is that it provides specific waste management measures that will need to be elaborated in the NWMS. These measures grant regulatory powers to the Minister, to be exercised within the context of co-operative government principles established in the Constitution and relevant legislation.

The Waste Act explicitly provides for the negotiated application of waste management measures in the form of industrial waste management plans. Currently, domestic and commercial recycling takes place almost entirely on a voluntary basis. The success of recycling initiatives in terms of waste minimizations is dependent on public awareness, ease of access to recycling services and facilities, and the presence or absence of incentives.

The NWMS will provide further detail regarding the implementation of the waste measures provided in the Waste Act. In addition to regulatory controls, the NWMS needs to encompass both negotiated and voluntary applications of waste management measures. The waste measures that will need to be dealt with by the NWMS, and the relevant provisions of the Waste Act regarding these measures, are summarised below.

5.6.1 Waste Measures - Priority wastes

Waste that poses a particular threat to human health and the integrity of the environment can be declared a priority waste by the Minister. The 1999 NWMS uses the DWAF second edition classification, as per part 1, section 3, figure 1.2 of the 1999 NWMS, and a new edition is in the process of being developed. This classification system determines if a waste is categorised as a priority waste, and if so which type.

Declaration of a waste as priority waste indicates that specific waste management measures are required for that waste in terms of reduction, recycling, re-use, and recovery. These measures may include a requirement for companies or persons generating a priority waste to submit an industry waste management plan that must be approved by the Minister.

Categorisation of a priority waste may restrict economic activities that might generate such a waste, and the process of declaration of priority wastes should involve a consultative process, including consultation with the Department of Trade and Industry.

5.6.2 Waste Measures - General duty

The general duties in respect of waste management that apply to all producers and holders of waste reflect the hierarchy of priorities in terms of waste management:

- Avoid or reduce waste
- Re-use
- Recycle
- Treat
- Dispose Responsibly.

In general, the provisions of the NWMS should as far as is practical and wherever possible reflect this hierarchy.

Specific general duties apply to manufacturers and/or retailers of products that may generate hazardous waste in relation to informing the public of the impact on health and the environment.

5.6.3 Reduction, re-use, recycling and recovery of waste

Reduction, re-use and recycling is only a viable option when it uses less natural resources and is less harmful to the environment than disposal. The Waste Act grants the Minister the power to:

- require the reduction, re-use, recycling and recovery of particular products
- require products to include a determined percentage of recycled material.

Extended Producer Responsibility is explicitly contemplated by the Waste Act as a mechanism for ensuring reduction, re-use, recycling, and recovery, and the Minister is granted the powers to determine products to which Extended Producer Responsibility applies, and to specify the Extended Producer Responsibility measure that will apply.

5.6.4 Waste management activities

The Waste Act provides for the Minister to publish a list of waste management activities that negatively affect health and/or the environment. Waste disposal techniques such as incineration are an example of this. Listed waste management activities may be restricted or prohibited, and may require licensing.

Chapter 5 of the Act establishes a detailed regulatory framework for the administration of licensing requirements that will need to be incorporated into the NWMS.

5.6.5 Storage, collection and transportation of waste

The Waste Act specifies general principles for the storage and transport of waste to prevent pollution of the environment and harm to health. The measures in this section include specific requirements in relation to waste collection services that need to inform the NWMS:

- Municipalities should equitably allocate waste collection services
- An obligation exists on persons receiving waste collection services to pay applicable service charges
- Municipalities can withhold provision of services where there is failure to comply with reasonable provisions (such as payment), so long as not providing the service will not pose a risk to health or the environment
- Municipalities can distinguish between different categories of users and geographical areas in terms of the services they provide and the service charges they impose or subsidies they provide
- Municipalities are obligated to provide publically accessible containers and receptacles for the collection of recyclable waste.

5.6.6 Treatment, processing and disposal of waste

This section of the Act clearly establishes all disposal of waste as a regulated activity, including littering. It makes owners of private property to which the public has access responsible for providing receptacles for litter, and for disposing of litter in an authorised manner.

5.6.7 Industry waste management plans

The Waste Act provides for industry waste management plans at a national level for industries that cross provincial boundaries, as well as at a provincial level for industry specific to a particular province. The Act takes care to prevent unnecessary duplication by specifying that any requirement for a national plan supersedes and replaces provincial requirements.

5.6.8 Contaminated lands

The Minister is required to identify and investigate land that is suspected of contamination. Once an investigation area has been declared the Minister may initiate a site assessment and direct the owner of the land, or the person responsible for the suspected contamination to conduct a site assessment to determine past, current, or future impact on the environment and health.

If a site assessment confirms land as contaminated, the Act grants the Minister the power to order remediation of the land, specify the time frame over which remediation must take place, identify who will be responsible for the remediation, and what measures must be taken. This measure gives effect to the “polluter pays” principle. The Act obligates the Minister to maintain a contaminated land registry that includes investigation areas.

This registry of contaminated lands forms part of the Waste Information Management System described in Chapter 6 of the Act.

5.6.9 Other measures

Waste management officers are given authority to establish programmes for public recognition of achievements in relation to waste management, including programmes that include a public awareness component.

For the NWMS to be effective, it needs to take root at a local level. Community-based organisations, consumer organisations, civic organisations, and non-governmental organisations have an important role to play in the local implementation of the NWMS.

The measures provided by the Waste Act provide importance guidance to the NWMS in terms of the regulatory framework for its implementation.

6. Framework for NWMS

The Waste Act establishes the NWMS as a statutory mechanism, which binds all organs of state in all spheres of government. An organ of state is obliged to give effect to the NWMS when exercising a power or performing a duty in terms of the Act or any other legislation regulating waste management. This clearly distinguishes the NWMS from the 1999 NWMS. Whilst the 1999 NWMS was a solid policy document, which spearheaded the new approach to integrated waste management, it lacked the statutory power that is invested in the new strategy, and the regulatory provisions for its implementation.

The Waste Act obliges the Minister to publish the strategy within two years of coming into effect of the Act, and it specifies the contents of the strategy, which must include:

- strategies, objectives, plans, guidelines, systems and procedures relating to the protection of the environment and the generation (including the avoidance and minimisation of such generation), re-use, recycling, recovery, treatment, disposal, use, control and management of waste in order to achieve the objectives of the Act;
- mechanisms, systems and procedures for giving effect to the Republic's obligations in terms of international agreements;
- national norms and standards for waste management, including planning, and national norms for service delivery;
- practical measures for achieving co-operative governance in waste management matters;
- guidance on raising awareness regarding the impacts of waste on health and the environment;
- approaches for securing compliance with the requirements of the Act.

The NWMS may include targets for waste reduction.

The Minister may also prescribe additional items to be included in the strategy that are considered necessary for achieving the objects of the Act.

The Act indicates that the strategy must be reviewed by the Minister at intervals of not more than five years. While the time period to be covered by the strategy is not specified, it is assumed that the bulk of the provisions of the strategy should relate to the five year period prior to the next review of the strategy.

Before publishing the national strategy, or any amendment to the strategy, the Minister is obliged to follow a consultative process, which provides for public participation, as well as consultation with relevant national Ministers and provinces. This will inform the consultative approach to be adopted in developing the strategy.

The NWMS will be focused on measures to avoid or minimise the generation of waste, and where waste cannot be avoided or reduced, measures to ensure that it is re-used, recycled or recovered, and only treated and safely disposed of as a last resort. The NWMS will deal with general, commercial and industrial waste streams, including hazardous waste, healthcare risk waste and waste streams from agriculture (including pesticides), mining and power generation.

The NWMS will explicitly **exclude** consideration of nuclear waste, which is the subject of a separate policy exercise under DME. While pollution by waste products clearly is an important issue, the strategy does not deal with pollution per se, and therefore only deals with the related fields of environmental impact management and remediation where these relate to waste products. The NWMS will also not deal with air quality management and waste water and industrial effluent management, which are the subjects of detailed policy and regulatory processes in their own right. The NWMS will deal with water quality issues, but only to the extent that they are relevant to the location and management of waste disposal and landfill sites.

The NWMS will cover the five year period from 20010/11 to 2015/16, but it may present a longer term vision and targets to be achieved beyond this period. The strategy will necessarily deal with longer term issues such as landfills which continue to produce leachate and methane for many years. The NWMS will provide for the framework within which more detailed plans will be drawn up by national departments, provinces and municipalities. The NWMS will therefore provide sufficient guidance without being prescriptive as to the content of these more detailed action plans.

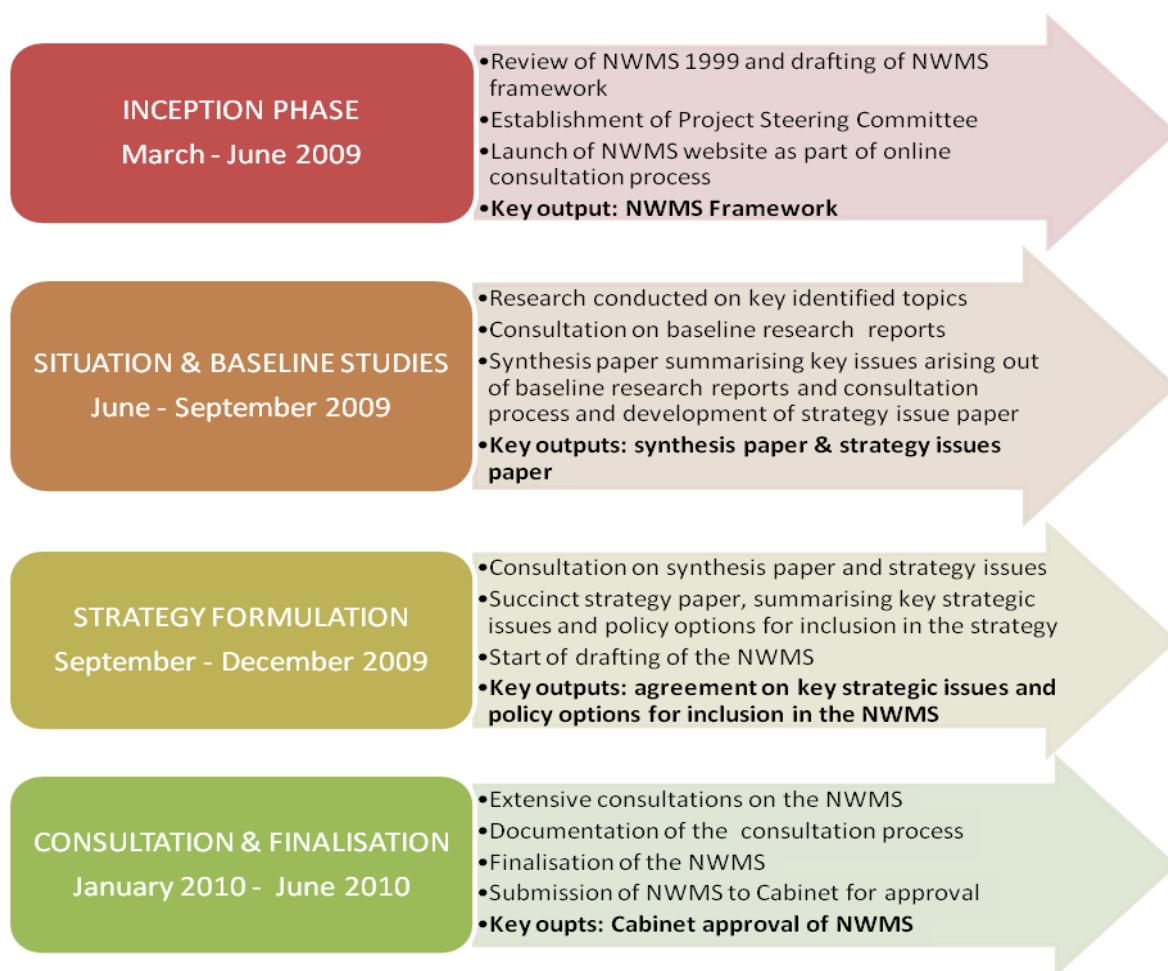
The development of the NWMS is a dynamic process, and although the NWMS will be regularly reviewed (e.g. every 5 years) to take account of progress made, changing needs and priorities, as well as the realities of practical implementation, it should build on the previous strategy and ensure that any long term targets from the existing strategy are included.

A provisional Chapter outline for the NWMS has been included at the end of this document as a basis for discussion on how best to structure the new NWMS.

7. Approach to development of NWMS

The development of the NWMS will be structured around four phases and prepared in a consultative manner as envisaged in the Waste Act, Part 1 Section 6(6), whereby the Minister is obliged to follow a consultative process, which provides for public participation, as well as consultation with relevant national Ministers and provinces.

The following diagram presents the approach to the development of the NWMS in terms of the timeframes, key activities and milestones for each of the four phases:



The NWMS will depend for its effectiveness on the support and buy-in from a wide range of stakeholders, and the process of drafting the strategy needs to be based as far as possible on a consensual approach. At the same time, the Department recognises that stakeholders may become fatigued as a result of the past and planned multiple consultation exercises in relation to different aspects of waste policy and legislation. The Department has thus sought to streamline stakeholder involvement and a consultation plan has been approved by the Department, the main features of which are:

- Stakeholder representation on a Project Steering Committee to oversee the development of the NWMS

- Stakeholder workshops on key themes and at critical moments in the process
- Structured meetings and interviews with stakeholders and interested and affected parties (IAPs)
- An online consultative process that:
 - Complements and reinforces face-to-face meetings with stakeholders and IAPs;
 - Provides for general public participation in the consultative process; and
 - Provides a database of stakeholders and IAPs.

8. Conclusion

The promulgation of the Waste Act is a milestone in the evolution of environmental policy and legislation and gives effect to the principles of the Constitution, NEMA and the White Paper on Integrated Pollution and Waste Management. Apart from providing a coherent regulatory framework for sound waste management practices, it presents a great opportunity to ensure that the country's approach to waste management contributes to environmental wellness as well as support the country's economic and social priorities. Waste management has an important role to play in mitigating climate change, and the successful implementation of the waste minimisation hierarchy would be a part of a range of responses aimed at reducing the country's greenhouse gas emissions. A transition to a low carbon "green" economy as anticipated in the national response to climate change could see a proliferation of green jobs in the waste sector ranging from life-cycle engineering to informal waste recovery.

The 1999 NWMS has laid the foundations for a coherent waste management regime with the development of a comprehensive Waste Information System, an integrated waste management planning system with the development of draft regulations and guidelines, significant advances in approaches to waste minimisation and recycling, innovations in the sphere of waste collection, and improvements in the way in which different forms of waste are disposed of and the regulation thereof.

The greatest challenge to its successful implementation was the absence of a coherent regulatory framework, a factor that has now been addressed through the promulgation of the Act. The new NWMS is needed to update and align it with the provisions of the Act as well as reflect changing needs and emerging priorities such as the process of greening the economy. This document has set the context and imperatives for that revision and represents the framework for guiding the development of the NWMS in an engaging and consultative manner.

9. References

- Constitution of the Republic of South Africa, 1996, Chapter 2: Bill of Rights and Chapter 3: Co-operative Government.
- Department of Environmental Affairs and Tourism, 2000. White Paper on Integrated Pollution and Waste Management for South Africa. A Policy on Pollution Prevention, Waste Minimisation, Impact Management and Remediation. Government Gazette Vol.417, No.20978, 17 March 2000. General Notice 227 of 2000.
- Department of Environmental Affairs and Tourism, 2005. National Waste Management Strategy Implementation South Africa: Draft report on survey conducted in the Ekurhuleni Metropolitan Municipality (Northern Region) for the Minor Healthcare Risk Waste Generators Pilot Project, 30th June 2005.
- Department of Environmental Affairs and Tourism, 2005. National Waste Management Strategy Implementation South Africa: Recycling Extended Producer Responsibility, Report number 12/9/6 Annexure F, 3 May 2005.
- Department of Environmental Affairs and Tourism, 2005. National Waste Management Strategy Implementation South Africa: Review of Industrial Waste Exchange, Report number 12/9/6 Annexure G, 4 April 2005.
- Department of Environmental Affairs and Tourism, 2006a. National Waste Management Strategy Implementation South Africa: Zeerust (Ramotshere Moiloa) sub district status quo report, Lehurutshe/Zeerust hospital complex, 20th June 2005.
- Department of Environmental Affairs and Tourism, 2006b. National Waste Management Strategy Implementation South Africa: Economic instruments for recycling of waste in the Mbombela Pilot Project, 13 June 2006, DEAT report number 12/9/6.
- Department of Environmental Affairs and Tourism, 2006c. South Africa Environment Outlook. A report on the state of the environment. Department of Environmental Affairs and Tourism, Pretoria.
- Department of Environmental Affairs and Tourism, 2008a. Strategic Plan for the Environmental Sector 2008-2013: Department of Environmental Affairs and Tourism.
- Department of Environmental Affairs and Tourism, 2008b. Survey of Generation Rates, Treatment Capacities and Minimal Costs of Health Care Waste in the nine provinces of RSA. Prepared by Kobus Otto in association with John Clements, January 2008.
- Department of Trade and Industry, 2009. Proposed road map for the recycling industry: a recycling industry body (RIB) with relevant working groups, January 2009.
- Intergovernmental Relations Framework Act*, 2005: Passed by Parliament on 15 August 2005.
- National Environmental Management Act 107 of 1998, Chapter 1: National Environmental Management Principles, Revised.
- National Environment Management: Air Quality Act 39 of 2004: Passed by parliament on 19 February 2005.
- National Environmental Management: *Protected Areas Act, 2003: Passed by parliament on 18 February 2004.*
- A National Industrial Policy Framework: Department of Trade and Industry 03-August-2007.
- National Waste Management Strategy, Version D, 15 October 1999: Department of Environmental Affairs and Tourism and Department of Water Affairs and Forestry.

Annexure 1: Provisional Chapter Outline for the National Waste Management Strategy

Part 1 – Introduction

Part 1 is concerned with establishing the principles and objectives of the NWMS and defining its scope in terms of the Waste Act and supporting legislation

1.1 Preface

The Minister's statement.

1.2 Background

Outline of the process leading up to the formulation of the NWMS, particularly the legislative framework and precedents, including:

- Constitution of the Republic of South Africa, particularly Section 24;
- Consultative National Environmental Policy Process, 1995;
- White Paper on National Environmental Management; 1997
- National Environmental Waste Management Act, 1998;
- National Waste Management Strategy, October 1999
- White Paper on Integrated Pollution and Waste Management for South Africa, 2000;
- National Environmental Management: Protected Areas Act of 2003;
- The National Environmental Management: Air Quality Management Act of 2004;
- National Environmental Management: Biodiversity Act of 2004;
- The First and Second Amendments to NEMA;
- National Environmental Management Act: Waste Act, 2007.

1.3 Approach and methodology

This section contains a description of the approach and methodology employed in drawing up the NWMS.

The approach that has been adopted is designed to ensure that the strategy:

- takes into account work already done on the 1999 strategy, and build on this;

- is **relevant** to the overall priorities of government;
- follows an **integrated** approach to managing the whole lifecycle of waste;
- adopts a **flexible** approach to the use of appropriate regulatory instruments;
- is **mainstreamed** within the intergovernmental systems,;
- builds a **consensual** approach amongst stakeholders; and
- is ultimately **actionable** through a set of realistic targets and steps.

The effectiveness of the NWMS depends on the support and buy-in from a wide range of stakeholders, and the process of drafting the strategy is based on a consensual approach. This section should include a description of the streamlined consultation plan, the main features of which are:

- Stakeholder representation on a steering committee to oversee the development of the NWMS;
- Stakeholder workshops; and
- Structured meetings and interviews with stakeholders and interested and affected parties (IAPs).

An online consultative process that:

- Complements and reinforces face-to-face meetings with stakeholders and IAPs;
- Provides for general public participation in the consultative process; and
- Provides a database of stakeholders and IAPs.

1.4 Objectives

The requirement for a new national waste management strategy is specified in Chapter 2 Part 1 of the National Environmental Management: Waste Act (the Waste Act).

The NWMS must achieve the objects of the Act, which are (in summary):

- preserving natural resources by minimizing their consumption and preventing pollution;
- Waste Minimization, which includes recycling, re-using, and recovering waste;
- treatment and safe disposal of waste as a last resort;
- effective delivery of waste services;
- remediation of contaminated land;
- integrated waste management reporting and planning;

- promoting public awareness of the impact of waste;
- achieving compliance with waste legislation and policy.

The Act does not apply to radioactive waste, residue deposits, disposal of explosives and animal carcasses, which are already handled by specific legislation.

The Waste Act requires that the NWMS give effect to the Republic's obligations in terms of international agreements.

The NWMS should identify the responsibilities of the different spheres of government and organs of state in terms of implementation of the Waste Act.

The Waste Act envisages:

- the inclusion of specific targets for waste reduction in the NWMS
- differentiation between different geographical areas in the NWMS
- classification and categorization of waste
- a phased approach to implementation.

1.5 Principles and policies

The Waste Act is intended to complement NEMA, and its interpretation and application in the NWMS should be guided by the principles for integrated environmental management described in NEMA.

These include the requirement for development to be socially, environmentally and economically sustainable. Sustainability includes the following principles:

- Avoiding or minimising the disturbance to eco-systems and loss of bio-diversity
- Waste is to be avoided, reduced, re-used and recycled in the first place, and in the second place, as required, disposed of in a responsible manner
- Responsible and equitable use of non-renewable natural resources
- Protection of the integrity of renewable natural resources
- Application of the precautionary principle i.e. the limits of current knowledge as well as long term liability issues act as a conservative influence on decision-making.
- Waste management should have adequate and sustainable sources of finance that are affordable to the country

NEMA prescribes an integrated approach to environmental management that recognises the relationships between different elements of the environment and people in the environment.

NEMA stipulates that principles of environmental justice should be observed in relation to the distribution of adverse environmental impacts and equitable access to environmental resources, benefits and services.

Many of the principles underpinning NEMA speak very directly to the requirement for a NWMS. For instance, the principle of costs of remedying pollution and consequent impacts on human health being borne by the polluter is explicit in NEMA.

Furthermore, the concept of extended producer responsibility is implicit in the statement of principle in NEMA that: “Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle”.

Part 2 – Status quo and strategic challenges

2.1 Socio-economic and demographic context

The NWMS will provide an analysis of the socio-economic context to which the waste management strategy applies, including a particular focus on the identification and impact of future waste trends in terms of urbanisation, unemployment and population growth on waste management.

2.2 Key challenges and opportunities

The NWMS will summarise current trends, challenges and opportunities in relation to the following categories of waste:

- General and Domestic Waste
- Hazardous Domestic Waste and Hazardous Waste from Manufacturing and Industry
- Waste from Agriculture and Forestry (Pesticides)
- Healthcare Risk Waste
- Mining and Power Station Waste.

Key challenges and issues will be addressed in relation to:

- Waste prevention and reduction;
- Re-use and recycling, and
- Collection, transportation, treatment and disposal of waste.

This section should include an analysis of the key challenges and barriers negating waste management and describe existing institutional capacity in relation to waste services. Shortfalls in access to waste services need to be identified.

Opportunities in relation to carbon trading in terms of the Clean Development Mechanism (CDM) will be examined, as well the broader benefits of moving to a low carbon, low waste economy in terms of job creation.

2.3 National waste balance

A national waste balance will document the flow, types and quantities of waste from production through to transport, treatment and disposal. The national waste balance will model the extent to which waste is re-used and recycled within each of these streams, and enable assessment of the potential for further waste reduction, re-use and recycling. The model will be based on existing waste information systems and strategy, as well as inputs obtained from industry, including the recycling industry, and cross-referenced with other data sources such as disposal sites. Estimates of illegal dumping and disposal will also be extrapolated from existing data sources including census data and the recent nationwide assessment of the status of landfills.

It is acknowledged that there are issues with the availability and integrity of the waste information currently accessible, and therefore, the waste balance will be used primarily for indicative planning purposes.

2.4 Institutional responsibility and capacity

This will identify which institutions carry out waste management activities with reference to the main waste streams identified in the waste balance analysis, and provide an analysis of institutional capacity, identifying particular limitations.

2.5 The economics of waste management

The NWMS will summarise the main economic trends in the waste sector, as well as the achievement of poverty and job creation targets. The size of the waste industry in terms of capital, turnover, and employment will be described, and investment trends in the sector will be considered. The impact of the waste industry on the national economy and tax income will be examined, and the cost of managing waste will be analysed.

The macro-economic implications of different scenarios for targets and minimum standards will be examined in terms of job creation, SME development, GDP and poverty eradication.

Micro-economic issues related to pricing, subsidies, incentives, regulatory costs and impacts, and institutional performance will also be examined, and the fiscal and financial sustainability of waste management practices and policy options will be considered.

2.6 International Review

As part of the process for formulating this strategy, an international review has been initiated, and a set of recommendations based on the findings of this will be included in this section. Based upon an analysis of international trends, as well as local examples, this section will provide guidelines in terms of best practice for the NWMS

Part 3 – Waste strategies

This part will set out the main strategies and plans to address the generation (including the avoidance and minimisation of such generation), re-use, recycling, recovery, treatment, disposal, use, control and management of waste in order to achieve the objectives of the Act. The relative priority of different interventions will be considered, as well as dependencies between them so that a logical and progressive implementation framework can be developed.

An appropriate and pragmatic mix of quantitative and qualitative targets for waste management will be established in this section. Priorities and targets will be set based upon the analysis of the waste balance in the previous section.

The overall aim of this section is to achieve a balanced and holistic waste management approach, which includes a bottom up, community development perspective, and a focus on service delivery, poverty eradication, job creation and skills development.

3.1 Waste information system

The current waste information system (WIS), established as part of the NWMS Implementation Project, will be critiqued and recommendations based on this given for the new WIS. The NWMS will address pertinent issues relating to the functioning of the WIS, including the provision of and access to information, measures to promote streamlined reporting, data verification, analysis and dissemination, and recommendations regarding the information management and database governance requirements for such a system.

This will primarily be done at National level, but consideration will also be given to the integration and alignment with the provincial systems as provided for in section 62 of the Waste Act.

3.2 Integrated Waste Management Planning

The NWMS will apply to all branches and organs of state when they perform a waste management activity, and therefore the NWMS represents a consensual cross-cutting program, providing overall coherence and coordination. The Act stipulates that integrated waste management plans must be established for all spheres of government: National, Provincial, and Municipal. Furthermore, one of the implications of integration is that they must be aligned with municipal Integrated Development Plans.

Furthermore, the NWMS needs to be aligned with other integrated strategies, such as those for managing hazardous waste, air pollution, and management of the water resource. This is to prevent duplication of functions and activities, and maximize the efficiency with which the state's resources are used.

3.3 Waste Avoidance and Reduction

The NWMS establishes the hierarchy of waste management by requiring waste avoidance and reduction to be considered as the preferred option in terms of planning requirements. Realistic targets will be recommended for waste reduction.

3.4 Re-use and Recycling

An opportunity exists to build upon the existing recycling and extended producer responsibility initiatives. The Act does provide the Minister with regulatory powers in this respect, but strategies based on negotiation in terms of industry waste management plans and fiscal incentives are likely to yield results. Public awareness of, and participation in, re-use and recycling schemes will form an important part of re-use and recycling strategies.

Life-cycle measures such as recycling have significance in terms of economic growth and job creation and should be linked to provinces' growth and development strategies. These will form important criteria in developing and assessing re-use and recycling measures, which in many instances involve treatment and processing measures.

Interventions must be carefully assessed in terms of their impact on the informal recycling sector and the potential to cause job loss. Limitations of recycling, especially in terms of sustainability will be taken into account, and the appropriate blend and flexibility of waste management activities will be explored.

The recycling market will not become viable simply because its existence is regulated, and incentivisation is required to stimulate the sector. The strategy will make recommendations specific to the South African context. Differences in locations, such as the cost of recycle transportation in rural areas, will also be considered.

3.5 Treatment, Processing, and Disposal

Waste disposal is a regulated activity in terms of the Act. The status of landfill sites needs to be considered, and strategies to ensure adequate landfill airspace will consider the upgrading of existing sites and financing and development of new sites. Operational and maintenance requirements for landfill sites will be taken into account. The NWMS must ensure that future development of landfill sites, and in particular their location should not perpetuate a form of environmental racism.

The costs, benefits and impacts of various treatment and processing methods, such as anaerobic facilities, gasification systems, and flaring of landfill gases will be discussed in this section. The relevant merits of disposal options will be considered and priorities set in relation to the desired trend. Whilst landfilling is historically viewed as the cheapest option, this does not necessarily factor in the full environmental cost, and the economics of the various options will be carefully considered,

The practical implications in relation to provision of receptacles for litter disposal (and the resultant disposal of accumulated waste) in public areas by municipalities form an important norm and standard in respect of delivery of local waste services

3.6 Remediation

The NWMS will need to give effect to the regulatory functions assigned to the Minister for the remediation of contaminated lands in terms of the “polluter pays” principle. Furthermore, the requirement has been established for the inclusion of a contaminated lands registry in the national waste information management system. Developing the framework for remediation is a significant task which will be addressed in this section.

3.7 Waste Services Delivery

Ultimately, for most citizens the NWMS will be judged by its success in terms of the delivery of waste services at the local level. In respect of strategies and targets, people receiving little or no waste services need to be prioritized. Provision is made for recovery of the costs of waste services by licensed service providers, but this is subservient to the constitutional requirement for the preservation of a healthy environment.

Of particular importance to this section is the provision for a national framework of norms and standards in relation to appropriate waste collection standards for different types of settlements. The work that is being undertaken by the CSIR on waste services delivery and national norms and standards will be integrated into this section. The institutional and financial requirements of waste management at local level will be evaluated and viable options proposed..

It is anticipated that this section will empower municipalities with information on both the positive and negative aspects of the various options for waste service delivery, including privatisation. However this information will serve as guidelines only and will not dictate to municipalities which of the options they should use.

The role that the private waste sector can play in waste services delivery and transportation, will be outlined.

Part 4 – Implementation themes

In this part the main implementation themes are developed.

4.1 Targets, norms and standards

The strategy will make recommendations regarding the use of targets as an instrument for waste reduction, and any national standards that should be set with respect to waste treatment and disposal, the provision of waste management services, waste avoidance, waste minimisation, recovery, re-use and recycling. Where targets are recommended, the NWMS will identify the level at which targets should be set, for example at sector level or company level.

4.2 Co-operative governance

The strategy will examine the Constitutional and legal framework that governs waste management, and measures to promote co-operative governance. The NEMA amendment on cooperative governance is relevant, and the potential for other legislation to impact on the NWMS must be considered. In terms of integrated waste management, the transference of waste from one disposal medium to another i.e. in effluent and incineration, needs particular consideration and requires cooperation between different departments e.g. DWEA and DTI.

This will include consideration of the waste planning system, including the contents of integrated waste management plans, reporting on implementation, and the linkage with monitoring and performance assessment around the achievement of the targets. The strategy will propose practical measures for achieving co-operative governance in waste management matters.

The relative roles of the public and private sector will be addressed, and regulatory requirements for the private sector will be considered.

The main departments which impact on and are impacted by this strategy have recently been restructured. The effects and implications of this restructuring will be identified and factored in to the strategy, especially in relation to regulation of landfill sites and waste water issues.

4.3 Implementation Mechanisms

The strategy will look at the institutional arrangements for implementing the strategy, and will map out the roles and responsibilities of different government agencies and stakeholders, including the systems for appointing and coordinating waste management officers at national, provincial and local level. This section will include a description of the Institutional arrangements that need to be made to ensure appropriate and sustainable policy and implementation practices. It will describe how the institutional arrangements and waste management measures specified in the Act will be applied in the NWMS, including national, provincial, municipal and industrial waste management plans and the Waste Information Management System. The strategy should avoid being prescriptive to municipalities in terms of implementation, but should provide guidance in terms of the advantages and pitfalls of different approaches.

The strategy will also examine the Constitutional and legal mechanisms to address persistent service delivery failure by other spheres of government, and the appropriate intervention for non-compliance within a framework for cooperative governance will be addressed.

4.4 Financing Waste Management

The strategy will consider the existing intergovernmental fiscal systems and budget allocations for waste, and the scope for new intergovernmental fiscal interventions around waste management. Proposals will be developed for mechanisms to monitor and ensure adequate financing of waste management at all levels of government,.

The strategy will focus particular attention on solid waste management and the role of local government, including recommendations regarding national standards in respect of tariffs for waste services provided by municipalities, the role of development user charges in supporting additional capital investment, any limitations that should be placed on the use of income

generated by the recovery of charges, and tariffs to be used to provide for waste management infrastructure or facilities. Measures to improve the efficiency with which local authorities use their budgets and resources will be considered.

4.5 Economic instruments

The strategy will investigate and make recommendations regarding the fiscal and market based economic measures that can be implemented in order to promote the achievement of waste management objectives, and any specific recommendations regarding their application. This will include specific recommendations regarding levies and taxes on waste, compulsory deposit systems, and incentives to industry for cleaner production.

The implications and benefits of industry led initiatives versus levy type initiatives and the potential for Treasury funds for either will be considered in this section.

4.6 Producer responsibility and consumer protection

The strategy will develop the concept of producer responsibility, and propose ways to give effect to the principle of duty of care, and to engender a sense of responsibility within the industry for a lifecycle approach to waste that considers re-use, recycling, and treatment. Waste management as a key element of corporate social responsibility will to be addressed. The roles and constraints of different sized companies will be examined. Relevant provisions in the Consumer Protection Bill, currently in its third draft, and any contradictions between this and the Competition Act, will need to be considered. The strategy should explore the extent to which voluntary initiatives can be encouraged and supported in order to encourage companies to go beyond a mere compliance exercise, and it should establish recognition programmes within the industry.

4.7 Industry Waste Management Plans

This section of the strategy will look at the approach to industry waste management plans, including the content of plans, the industries which should complete them, the instances in which plans can be prepared by organs of state, the specification of measures to be taken in plans, and provisions for review of plans.

Acknowledgement of industry waste management plans currently developed or being developed will be given, and a proposed method of integrating these processes set out.

4.8 Education and Awareness

Public awareness and communication are a crucial aspect of the implementation of the strategy, and specific recommendations will be developed regarding measures to build public awareness of waste issues and promote consumer responsibility. The strategy will provide guidance on raising awareness regarding the impacts of waste on health and the environment.

4.9 International obligations

This section will provide an overview of mechanisms, systems and procedures for giving effect to the Republic's obligations in terms of international agreements, including those related to SADC.

This section will give consideration to the impact of international obligations on all spheres of government. The requirements for all levels of government to achieve South Africa's international obligations in relation to the Stockholm and Basel Conventions in particular will be clearly identified. Furthermore, the implications of becoming an Annexure 1 country in terms of the Kyoto protocol or having increased duties as South Africa, should the South African status change, will be identified and planned for.

Part 5 – Regulation, Compliance and Enforcement

5.1 Waste regulation, compliance and enforcement

This aspect of the strategy will focus on the regulatory and compliance aspects of strategy, and the most appropriate approach to be adopted with respect to the main regulatory aspects of the Waste Act.

The strategy will explore the range of Waste Management Measures that can be implemented in terms of the legislation, including the listing and regulation of waste management activities, and measures to address littering by the public. The potential for self regulation will also be considered, especially for various sectors within industry.

The NWMS will develop recommendations regarding priority wastes, including their identification, and requirements for the management of priority wastes as defined by stakeholders and government.

The strategy will address the licensing of waste management activities, including the identification of the licensing authority, the procedure for waste management licence applications, and the issuing of waste management licences. The strategy will give clear recommendations for the role of licensing in relation to other relevant licensing systems, such as the ECA section 20. It will also recommend transitional arrangements to deal with currently approved applications and applications that are in the process of submission. . Licensing for transporting of waste will also be a focus of this section of the strategy, especially in regards to the competent authority in the case of waste being transported across provinces.

The strategy will make recommendations regarding the consequences of misuse of membership or licenses, and the use of annual audits of applicants and waste sites, including landfill sites, as a requirement to maintain a licence. The implications of the amendment to the National Environmental Management Act (62) will be considered.

The most appropriate compliance and enforcement measures will be addressed, including waste impact reports, and recommendations regarding offences and penalties. The right to recourse in terms of dealing with a polluter will be addressed in this section.

The strategy will also need to deal with the identification and notification of contaminated land for investigation in terms of the Waste Act, including the legal consequences of notification, the process of compiling and considering site assessment reports, the consequent issuing of orders to remediate contaminated land, and the establishment of a contaminated land register.

Part 6 – DEAT Action Plan, Cost Implications and Capacity Requirements

This section of the strategy will develop a costed action plan for the implementation of the strategy with respect to DEAT's roles and responsibilities and an assessment of the human resource capacity requirements for the achievement of the action plan.

A regulatory impact assessment with respect to cost will be undertaken in order to ensure that this is taken into account in approving the strategy, and ensure that sufficient funding is made available to support the implementation of the strategy.

Based on the models developed during the research phase, an indicative total cost to the fiscus and economy will be estimated.

Particular emphasis will be placed on capacity requirements to implement the strategy, including at provincial and local government level. Particular challenges such as lack of retention of skilled officials will be examined, and creative solutions such as partnerships between government, the private sector and communities will be explored.