

National

Waste Management Strategy

Prepared by: Linkd Environmental Services



Draft: Status Quo Assessment

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# Abbreviations

CBO Community Based Organisation

COGTA Department of Cooperative Governance and Traditional Affairs

DEA Department of Environmental Affairs

DMR Department of Mineral Resources

DOH Department of Health

DST Department of Science and Technology

dti Department of Trade and Industry

DWS Department of Water Affairs and Sanitation

EPR Extended Producer Responsibility

HCRW Health Care Risk Waste

IWMP Integrated Waste Management Plan

IndWMP Industry Waste Management Plan

MFMA Municipal Finance Management Act

NWMS National Waste Management Strategy

NECER National Environmental Compliance and Enforcement Reports

NEMWA National Environmental Management Waste Act, 2008, as amended in 2014

NGO Non-Governmental Organisation

NPA National Prosecuting Authority

PFMA Public Finance Management Act

PSC Project Steering Committee

REDISA Recycling and Economic Development Initiative of South Africa

SAWIS South African Waste Information System

Waste RDI Waste Research, Development and Innovation (Roadmap)

# Introduction

This Status Quo Assessment is intended to provide evidence and analysis to support the third National Waste Management Strategy (NWMS), which represents a revision and update to the 2011 NWMS. The 2011 Strategy was the first NWMS to be published under the National Environmental Management: Waste Act of 2008 (NEMWA), which mandates the review and update of a national waste management strategy every five years.

The Status Quo Assessment is structured as follows:

* Chapter 2 describes the methodology for drawing up the report, including an overview of stakeholder consultation and the key sources of data and analysis on which the report is based.
* Chapter 3 consists of a review of implementation of the 2011 NWMS in terms of the goals, targets and activities that formed the implementation plan for that strategy, as well as addressing some of the cross-cutting issues encountered in the implementation of the 2011 NWMS
* Chapter 4 consists of a Situational Review which seeks to contextualise waste management within the context of new and emerging approaches to waste management locally and internationally, challenges and opportunities facing the waste sector in South Africa, and new developments and initiatives in the waste sector relevant to the revision and update of the NWMS.
* Chapter 5 draws on the evidence and analysis provided in the progress review of the NWMS 2011 and the situational analysis to develop recommendations and guidance for the revised and updated NWMS.

The logic underpinning this approach is summarised in the diagram below:

Figure 1: Approach to developing a revised and updated NWMS

Inevitably, the review of the 2011 NWMS and the situational analysis tends to focus on gaps and challenges encountered in the implementation of the strategy, and waste management more broadly. This should not detract from the effort and commitment shown by individuals in all spheres of government, civil society and business in seeking to minimise waste and develop an economy in which waste is utilised as a resource rather than being disposed as litter, illegally dumped or disposed to landfill at significant cost to taxpayers.

# Methodology

The completion of a draft Status Quo Assessment represents the culmination of the second phase in the project plan for the revision and update of the NWMS. Because the Status Quo Assessment will form part of the revised and updated strategy, it will be included in the Draft NWMS that is published for public comment and will therefore only be considered a final document once it has been approved by Cabinet. The diagram below summarises the critical steps and timeline for this process.

Figure 2: Critical steps in the revision and update of the NWMS

The overall process is managed by a Project Management Team within the Department of Environmental Affairs (DEA) and guided by a Project Steering Committee (PSC) which includes representatives from different branches and units within DEA that are affected by the NWMS, as well as representation from SALGA and metros, such as the City of Johannesburg – reflecting the critical role of local government in providing waste management services. The PSC is likely to be further expanded to include representatives from other government departments and agencies during the process of final approval of the revised and updated NWMS.

As a first step in the process, a Discussion Document providing a provisional analysis of progress in relation to the 2011 NWMS was submitted to the PSC and developed into a presentation that formed the basis of an initial round of stakeholder engagements in the form of regional workshops. The purpose of these workshops was to get feedback from stakeholders directly involved in the implementation of the 2011 NWMS on their perspective on achievements, gaps and the challenges encountered in implementing the strategy. These workshops provided valuable insight that has informed the analysis of progress in relation to the NWMS 2011 and informs recommendations for its revision and update.

Subsequent to the regional stakeholder workshops, a data and information template was circulated to provinces in an attempt to consolidate provincial quantitative data and qualitative narratives on progress towards the 2011 NWMS goals. Additionally, a series of interviews with relevant officials within DEA, relevant sister departments, as well as external stakeholders are being undertaken to not only inform the Status Quo Assessment, but also to provide initial direction in relation to the strategy update.

A further parallel process that is integral to the Status Quo Assessment is an update to the baseline data that informed the 2011 NWMS which is being undertaken by consultants appointed separately by the DEA in the form of the “State of Waste Report”. Data from the Draft Report has been included in this first draft of the Status Quo Assessment, but it should be noted that this data is likely to be improved in the final State of Waste report, so information drawn from the draft report in this iteration of the Status Quo Assessment is likely to change by the time the first draft of the revised and updated NWMS is released for public comment. Consequently, while the current data does provide an indication of trends and the direction of change, it should not be regarded as definitive. The Department is taking steps to more tightly integrate the process of finalising the State of Waste Report with that of developing the revised and updated NWMS.

Contemporaneously with this, to inform the Situational Analysis, the NWMS team commissioned research around the broad strategic entry points of “Waste Prevention” and “Waste as a Resource” and convened a research forum of waste sector experts to guide and review the researchers. This research is based on a desktop review of relevant local and international research, case studies, legislation, regulations and policy. A separate Research Report is being developed that includes a detailed bibliography of sources.

The NWMS team has also undertaken a review of Integrated Waste Management Plans (IWMPs) to determine the extent and manner in which integrated waste management planning by local and provincial government has contributed to the implementation of the 2011 NWMS. The review is based on a purposive sample of IWMPs which includes all available provincial and metro IWMPs undertaken during the five-year period of the 2011 strategy, as well as reviews of a selection of district and local IWMPs designed to reflect distinctions between rural and urban local authorities, as well as relatively wealthy and poor municipalities. This review particularly informs the analysis of progress in relation to 2011 NWMS Goal 5 (Achieve integrated waste management planning).

It should be noted that one of the challenges facing the waste sector is the generally poor quality of data on waste streams and waste management. While the South African Waste Information System (SAWIS) has been established, it does not yet provide sufficiently comprehensive or reliable data to serve as a useful basis for provincial or national reporting. Efforts to quantify progress in relation to the 2011 NWMS goals are hampered by the absence of systematic annual reporting on progress at all levels of government. Further, in some cases the targets formulated for the NWMS 2011 goals arguably do not represent adequate indicators of progress and/or are intrinsically difficult to measure.

As a consequence of broader engagement with the research community, civil society, and the business community at the national workshop, and engagements with focus groups convened to inform sub-sector programmes within the NWMS, some further revisions to this draft report are likely before it is included in the Draft NWMS that is circulated for public comment.

# NWMS II Progress Review

This section of the report focuses on progress towards realising the goals of the 2011 NWMS in relation to the targets set for each goal and the NWMS action plan. One of the challenges faced in reviewing the 2011 NWMS is the absence of a systematic approach to monitoring and evaluation of the strategy, as well as the generally poor level of reporting within the sector. Despite this, an attempt has been made to quantify progress towards each goal based on:

* An evaluation of progress towards targets, relying on what quantitative data exists in relation to the relevant indicators wherever possible.
* An evaluation of progress in implementing the action plan specified for supporting achievement of each goal.
* The approach followed has been to give equal weighting to targets and actions for each goal to arrive at a percentage for “progress towards targets and “progress towards implementing actions”. Within these two categories, targets and actions have been weighted equally. While an overall percentage score is arrived at, it should be recognised that the overall process depends on qualitative judgements rather heavily.

The table below summarises the results of the analysis expanded in the sub-sections of the report.

Table 1 Summary table of progress in implementing the 2011 NWMS

|  |  |  |  |
| --- | --- | --- | --- |
| Goal | Targets | Actions | Overall |
| Promote waste minimisation, re-use, recycling and recovery of waste | 47% | 75% | 61% |
| Ensure the effective and efficient delivery of waste services | 70% | 59% | 64% |
| Grow the contribution of the waste sector to the green economy | 40% | 55% | 47% |
| Ensure that people are aware of the impact of waste on their health, well-being and the environment | 80% | 62% | 71% |
| Achieve integrated waste management planning | 40% | 65% | 52% |
| Ensure sound budgeting and financial management for waste services | 10% | 55% | 32% |
| Provide measures to remediate contaminated land | 100% | 70% | 85% |
| Establish effective compliance with and enforcement of NEMWA | 38% | 40% | 39% |

In some cases, scoring may reflect a misalignment between strategic goals, targets and actions in the NWMS – stakeholders may feel that actual progress in relation to the strategic intent behind a particular goal is substantially different to that suggested by a scoring of progress in implementing the strategy.

## Goal 1: Promote waste minimisation, re-use, recycling and recovery of waste

The goal is anchored on the following objects of NEMWA, namely:

“To protect health, well-being and the environment by providing reasonable measures for: i) minimising the consumption of natural resources; ii) avoiding and minimising the generation of waste; iii) reducing, re-using, recycling and recovering waste; …”

These establish waste minimisation and prevention as the guiding principles for waste management in South Africa and inform the conceptualisation of a hierarchy of waste management practices articulated in the 2011 NWMS.

A relatively conservative overall target for recycling was set in term for this goal, which appears to have been achieved, although progress in relation to the supporting activities has not always been effectively reported and is uneven. Contrastingly, a very ambitious target was set for separation at source of recyclables, and there has only been very partial progress towards this goal. There has also only been very partial progress in relation to targets set for development of Industry Waste Management Plans (IndWMPs).

Table 2: Summary of progress towards Goal 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Overall progress towards Goal 1: Promoting waste minimisation, re-use, recycling and recovery of waste | | | | | 64% |
| Progress towards Targets | | 53% | | | |
| Target | | Progress | | Comment | |
| 25% of recyclables diverted from landfill sites for re-use, recycling or recovery | | 84% | | 21% of recyclables diverted during the period. | |
| All metropolitan municipalities, secondary cities and large towns have initiated separation at source programmes | | 50% | | While a large number of pilot programmes and small-scale initiatives have been undertaken, few have been sustainably taken to scale. | |
| Achievement of waste reduction and recycling targets set in IndWMPs for paper and packaging, pesticides, lighting (CFLs) and tyres industries | | **20%** | | Targets were not fully achieved due to the delayed approval and implementation of the plans. It should be noted that some voluntary plans have been implemented in some sub-sectors | |
| Progress towards implementing action plan | | 75% | | | |
| Actions not implemented | Partially completed | | Completed | | |
|  | 7 | | 3 | | |

The focus of this goal has been on diverting waste from landfill, and waste prevention in the sense of avoiding the generation of waste is at best only indirectly reflected in the targets and activities set out for this goal. As such, it can be argued that it reflects an inadequacy in the way the waste management hierarchy, in which waste avoidance is prioritised, is articulated in the 2011 NWMS.

Target: 25% of recyclables diverted from landfill sites for re-use, recycling or recovery

There has been significant criticism of the framing of this target from stakeholders on a number of fronts. It has been suggested that the target should have been formulated as a target for the diversion of general waste from landfill. In its current formulation, it is unclear exactly how recyclables are defined, and if they are understood as simply consisting of paper, plastic, glass, and metals the target was likely to have already been met at the outset. Stakeholders have also suggested that disaggregated targets for particular waste streams and types would be more useful.

If it is accepted that the target refers to paper, plastic, glass and metals, then according to the State of Waste report released as a first draft in April 2018, in 2017 34% of “recyclables” were recycled but only 11 % of general waste was diverted from landfill. In terms of diversion from waste from landfill, this barely moves the needle from the 2011 baseline, which estimated that 10% of general waste was diverted from landfill. Furthermore, if recyclables are defined to include: organic waste; construction and demolition waste; and tyres (all of which are potentially recyclable or recoverable), then a recycling rate of 21% was achieved in 2017, which is below the 2011 NWMS target.

The tables below summarise data from the State of Waste report relating to diversion of general waste from landfill and diversion of hazardous wastes from treatment and disposal. In total, in 2017 South Africa generated approximately 42 million tonnes of general waste of which 4.9 million tonnes (11%) was recycled and 38 million tonnes of hazardous waste, of which 7% was recycled.

Table 3: Recycling and recovery rates for General Waste streams, 2017

|  |  |  |
| --- | --- | --- |
| Waste Type | Generated (tonnes) | % Recycled/Recovered |
| Organic | 6 656 234 | 12% |
| Construction and Demolition | 5 360 556 | 6% |
| Paper | 3 635 825 | 39% |
| Plastic | 2 247 323 | 15% |
| Glass | 1 395 103 | 23% |
| Metals | 3 345 565 | 48% |
| Tyres | 221 751 | 29% |
| Total Recyclables | 22 862 357 | 21% |

Table 4: Recycling and Recovery rates for Hazardous Waste Streams and all Hazardous Waste, 2017

|  |  |  |
| --- | --- | --- |
| Waste Type | Generated (tonnes) | % Recycled/Recovered |
| Batteries | 35 932 | 90% |
| Waste Oils | 133 000 | 70% |
| Fly Ash | 31 117 409 | 7% |
| Bottom Ash | 5 491 308 | 7% |
| All Hazardous Wastes | 38 069 164 | 7% |

The table below indicate the actions that were identified in the 2011 NWMS to support progress against the recycling target, and the outcomes achieved during the 2011-2016 period. The actions primarily focus on creating an enabling environment in terms of national regulations, norms and standards, and strategies. In some cases, the actions are formulated as rather broad objectives that lack particular targets – such as rolling out buy-back centres or implementing the Cleaner Production strategy - and it is therefore difficult to determine their status as having been definitively achieved or not.

Table 5: Activities to support 25% of recyclables diverted from landfill

|  |  |
| --- | --- |
| Activities | Outcomes |
| Publish for implementation the WCMS regulations. | Achieved – Waste Classification and Management Regulations promulgated in 2013. Waste generators are now required to classify waste in accordance with SANS 10234. |
| Develop norms and standards to promote waste minimisation, re-use, recycling or recovery of waste materials. | Partially achieved - In 2013 National standards for the Scrapping or Recovery of Motor Vehicles were gazetted. In 2017 National Norms and Standards for the Sorting, Shredding, Grinding, Crushing, Screening or Baling of General Wastes were gazetted. |
| Roll out buy back centres in identified municipalities including identification of partnerships and funding opportunities. | Partially achieved - Establishment of buyback centres has been supported through the EPIP funding programme, and SALGA has published a local government guideline for transfer stations, buyback centres and material recovery facilities, but municipalities require further support to leverage funding opportunities and engage the private sector. Many buy-back centres are run by small-scale entrepreneurs and do not necessarily report to SAWIS or operate at volumes that meet the licensing requirements for listed waste management activities. |
| Implement the Cleaner Production Strategy to promote waste minimisation at production. | Partially achieved - The implementation of this strategy is led by the National Cleaner Production Centre of South Africa (NCPC-SA) which offers training and technical support to business and industry to reduce energy and water use and avoid waste. In 2016/17 the NCPC-SA estimated that it has diverted 6 160 tonnes of waste from landfill and achieved a reduction of 8 800 tonnes in use of virgin material through its Industrial Symbiosis programme. |
| Development of a strategy for diversion of green waste from landfill by municipalities | Partially achieved - The national waste composting strategy was developed in 2013. DEA are currently in the process of finalising a feasibility study of Waste to Energy opportunities, which includes investigating opportunities around organic waste and biomass. |

Target: All metropolitan municipalities, secondary cities and large towns have initiated separation at source programmes

Waste separation at source is an important enabler for improving recycling and recovery rates and therefore diverting waste from landfill. Beyond the requirement for municipalities to develop integrated waste management plans, no specific actions were stipulated in the 2011 NWMS to support this target.

Although most metros and many secondary cities have implemented pilot or small-scale separation at source programmes, in very few municipalities has separation at source been implemented at significant scale. In most, implementation has been accomplished through partnership between the municipality and private sector service providers. In most of the metros and some of the secondary cities, recycling companies offer to collect recyclables from domestic households for a fee, and generally only in certain suburbs, which limits uptake of the service. It is increasingly common for businesses to separate their waste at source as a matter of company policy, but in the absence of adequate demand for recyclable and upstream recycling infrastructure this waste may simply be recombined and disposed to landfill.

As part of the Waste Research, Development and Innovation (Waste RDI) Roadmap, the CSIR has developed a Decision Support Tool for Implementing Municipal Waste Separation at Source that will assist waste management planners in incorporating socio-economic and environmental impacts and go some way to addressing perceptions around the costs of implementing large-scale separation at source and other recycling programmes. Industry should take responsibility of funding some of these initiatives and programmes than leaving everything to the taxpayers through government. There is also a need to consider a phased-in approach for large-scale rollout of separation at source and market development in the short-to-medium term. The target does not make it mandatory for the municipalities to initiate separation at source and hence is not seen as a priority.

Target: Achievement of waste reduction and recycling targets set in IndWMPs for paper and packaging, pesticides, lighting (CFLs) and tyres industries

Industry Waste Management Plans (IndWMPs) are a mandatory initiative used in the waste sector to facilitate cradle to cradle (holistic) management of waste streams in a manner that promotes waste collection, recycling, job creation and SMME/Cooperative development and are based on Extended Producer Responsibility (EPR) and circular economy concepts.  Part 7 of the Waste Act provides details regarding the legislative provisions related the IndWMPs. In general, the take-up of Industry Waste Management Plans as a mechanism for implementing the NWMS has been unsatisfactory as outlined in the table below.

Table 6: Activities to support IndWMPs

| Activities | Outcomes |
| --- | --- |
| Develop an IndWMP for the pesticide industry. | Partially achieved – A voluntary plan was submitted in 2011. A Section 28 notice under NEMWA has not yet been issued for an IndWMP from the pesticides sector, so no plans have been approved by the Department. |
| Develop an IndWMP for the paper and packaging industry. | Partially achieved – The first paper and packaging industry plan was submitted to the DEA in August 2011 as a voluntary plan and updated in September 2014. This draft is now regarded as obsolete. There has been a recent (2018) call for plans. |
| Investigate feasibility of IndWMP for identified e-waste streams. | Partially achieved – Draft voluntary plans have been prepared by the Electronic Waste Association of South Africa (EWASA). There has been a recent (2018) call for plans. |
| Investigate feasibility of an IndWMP for batteries. | Achieved – Status Quo Report on the Management of Spent Lead-Acid Batteries in South Africa finalised in 2016. |
| Develop an IndWMP for the tyre industry. | Achieved in 2013, with the approval of the REDISA Integrated Industry Waste Management Plan for tyres. However, there were significant problems with REDISA’s implementation of the plan, and REDISA has been liquidated and responsibility for the tyre management plan has been assigned to the Waste Management Bureau. |
| Develop an IndWMP for the management of CFLs. | Partially achieved – A voluntary plan was submitted in 2012. In 2016 the minister published a notice under section 28 of the Act for industries to prepare and submit industry plans for approval. |
| Develop guidelines for IndWMPs in consultation with industry. | Partially achieved – A generic guideline document for preparing industry waste management plans was released in draft form in March 2010, but this has not been updated or finalised. |

### Roles and Responsibilities

The key role players identified in the NWMS 2011 for implementation around Goal 1, apart from the DEA itself, include the Department of Trade and Industry, the private sector and local government. The NWMS 2011 proposes that a joint forum be created with representation from the DEA, dti and National Treasury to oversee the implementation of the Cleaner Production Strategy and the development of norms and standards to promote waste minimisation, re-use, recycling or recovery of waste materials. Although there has been occasional consultation, such a forum has not been created. Furthermore, norms and standards are typically developed in conjunction with affected industries. Implementation of the Cleaner Production Strategy is largely accomplished through the NCPC-SA, which as a programme falls under the dti, and although the NCPC-SA as a programme is well regarded by industry, and industrial symbiosis is being integrated into waste management at a provincial and local level, there has been little effort to date to integrate it into the DEA’s action plan in relation to waste minimisation at a national level.

The Department of Science and Technology (DST) in partnership with the Centre for Scientific and Industrial Research (CSIR) is responsible for funding the Waste Research, Development and Innovation Roadmap (WASTE RDI Roadmap) which as its mission “ …supports maximisation of diversion of waste from landfill towards value adding opportunities, including prevention of waste and the optimised extraction of value from reuse, recycling and recovery, in order to create significant economic, social and environmental benefit.” The programme focuses on the key enablers of: more effective decision-making; accelerating the take-up of context-appropriate waste management technology; exporting skills and technology; and strengthening capability and capacity in waste RDI.

### Gaps and Challenges

In relation to waste minimisation, the NWMS 2011 focuses particularly on recycling as a strategy for diversion of waste from landfill by seeking to create an enabling environment through national norms and standards, the Waste Classification and Management System regulations, sector strategies and IndWMPs. It can be argued that the NWMS 2011 approach to waste minimisation fails to adequately include waste prevention strategies that seek to avoid and reduce the generation of waste, for instance by promoting approaches to the design of products and packaging that reduce waste or encourage reuse, repair and preparation for recycling.

The activities that are intended to directly support the recycling value chain focus at the point of collection in terms of supporting buy-back centres and separation at source. Stakeholders have argued that a critical constraint on improving recycling rates is the pricing of recyclables, and this is dictated by demand. It has been argued that as a major player in the South African economy, government can influence demand for recyclables through green procurement policies that stipulate recycled content.

Current waste collection systems are generally not designed to separate recyclables, and therefore there may be significant costs associated with adapting these systems. Consequently, the cost of implementing separation at source programmes are often perceived by local government as a critical challenge. Government intervention may be required to support markets for source separated recyclables and municipalities need to provide an enabling environment for partnerships with the private sector around separation at source.

The success of separation at source programmes also depends on significant behaviour change on the part of consumers and businesses as generators of waste. The CSIR has been commissioned by a private sector waste company to investigate potential regulatory or economic interventions to increase participation rates in residential separation at source programmes in Johannesburg. Stakeholders have also noted that NWMS 2011 does not adequately address the role of waste pickers and the informal sector in the recycling economy, and that this needs to be addressed in the revised strategy.

In the absence of subsidies, the economies associated with transporting of recyclables to waste processing facilities are likely to be a limiting factor in more rural areas. With careful planning and cooperation at a provincial, metro and district level, smaller and more remote rural municipalities may be able to accumulate larger volumes of recyclables for transport to centralised facilities.

A further implementation gap has been created by the fact that little progress has been made in developing and implementing IndWMPs plans beyond that of the Recycling and Economic Development Initiative of South Africa’s (REDISA) Integrated Tyre Waste Management Plan. In August 2016 the Minister of Environmental Affairs published a notice under sections 28(1) and 28(5) of NEMWA to the Paper and Packaging; Electrical and Electronic Equipment and Lighting Industries to prepare and submit Industry Waste Management Plans for approval, and this call was reissued in 2018, but as yet none have been approved.

The implementation of the REDISA IndWMP for tyres proved extremely problematic and ultimately REDISA was liquidated because of serious failures in financial governance, failures to comply with and accurately report on the Tyre IndWMP as approved by the DEA, and failure to achieve the targets set in the Tyre IndWMP in terms of job creation, SMME development, and recycling of tyres. The REDISA plan was funded through a levy on tyres, and when revenue from this levy was brought under the control of SARS rather than REDISA, operations effectively ceased. From the outset the REDISA plan received criticism from stakeholders in the tyre industry – apart from concerns about the practicality of the REDISA plan itself, there were also concerns that approval of only a single plan for the management of waste tyres created a monopoly which would at best be inefficient, and at worst be vulnerable to corruption.

## Goal 2: Ensure the effective and efficient delivery of waste services

Goal 2 is intended to give effect to the following object of NEMWA:

“to protect health, well-being and the environment by providing reasonable measures for [amongst others]: promoting and ensuring the effective delivery of waste services”

This goal is focused on delivery against targets for the core municipal functions of domestic waste collection and disposal. Whilst many of the enabling actions described in NWMS 2011 have been accomplished, the target for domestic waste collection has not yet been met, and although the target for licensing of landfills has been met, the efficacy of this target has been questioned by various stakeholders as it does not speak to compliance with licensing conditions. The table below summarises progress against targets and implementing of the action plan associated with this goal.

Table 7: Summary of progress towards Goal 2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Overall progress towards Goal 2: Ensure the effective and efficient delivery of waste services | | | | | 64% |
| Progress towards Targets | | 70% | | | |
| Target | | Progress | | Comment | |
| 95% of urban households and 75% of rural households have access to adequate levels of waste collection services | | 64.7 % | | The challenge is that infrastructure is not sufficient in urban areas and there is a need to change behaviour | |
| 75.1 % | |  | |
| 80% of waste disposal sites have permits | | 100% | | 90% of landfill sites have permits. This does not include illegal dump sites | |
| Progress towards implementing action plan | | 59% | | | |
| Actions not implemented | Partially implemented | | Implemented | | |
| 3 | 3 | | 5 | | |

Target: 95% of urban households and 75% of rural households have access to adequate levels of waste collection services

Some stakeholders have raised objections to the differentiation between urban and rural dwellers in the framing of this target, pointing out that access to waste services should be regarded as a constitutional right that applies to all citizens. While it is accepted that traditional forms of waste collection can be difficult to accomplish in remote rural areas or densely populated informal settlements, in both cases local authorities should be able to develop context-appropriate strategies for collecting waste that represent an adequate level of service. To support implementation of the first 1999 NWMS, DEA developed guidelines for these contexts that may require updating and implementation in the context of an integrated national strategy for improving waste collection services.

Table 1 below summarises StatsSA figures from the 2016 Community Survey for household waste collection. From the table it is clear that the NWMS 2011 targets have not been achieved. Indeed, the overall percentage of households receiving weekly collection services appears to have slightly declined from 66% in 2013, to 61% in 2016, based on the StatsSA community survey data.

While the Community Survey data does not directly distinguish between rural and urban households, the provinces with the lowest level of weekly collection (Less than 50% of households in the Eastern Cape, KwaZulu-Natal, Mpumulanga and Limpopo have their household waste collected on a weekly basis) have large numbers of rural households, and in these provinces are large number of households reported disposing of their waste in a household dump.

Table 8: Household waste collection modalities

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Province | Weekly collection % | Less than weekly % | Central dump /drop-off % | Own refuse dump % | No rubbish disposal % | Other % | Household total |
| Western Cape | 87 | 3 | 6 | 2 | 1 | 1 | 1 933 876 |
| Eastern Cape | 41 | 2 | 7 | 44 | 6 | 1 | 1 773 395 |
| Northern Cape | 62 | 3 | 5 | 24 | 5 | 2 | 353 709 |
| Free State | 70 | 4 | 5 | 17 | 4 | 1 | 946 638 |
| KwaZulu-Natal | 48 | 3 | 5 | 39 | 4 | 1 | 2 875 843 |
| North West | 55 | 3 | 4 | 32 | 4 | 1 | 1 248 766 |
| Gauteng | 84 | 3 | 5 | 4 | 3 | 1 | 4 951 137 |
| Mpumalanga | 39 | 3 | 5 | 44 | 6 | 2 | 1 238 861 |
| Limpopo | 22 | 1 | 4 | 66 | 6 | 1 | 1 601 083 |
| **Total** | **61** | **3** | **5** | **26** | **4** | **1** | **16 923 309** |

The table below indicate the activities that were identified for achieving the target and the indicators and the outcomes during the 2011-2016 period. Many local municipalities – and even some metros – have trouble in adequately financing operational costs for waste collection services. In practice, private contractors are often able to perform these services more effectively and at a lower cost. Where municipalities are struggling to cover basic operational expenditure requirements, investment in recycling infrastructure is impossible. A further issue is the often very visible disparity in terms of litter between wealthy suburbs on the one hand, and poorer townships and informal settlements on the other. This disparity is also often replicated between large urban centres and small rural towns. There is clearly scope for innovation in the way local government’s mandate in relation to waste collection is executed.

Table 9: Activities to support adequate access to household waste collection services

|  |  |
| --- | --- |
| Activities | Outcomes |
| Gazette, implement and monitor the National Policy for the Provision of Basic Refuse Removal Services to Indigent Households. | Implemented - Promulgated in 2011 and is under implementation. However, indigent registers in many municipalities are out of date. |
| Implement and monitor the National Domestic Waste Collection Standards. | Partially implemented – The standards were promulgated in 2011 and some progress has been made in implementation and monitoring. |
| Develop and circulate generic by-laws to assist municipalities in developing their own by-laws. | Implemented - Waste Management Model by-laws developed in 2012. Some municipalities have already adapted their by-laws to align with the Model by-laws. |
| Adopt/adapt generic or amend municipal by-laws for the separation, compacting, and storage of solid waste, the management of solid waste and the control of litter. | Partially implemented - Training has been provided to municipalities and is still ongoing on ad-hoc basis. Some Municipalities have already amended their Waste by-laws using the model by-laws. |
| Establish an interdepartmental committee between DEA, National Treasury, DCOG, SALGA, and DHS to address waste service delivery issues and implement a programme to build the capacity of government officials in waste management. | Not implemented. There remains a need for an integrated approach to addressing service delivery across the different national departments and stakeholders in provincial and local government whose mandates impact on delivery of waste collection services. |

Target: 80% of waste disposal sites have permits

In a narrow sense, this target has been achieved as a consequence of DEA’s action plan. However, as a number of stakeholders have noted, the target represents an object lesson in the dangers of “check boxing” i.e. settings targets that can be achieved by administrative fiat, but do not necessarily contribute to an improvement in actual conditions. There is a widespread perception within the sector that in many cases landfills are not operating in compliance with their licensing conditions. In situations where municipalities lack technical capacity and financial resources, it can be very difficult to enforce compliance and preventing continued use of non-compliant landfills is often not practical.

Table 10: Activities to support permitting of landfill sites

|  |  |
| --- | --- |
| Activities | Outcomes |
| Develop a household hazardous waste strategy to address the contamination of general household waste. | Not implemented |
| Review and raise awareness among municipalities regarding sewage sludge guidelines. | Not implemented - DEA initiated the development of an investigation report on the management of sewage sludge in 2016/17. Significant opportunities around beneficiation of sewage sludge continue to go unexploited. |
| Publish a standard for the assessment of waste to landfill disposal which prescribes the requirements for the assessment of the level of risk associated with the disposal of waste to landfill. | Implemented - Norms and Standards for the Assessment of Waste for Disposal promulgated in 2013. |
| Publish a standard for disposal of waste to landfill | Implemented - Norms and Standards for Disposal of Waste to Landfill promulgated in 2013 |
| Undertake a feasibility study for municipalities to implement options for waste to energy. | Partially implemented - Waste to energy concept document developed in 2016 and a Waste to Energy study and policy position paper has recently been completed by the DEA. |
| Licensing of unlicensed waste disposal facilities | Implemented - An action plan for the licensing of unlicensed waste disposal facilities was developed in 2011. The licensing of unlicensed waste disposal facilities that were identified as part of the backlog study was finalised during 2013/14 fiscal year. And this has been a continuous process over 800 facilities have been licenced. |

### Roles and Responsibilities

There remains a need for an integrated approach to addressing waste service delivery across the different national departments and stakeholders in provincial and local government whose mandates impact on delivery of waste collection services.

Although the DEA is responsible for the development of policies, strategy, legislation, norms and standards, and compliance and enforcement in relation to these, the Department of Cooperative Governance and Traditional Affairs (COGTA) is responsible for delivery of services by municipalities to a level and standard that at least meets minimum constitutional and legislative requirements and ensuring coordination between the different spheres of government. The Department of Human Settlements (DHS) has the provision of housing within sustainable human settlements at the core of its mandate, and delivery of waste services is critical to the sustainability of human settlements. The DST, through the Waste RDI Roadmap, is fulfilling an important role in terms of improving capacity, supporting innovation, and generating knowledge to support service delivery.

The Provincial government sphere is responsible for monitoring the implementation of IWMPs by local government departments. IWMPs should provide practical service delivery plans for the core local government functions of waste collection and disposal that are the focus of Goal 2. Where there is failure to adequately provide these services, provinces should intervene to support local government. The South African Local Government Association (SALGA) plays an important role in representing the interests of local government and supporting its members to fulfil their developmental obligations, which include waste service delivery.

### Gaps and Challenges

The delivery of waste collection services is very uneven and reflects generic underlying challenges facing local government in the country, with almost 50% of the country’s 257 municipalities in a state of financial crisis and struggling to deliver services to residents, collect revenue and pay their debts according to National Treasury. The situation in the larger metros and more urban provinces tends to be somewhat better than in smaller local municipalities and the more rural provinces, however even the most successful metros experience difficulties in delivering adequate levels of service to informal settlements, and in recovering the costs of waste service delivery. Further, the availability of landfill airspace nationally remains tightly constrained.

Although the Waste RDI Roadmap encourages the development of skills within the waste sector and promoting the recruitment of professionals into the sector through supporting post-graduate qualifications in waste management, there remains a critical gap in skills and experience within local government in this sector. In many of the country’s districts, not a single waste engineer is employed, and where they are individuals with engineering degrees, they often lack practical experience in the sector.

Although this problem is particularly severe in the public sector, there is also a dearth of skills and experience in the private sector, according to stakeholders consulted during development of the Waste RDI Roadmap. Nevertheless, potential exists for greater involvement of the private sector in waste collection that will improve service delivery, reduce costs and allow for greater beneficiation of waste and diversion from landfill. Numerous municipalities, however, lack the ability to evaluate and reliably procure options for private sector service delivery and intervention from a provincial or national level would be required to support this.

Non-compliance of municipal-owned landfills with licensing conditions is a thorny problem – imposing fines against municipalities for non-compliance where a principal driver of that failure is lack of resources is unlikely to yield positive results. While in some cases stakeholders have suggested that waste legislation lags behind technology and innovation, in some contexts legislation is clearly in advance of the capacity of local government to comply, and a more flexible, context-sensitive approach is needed. In this respect, it is noted that no budget was attached to NWMS 2011 and although the DEA have facilitated access to Municipal Infrastructure Grants (MiG) for waste infrastructure, in future there needs to be greater engagement with National Treasury around the operational expenditures for municipalities associated with implementing the NWMS and Waste Act. In this regard, the importance of undertaking Socio-Economic Impact Assessment Studies (SEIAS) to critique policy measures involving public sector infrastructure are a necessity.

## Goal 3: Grow the contribution of the waste sector to the green economy

This goal of the 2011 NWMS addresses the following objects of NEMWA:

“… to protect health, well-being and the environment by providing reasonable measures for: … securing ecologically sustainable development while promoting justifiable economic and social development; …”

The concept of the green economy has become increasingly important in the South African policy landscape, and the waste sector is seen as having an integral role to play in greening the economy by helping to decoupling pollution and carbon emissions from economic development. The targets for Goal 3 speak directly to the economic contribution of the waste sector in terms of job creation and growing businesses in the sector, but do not directly address attempts to maximise the environmental benefits of the waste sector, such as the sector’s contribution to achieving transformation towards a low carbon economy and achieving national mitigation targets. To some extent, the environmental benefits associated with reducing pollution through waste management are addressed in the activities specified for achieving this goal, which include implementation of international protocols and conventions, however the activities do not directly address the actual targets for job creation and additional SME’s and cooperatives participating in the sector.

Table 11: Summary of progress towards Goal 3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Overall progress towards Goal 3: Grow the contribution of the waste sector to the green economy | | | | | **47%** |
| Progress towards Targets | | **40%** | | | |
| Target | | Progress | | Comment | |
| 69 000 new jobs created in the waste sector | | **30%** | | Majority of new “jobs” were in the EPWP programmes and informal sector. | |
| 2 600 additional SMEs and cooperatives participating in waste service delivery and recycling | | 50% | | Concerns exist about the sustainability of new cooperatives and SMEs. | |
| Progress towards implementing action plan | | 55% | | | |
| Actions not implemented | Partially implemented | | Implemented | | |
| 2 | 2 | | 3 | | |

Target: 69 000 new jobs created in the waste sector

Stakeholders have raised concerns about the lack of specificity about the types of jobs created in the waste sector in the framing of this target. In terms of formal jobs in the public and private sector, a 2012 waste sector survey undertaken by the WASTE RDI Roadmap project of the DST suggested that almost 30,000 people were employed in the sector. There is no reason to believe that formal employment in the sector had tripled in size by 2016, hence this target has not been achieved by this measure.

However, it is worth noting that there is strong anecdotal evidence of a significant increase in waste pickers during this period, and it is estimated that at least 90% of recyclables diverted from landfill are collected by the informal sector. Such activities constitute livelihoods rather than jobs and are often quite marginal livelihoods that constitute only part of the income of waste pickers. Additionally, large numbers of people have received temporary employment through the Working on Waste Environmental Protection and Infrastructure Programme.

Target: 2 600 additional SMEs and cooperatives participating in waste service delivery and recycling

Support has been provided at all levels of government to the involvement of SMEs and cooperatives in the waste sector. As an outcome of a Ministers and Members of Executives Councils Meeting (MINMEC) resolution to support the establishment of 2 recycling companies per province, the Recycling Enterprise Support Programme (RESP) has made R194 million available over 3 years and 12 enterprises are already being supported through this grant program. Although there has not been systematic reporting on the number of SME’s actually active in the sector, the rate of failure of collectives in general in South Africa is believed to be as high as 90%, according to the dti. Although a pilot programme for accomplishing domestic waste collection through SME’s was implemented in Mafikeng with initial support from the DEA, this model has not been widely deployed, and it is far more common for the larger municipalities to contract with one of a handful of large waste service providers that dominate waste collection and disposal in the sector. Stakeholders have cautioned that targets that direct support to new enterprises and encouraging the formation of new collectives, rather than direct resources to existing businesses and community projects with a track record in the sector can be counterproductive.

The activities specified for this goal were only indirectly aligned with the different targets, however below are the outcomes.

|  |  |
| --- | --- |
| Activities | Outcomes |
| Establish an inter-departmental forum between DEA, the dti and Treasury to coordinate actions around cleaner production, economic instruments, priority wastes, EPR programmes, and consumer protection. | Not implemented |
| Gazette the intention to declare saline waste as a priority waste | Implemented - A study conducted recommended that saline waste should not be declared as priority waste. |
| Finalise and implement the action plan for the National Implementation Plan for the Stockholm Convention. | Implemented by the DTI |
| Develop the Import Export Policy for waste and Near End-of-Life Electronic Equipment. | Not Implemented |
| Finalise joint strategy for import and export control in relation to Multilateral Environmental As. | Implemented – ongoing cooperation |
| As part of Green Economy Strategy, implement measures to support job creation within waste services collection. | Partially Implemented - Mafikeng Domestic Waste Collection Pilot, Working on Waste Programme, ongoing engagement of with Wastepickers Association and RESP grants supporting 12 recycling companies. |
| Finalise the Industrial Recycling Strategy, including measures to boost markets for recyclates and establish legally compliant waste exchange programmes. | Partially implemented – some provinces have initiated waste exchange programs. |

### Roles and Responsibilities

Many of the actions in this strategy relate to the implementation of International environmental agreements involving pollutants and waste or multilateral environmental agreements, hence the importance of the DTI and SARS to the implementation of these actions, as they can affect trade, import and export licensing and policy, tariffs and duties. However, a large proportion of the green economy opportunities in the waste sector are not directly or only peripherally related to these agreements. Boosting the market for recyclates is critical to growing a secondary economy around waste beneficiation. This could be accomplished by the DTI including requirements for recycled content in preferential procurement policies. Further, there is a role for National Treasury in relation to further expansion of fiscal instruments to boost the market for recyclates beyond the existing plastic bag and tyre levies.

Most importantly, the private sector and industry has a critical role to play in greening and growing the waste sector to boost employment and stimulate SMME development. The implementation of voluntary Extended Producer Responsibility (EPR) programme and Industry Waste Management Plans are key mechanisms for achieving this.

### Gaps and Challenges

A notable gap in the NWMS 2011 action plan is that there is no recognition of the important role the DST play in initiating research and development and encouraging innovation in the green economy in general, and more specifically, in terms of the Waste RDI Roadmap. Similarly, there is no mention of the role of the Economic Development Department who is responsible for the New Growth Path, of which the Green Economy Accord forms part.

The existing activities do not directly address important aspects of the waste sector’s contribution to the green economy, in particular the sector’s contribution to a fair and just transition to a sustainable and equitable low carbon economy as described in the National Development Plan, which includes national commitments to climate change mitigation in terms of the UNFCCC. Beneficiation of waste and waste to energy have a significant role to play in reducing greenhouse gas emissions.

In general, the targets for this goal were expressed in a manner that proved difficult to measure, and the targets only indirectly address the objects of the Waste Act that this goal was intended to give effect to.

## Goal 4: Ensure that people are aware of the impact of waste on their health, well-being and the environment

This goal speaks about creating awareness and instilling behaviour change in the attitude of people towards littering and waste management. This can take the form of passive and active communication. Passive communication can include use of infrastructure, such as anti-litter messaging on street bins, where there is no direct communication or contact with people. Whilst active communication includes use of messaging through various platforms such as print and electronic media.

Creating awareness about the impact of waste is a responsibility of regulators, waste generators and those that handle waste. Further to this, to effect behaviour change, awareness has to be instilled at a young age – preferably from primary school level through the formal education system.

Incentives such as competitions can create awareness about the need for a clean environment. This can include implementation of national campaigns as an incentive for municipalities to encourage a clean environment like the Cleanest Town competition, now called the Greenest Municipality competition.

Despite these various initiatives to create awareness, litter and illegal dumping – private acts with a social cost – remain a widespread problem in the country. A comparative study across 20 countries of marine plastics pollution, which is a good indication of litter, showed that South Africa has amongst the worst levels of marine plastics pollution per capita[[1]](#footnote-1). In general, levels of litter and illegal dumping are highest in those areas which receive the lowest levels of waste services and infrastructure, and these tend to be the poorest communities, whose members are also the most vulnerable to the health risks posed by unmanaged waste.

Table 12: Progress toward Goal 4

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Overall progress towards Goal 4: Ensure that people are aware of the impact of waste on their health, well-being and the environment | | | | | 71% |
| Progress towards Targets | | 80% | | | |
| Target | | Progress | | Comment | |
| 80% of municipalities running local awareness campaigns | | 60% | | Awareness campaigns are largely being run in metros and at number of local municipalities. It should be noted that local awareness campaigns do not necessarily result in the reduction of waste generation. | |
| 80% of schools implementing waste awareness programmes | | 100% | | Waste awareness has been built into the school curriculum. | |
| Progress towards implementing action plan | | 62% | | | |
| Actions not implemented | Partially implemented | | Implemented | | |
| 1 | 1 | | 2 | | |

Target: 80% of municipalities running local awareness campaigns

This target assumes that the implementation of awareness campaigns will lead to behaviour change and result in a clean environment. A number of stakeholders suggested that the target needs to be framed in a manner that reflects the desired impact of the awareness campaigns.

Campaigns also require support mechanisms for them to be effective. The Western Cape province reports that 77% of municipalities have implemented awareness campaigns. Similar to other provinces, illegal dumping remains a problem which implies that the campaigns have not on their own been entirely effective in driving behaviour change.

|  |  |
| --- | --- |
| Activities | Outcomes |
| Implement a national awareness campaign strategy around waste management | Not implemented – a national awareness strategy will be implemented in the coming year. Waste awareness was identified as a cross cutting initiative in the Chemicals and Waste Economy Phakisa. The Minister is set to launch a national campaign within the 2018/2019 financial year. |
| 80% of municipalities running local awareness campaigns | Partially implemented – Some provinces and metros run awareness campaigns. For example, Gauteng province implements the Bontle ke Botho campaigns. City of Ekurhuleni implements the ‘Keep Ekurhuleni Clean” whilst the City of Johannesburg has recently initiated the Aresebetseng campaign. Durban solid waste and the City of Cape Town also run campaigns aimed at changing behaviour. |
| Develop revised criteria and programme for the Cleanest Town competition. | Implemented – the national campaign is referred to at the Greenest Municipality and includes other aspects such as biodiversity and climate change Revision of criteria in ongoing on the basis of what needs to be improved. |

Target: 80% of schools implementing waste awareness programmes

The activity to support achievement of this target involves the development of guidelines for recycling and litter collection in schools, but no mechanism for implementing or monitoring implementation is specified.

In practice, some schools have small-scale on-site sorting facilities that encourage learners to bring recyclables to school which are then collected by recycling companies. Such programmes are usually run by volunteers and often lack technical support – for instance, in recording tonnage of recyclables and ensuring that waste is not stored for long to avoid pests. Due to fluctuations in the price of recyclables, these recycling schemes struggle to be financially sustainable. There is no comprehensive information on the extent of implementation of awareness campaigns at school. The Western Cape reports that the province implements the Waste Management in Education (WAME) programme in 450 schools in the province.

|  |  |  |
| --- | --- | --- |
| Activities | Indicators | Outcomes |
| Develop guidelines for the implementation of recycling and litter collection programmes by schools. | % of schools implementing waste awareness programmes in line with the guideline | Guideline for Schools recycling developed in 2014. Further to this the Department of Environmental Affairs has entered into a Memorandum of Agreement with the Department of Basic Education to include the guidelines in the curricula. |

### Roles and Responsibilities

Whilst the DEA is responsible for developing a national campaign, other national departments should also support the national campaign. The Working for Programmes such as Working on Waste, Working on Coasts and Working for Water also contribute to creating awareness about waste management. The Department of Water and Sanitation (DWS) plays a role in the protection of water resources to be free from pollution and the management of sewage waste and therefore contribute to the national waste management campaign. The Department of Energy (DOE) plays a role in the management of electrical equipment and lighting waste, specifically lighting and associated equipment. Through the energy efficiency building retrofit programme, a lot of electrical waste is generated. The Department of Posts and Telecommunication (DPTS) can also contribute to creating awareness on the management of electrical and electronic waste. The Department of Mineral Resources (DMR) have a role to play in creating awareness on the management of mining waste.

Provincial government departments also play a role in driving provincial waste campaigns whilst municipalities can implement local campaigns. Municipalities can save direct service costs where people are aware of the impact of litter and waste.

Industry can also play a role in creating awareness on products through labelling and providing information on material composition and how to manage end-of-life for products. One of the recommendations emerging from the regional workshops was the need for a social compact between government, business and civil society around creating awareness and changing behaviour towards waste. Extended Producer Responsibility (EPR) schemes such as deposit refund schemes for waste products involving food vouchers or cash can be effective in creating awareness of the value of waste products.

The development of education curriculum in public schools is a responsibility of the national Department of Basic Education (DBE) while provincial education authorities manage the delivery of the curricula. The Memorandum of Understanding (MOU) that has been signed between the DEA and DBE should also be extended to independent schools.

### Gaps and Challenges

Providing a guideline for inclusion in school curricula does not necessarily compel action or result in implementation. Although there is growing private sector support for recycling in schools, the efficacy of school recycling programmes may be dependent on the availability of municipal support or the presence of recycling companies in the area. Awareness should start at early childhood education centres, through primary schools and extend to high school and even tertiary institutions.

The absence of a national awareness campaign aligned with the NWMS 2011 represents a significant lost opportunity, as nationally flighted media is a cost-effective way of supporting local awareness campaigns that would be a powerful enabler for cash strapped municipalities. Furthermore, the ambitious target for goal 2 in terms of metros, secondary cities and large towns establishing separation at source implies significant levels of behaviour change on the part of households, and this will be difficult to accomplish without a concerted national campaign around separation at source and recycling. Stakeholders noted that campaigns around waste awareness must be tied to the provision of waste services and infrastructure. When people are surrounded by litter in a context in which there is little or no public bins combined with low levels of domestic waste collection, campaigns around litter and illegal dumping will not be credible.

A challenge with locating awareness campaigns within a strategy is the need to measure the effectiveness of such campaigns relative to the resources deployed to ensure that they are cost effective. Furthermore, a national awareness campaign around waste must be responsive to the needs of local government and communities so that messaging is contextually relevant, and should not be implemented in a top-down manner.

## Goal 5: Achieve integrated waste management planning

The objective of this goal is to meet the requirements of Section 11 and 12 of the Waste Act (as amended in 2014), which requires provincial government departments and municipalities responsible for the delivery of waste services to develop Integrated Waste Management Plans (IWMPs) to align with the NWMS. IWMPs are a central tool designed to present a detailed, costed, and time-framed plan against which progress towards the achievement of the goals of the NWMS can be tracked.

For provinces, such plans are to be integrated into the relevant provincial growth and development plans whilst metros, local and district municipalities are required to submit the plan to both the municipal council and the relevant provincial MEC for approval. The plan must be integrated into the local authority’s Integrated Development Plan and associated budgets. The Waste Act also stipulates that the plan must go through a public consultative process before it can be approved by municipal council.

The Department has developed guidelines for the completion of IWMPs which at a minimum should contain the following: -

1. A Situational Analysis that analyses and quantifies demographics, current and projected waste quantities and types, implementation of the waste management hierarchy, and available resources.
2. A statement of the desired end state in the form of goals and objectives.
3. Identification, evaluation and selection of alternative strategies for achieving the desired end state.
4. Identification (in consultation with stakeholders) of implementation instruments and development of a time-lined Implementation Plan that includes targets, resources requirements and a budget and which will form the basis for monitoring and reporting on the IWMP.

Further to this, there is a requirement for reporting on the SAWIS. Provinces may also elect to develop their own waste information system where municipalities can report on waste activities and quantities. Some metros such as eThekwini and City of Johannesburg have their own systems however to date, waste information reporting has not been effectively integrated between the three spheres of government.

To date only three provinces have completed IWMPs and two of them are outdated namely Western Cape (2011) and Eastern Cape (2009). The North West IWMP, aligned to the NWMS 2011-2016, was completed in 2016 and was awaiting approval by the Minister. Other provinces such as Gauteng are in the process of finalising their IWMP aligned to the NWMS 2011-2016. This implies that implementation of these IWMPs will overlap into this 3rd generation NWMS.

The table below summarises progress towards the implementation of goal 5.

Table 13: Progress towards goal 5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Overall progress towards Goal 5: Achieve integrated waste management planning | | | | | 52% |
| Progress towards Targets | | **40%** | | | |
| Target | | Progress | | Comment | |
| All municipalities have integrated their IWMPs with their IDPs, and have met the targets set in IWMPs | | 50% | | Many IWMPs have been developed, but little monitoring and reporting. Prioritisation of waste services in the IDPs must be addressed. | |
| All waste management facilities required to report to SAWIS have waste quantification systems that report information to WIS | | **30%** | | Based on the current reporting and due to facilitaties not having waste quantification facilities. | |
| Progress towards implementing action plan | | 65% | | | |
| Actions not implemented | Partially implemented | | Implemented | | |
| 0 | 7 | | 3 | | |

Target: All municipalities have integrated their IWMPs with their IDPs, and have met the targets set in IWMPs

The completion of an IWMP is a first level compliance requirement to the Waste Act, whilst the next level is the integration of the IWMP in the IDP. Other associated processes relate to appointment of waste management officers for each local authority and the development of waste by-laws. The desired level of compliance has not been met in most provinces and DEA is engaged in supporting the development of IWMPs to enable municipalities to comply. Furthermore, the implementation of IWMPs is currently seldom actively monitored and evaluated by either local government or provinces, with the exception of the Western Cape, so it is impossible to determine the extent to which IWMP targets have been met. In the consultation workshops, some participants suggested that the development of IWMPs is a tick box exercise and that most of the actions are not implemented. While model waste by-laws have been adopted by a number of local municipalities, the extent of implementation is not recorded.

|  |  |
| --- | --- |
| Activities | Outcomes |
| Finalise and publish the Integrated Waste Management Planning guidelines for municipalities. | Implemented - Guidelines for the compilation of IWMPs and a supporting web-portal published to reduce the need for use of consultants, so that IWMPs can be developed in-house. In the four provinces where DEA undertook an assessment, only 50% of municipalities reported using the guidelines to develop IWMPs in-house, rather than outsourcing to consultants. |
| Prepare national and provincial IWMPs, including indicators and targets, and submit for approval. | Partially implemented - In terms of provinces, the Western Cape Province IWMP was approved by the Minister in 2011 and is being reviewed. The Gauteng IWMP is completed and awaiting provincial submission for approval by the Minister. |
| Prepare municipal IWMPs, including indicators and targets, and integrate with municipal IDPs. | Partially implemented – in a few cases (Western Cape and Limpopo) provinces report that all local authorities have completed IWMPs. |
| Prepare and submit annual performance reports in terms of IWMPs. | Partially implemented - there does not seem to be reporting on performance. Municipalities report in line with requirements for the Municipal Systems Act in the annual reports. |
| Government capacity in place to fulfil integrated waste management planning. | Partially implemented - DEA Municipal Waste Support directorate together with Province implement respective municipal waste capacity building projects |
| Municipal capacity available to sustainably provide waste management services and to proactively plan and manage landfill disposal. | Partially implemented - training of Landfill operators conducted in 2011/2012. Technical Directors training conducted in 2013/14 |
| Undertake a feasibility study on the development of Regional HCRW for the public sector | Partially Implemented - initial needs analysis done. |

Target: All waste management facilities required to report to SAWIS have waste quantification systems that report information to WIS

The Waste Information Regulations were gazetted in 2011 and require anyone undertaking a waste management activity to register with the Waste Information System and be issued with a registration certificate within 30 days. Reporting is voluntary and there is a need to make it mandatory at a determined frequency – for instance, quarterly.

Effective waste management planning depends on reliable information on waste streams and management activities, which in turn requires effective data collection as a result of reporting systems and processes.

|  |  |
| --- | --- |
| Activities | Outcomes |
| Gazette the regulations on SAWIS for implementation | Implemented - SAWIS regulations promulgated in 2012. |
| Establish baseline information on waste flows for accurate waste planning. | Implemented - Baseline study report developed in 2012. In 2017/2018, DEA initiated a report on the State of Waste which will establish baseline information. |
| Produce annual statistics from SAWIS on waste management | Partially Implemented - integration of the SAWIS into the new DEA Technology has not been done. |

### Roles and Responsibilities

The obligation to complete IWMPs lies with provinces and local government. Good progress in completing IWMPs is reported at municipal level, largely due to support that DEA provides to municipalities. Provinces, whilst responsible for supporting municipalities, are lagging behind with only 2 provinces having completed IWMPs as of 2018. There is no national department that has an IWMP even though there are departments that regulate other waste stream types.

The DEA is responsible for gazetting waste regulations, norms and standards is a. The DEA has also developed the Waste Information Regulations and associated system, SAWIS, where waste management activities and quantities are to be reported. The Western Cape and Gauteng have also developed provincial waste information systems.

### Gaps and Challenges

The Waste Act specifies that the NWMS be reviewed every 5 five years and the 2011NWMS is the first generation to be developed under the Waste Act, yet there are some provincial and local government authorities that have not yet initiated an IWMP process. Other IWMPs are being developed concurrently with, or immediately preceding, the current revision of NWMS and therefore create a challenge of timing in the alignment of local municipal IWMPs with the NWMS.

In practise, many municipalities encounter a lack of capacity to develop IWMPs and rely on consultants, in some cases appointed and funded by the DEA, to develop these plans. Since consultants may be somewhat removed from the day-to-day functions and constraints of municipalities, this creates a risk of a gap between IWMPs and the operational requirements and capacity of the municipalities concerned. Similarly, the vastly different contexts between metros, secondary cities and small rural local and district municipalities, particularly in relation to resources and the ability to process commercially viable volumes of recyclables, make implementation of the waste management hierarchy difficult in these contexts.

There is no clear linkage between IWMPs and IndWMPs, and one of the enablers for enhancing recycling of electronic waste emerging from the Chemical and Waste Economy Phakisa was the need to develop a clear framework for harmonising these plans. During the regional stakeholder workshops, provinces expressed the need to be involved in the development and implementation IndWMPs, as currently these are dealt with at national level.

In terms of Health Care Risk Waste (HCRW), during the Chemical and Waste Economy Phakisa it was recorded that the sector is plagued by non- compliance and there is a lack of systems to manage household HCRW. Part of the gap is due to the lack of adequate facilities and the fact that handling of HCRW is expensive. In some provinces, such as Northern Cape, there are no HCRW facilities, which implies that waste is transported to other provinces. The fact that there is no registration system for vehicles that transport HCRW poses a safety risk on the roads. Another challenge is lack of training for health care professionals in the handling and safe disposal of the waste.

The level of reporting on WIS is not adequate, with the onus placed on those waste managers and facilities who are registered, Furthermore, there are also issues with the quality of reporting as a consequence of the absence of mechanisms to verify data and standardise data formats. One of the biggest challenges for data collection is that many (if not most) landfill sites and drop off sites do not have weigh bridges to determine actual volumes going to landfills and volumes diverted from landfill. Provinces attempting to use the SAWIS to determine recycling rates have also expressed concern that the current system allows for double or triple reporting of the same recyclables at different points in the value chain.

In some provinces, municipalities use grant funding to install weighbridges and staff on site were provided with training. Due to lack of maintenance and staff turnover at landfill sites some weighbridges are no longer in working condition, which results in little to no data collection being recorded.

## Goal 6: Ensure sound budgeting and financial management for waste services

The allocation of budget for waste management services and infrastructure is done through the Division of Revenue Act (DORA) where national departments and government agencies, provincial and local government receive equitable share allocations from the national fiscus. For allocations related to services such as collection and disposal of waste, National Treasury uses population demographics to determine equitable share allocations to municipalities. National and provincial government are funded based on motivations in the budget submissions.

The Municipal Infrastructure Grant (MIG) is a grant that funds the capital costs of providing services to households below a certain threshold which are not able to pay for services. The MIG funds the development of infrastructure such as landfill sites, material recovery facilities, garden waste sites and drop-off sites. Municipalities have to apply for MIG allocations by estimating the number of poor households that fall in the criteria and provide co-funding for the service.

The DEA through the Environmental Protection and Infrastructure Programme (EPIP) invites interested organisations to apply for funding for waste management in line with priority areas as determined by the department, provinces and municipalities.

Notwithstanding various sources of funding for waste services, budget provision for waste services is generally not adequate as urbanisation increases. Municipal waste services are generally under-funded.

Table 14: Progress towards goal 6

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Overall progress towards Goal 6: Ensure sound budgeting and financial management for waste services | | | | | **32%** |
| Progress towards Targets | | **10%** | | | |
| Target | | Progress | | Comment | |
| All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs | | **10%** | | With the exception of the large metros, few municipalities have implemented full-cost accounting and tariff rarely reflect the actual costs. | |
| Progress towards implementing action plan | | 55% | | | |
| Actions not implemented | Partially implemented | | Implemented | | |
| 2 | 4 | | 3 | | |

Target: All municipalities that provide waste services have conducted full-cost accounting for waste services and have implemented cost reflective tariffs

Across the country, municipalities fail to recover sufficient revenue from waste tariffs and landfill gate fees to cover the costs of providing waste services. The problem is particularly acute in smaller municipalities, particularly those with large indigent populations – despite the equitable share budgetary mechanism for subsidising these municipalities from the national tax base. The determination of full cost accounting for waste service has to be supported by the provision of an efficient and effective service and universal access to the service. Full cost accounting should include all aspects of the waste management service including planning, infrastructure, skills, awareness, licensing and the cost of non-compliance and illegal dumping. It also depends on availability of data that allows for planning of the service and its operations

This goal needs to be closely linked to the goal on Integrated Waste Planning to ensure that IWMPs are costed appropriately.

Furthermore, the costing of waste services has to take account of levies charged on some of the priority waste streams such as plastics and tyres. In interviews with DEA staff and during the consultation workshops, it was suggested that the levies should be ring-fenced or ear-marked for other waste management services..

|  |  |
| --- | --- |
| Activities | Outcomes |
| Develop tools for Full Cost Accounting | Partially implemented - DEA developed Tariff model and guidelines and strategy in 2011. Training was undertaken with municipal officials. |
| Full cost accounting of waste management services is conducted by all municipalities. | Partially implemented - SALGA has completed a study on the cost of basic services including the cost of providing basic waste service. |
| Draw up and circulate municipal circular that provides guidelines for waste service budgets and the associated accounting practices required to make subsidy levels more transparent relative to the cost of service delivery. | Not implemented |
| Update waste service tariff setting guidelines and include provision for volumetric charging in waste service tariffs. | Implemented - DEA developed Tariff model and guidelines and strategy in 2011. Training was undertaken with municipal officials. |
| Phase in tariffs to reflect full cost of waste services. | Not implemented – there is a perception of a conflict between full cost charges and equitable and affordable access to services. |
| Facilitate the increase of the Municipal Infrastructure Grant (MIG) funds that are dedicated for solid waste management. | Implemented - DEA is having ongoing discussions with National Treasury and CoGTA |
| Align Municipal Infrastructure Grants, equitable share allocations and other grants to provide for refuse removal as a basic service as per national performance agreements. | Partially implemented - this is ongoing between DEA and National Treasury. DEA currently does not make use of existing NT mechanisms such as conditional grants. |
| Investigate financing mechanisms for solid waste project development, capital grants and private financing | Partially implemented - DEA has negotiated with National Treasury on the allocation of capital grants for landfill sites and materials recovery facilities. The prohibitive cost of developing landfill sites makes it difficult for municipalities to carry the cost. |
| Investigate mechanisms to support the extension of municipal waste services to un-serviced communities, using an EPWP type delivery model. | Implemented - DEA supports the Working on Waste programme which provides funding to SMMEs and cooperatives for clean up operations. |

### Roles and Responsibilities

National Treasury (NT) is responsible for determining budget allocation to all spheres of government which include allocation via division of revenue and other grants. National Treasury also allocates conditional grants such as the Municipal Infrastructure Grant where municipalities apply for funding for service for poor households. The Department of Cooperative Governance and Traditional Authorities (CoGTA) through the Municipal Infrastructure Support Agency (MISA), undertake infrastructure backlog studies in services and provides finance and capacity to municipality to close the gaps. Other funding sources are for public works programme referred to as Environmental Implementation Programmes for clean-up operations which is also linked to job creation and skills development.

In terms of tariffs, NT together with CoGTA issue a circular to municipalities on how to compile budgets on annual basis. Municipalities follow the guideline in the circular to set tariffs for services taking into account various factors.

DEA has issued a tariff guideline for municipalities for waste services, however, according to a DEA study, this appears not to be applied due to the fact that it is time consuming and sophisticated and leads to tariff increases of over 100%.

### Gaps and Challenges

In the study referred to above it was also indicated that full cost accounting of services is not taking place, nor has there been the application of the tariff guideline. From the interviews conducted in the four provinces, the tariff model is suited for big cities as small municipalities do not have data. The tariff model has therefore not been tested, which in effect implies that there is a gap in the application of some of the tools developed by DEA to test the applicability and capture lessons learnt.

The determination of full cost accounting requires very robust data collection and management systems to inform proper planning. Similarly, the setting of tariffs is informed by a number of factors which includes socio-economic considerations. If consumers are required to pay higher tariffs, they should be able to demand a cleaner environment.

## Goal 7: Provide measures to remediate contaminated land

Goal 7 was intended to support implementation of Part 8 of the Waste Act, which addresses the historical lack of regulation around contaminated land in order to mitigate the potential environmental and health risks associated with contamination of land. The targets set for Goal 7 related to the implementation of the Contaminate Land Register as provided for in the Waste Act, and the provisions for remediation plans stipulated in the Act. The activities identified in NWMS 2011 relate to establishing the regulatory and policy environment to support Part 8 of the Waste Act.

Table 15: Progress towards Goal 7.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Overall progress towards Goal 7: Provide measures to remediate contaminated land | | | | | 85% |
| Progress towards Targets | | 100% | | | |
| Target | | Progress | | Comment | |
| Assessment complete for 80% of sites reported to the contaminated land register | | 100% | | This is often accomplished as a single step. | |
| Remediation plans approved for 50% of confirmed contaminated sites | | 100% | | More than 80% of remediation plans approved on time. | |
| Progress towards implementing action plan | | 70% | | | |
| Actions not implemented | Partially implemented | | Implemented | | |
| 0 | 3 | | 2 | | |

Target: Assessment complete for 80% of sites reported to the contaminated land register

In terms of Part 8 of the Waste Act, site owners of contaminated land or tenants responsible for undertaking activities that result in contamination of land are obligated to report “significant” contamination to the Minister of Environmental Affairs and the relevant provincial MEC, with failure to do so incurring a risk of substantial penalties. The owner is also responsible for paying for an independent specialist to undertake a site assessment, and it is on the basis of a review of this assessment that the Minister may determine that land is contaminated (or require further assessment if the report is deemed to fall short of the required norms and standards). In practice, because of the legal and financial risks associated with land being determined to be contaminated, the act of reporting land as being potentially contaminated is generally accomplished through a Phase 1 site assessment consisting of a site inspection and desktop review of activities undertaken at the site. If there is a likelihood of significant contamination, a phase 2 assessment report is undertaken, which consists of detailed on-site analysis, including the screening of soil samples for contamination and an evaluation of the risks of groundwater contamination.

Given that in practice, the reporting of contaminated lands is tightly linked to the process of site assessments, the target for completed assessments of reported contamination has been achieved. More importantly, the supporting activities as described in the table below have been accomplished.

Table 16: NWMS Activities for assessment of contaminated lands

|  |  |
| --- | --- |
| Activities | Outcomes |
| Finalise regulations and norms and standards in terms of the Framework for Contaminated Lands | Implemented – the Framework for the Management of Contaminated Land finalised. This includes:   * a Protocol for Site Risk Assessment reports and Reporting Norms and Standards for Contaminated Lands (which includes remediation plans) * Technical guidelines in terms of: Soil Screening Values; Site Specific Quantitative Risk Assessment; and Quality Control and Quality Assurance of Field Sampling and Laboratory Analysis |
| Establish register of contaminated lands, linked to the Deeds Register | Partially Implemented – the Contaminated Lands Register has been established but has not been linked to the Deeds Register. |
| Publish guidelines for roles and responsibilities in terms of contaminated lands for financial institutions, property developers, estate agents, conveyancers and other affected parties | Implemented – Implementation guidelines for Part 8 of the Waste Act were published in 2015. |

Target: Remediation plans approved for 50% of confirmed contaminated sites

Once the Minister (or MEC) has determined on the basis of a Site Assessment Report that land is contaminated, it is added to the Registry of Contaminated Lands and an order to remediate the contamination may be issued by the Minister. This will require the owner of the contaminated site to develop a phase 3 assessment report that provides a plan to remediate the contamination and/or manage and monitor the environmental and health risks associated with the contamination. The phase 3 assessment report, consisting of the remediation plan, must be submitted to the Minister for approval. More than 80% of the remediation plans submitted with site assessment reports are approved within the specified timeframes.

The remediation plan must include remediation objectives, and once these have been met, the Minister may amend the register of contaminated lands to reflect that the land is no longer contaminated. This is of particular significance because the Waste Act places restrictions on the transfer of contaminated lands and the intention is for contamination to be linked to the Deeds register, although this formal linking of the register of contaminated lands to the Deeds register has not taken place as yet due to unresolved legal obstacles.

To support the process of remediation of contaminated lands the following activities were identified in the NWMS 2011:

Table 17: NWMS Activities for Remediation of Contaminated Lands

|  |  |
| --- | --- |
| Activities | Outcomes |
| Establish remediation fund or funding mechanism | Partially Implemented – Regulations requiring financial provision be made by mining companies for the management and remediation of environmental impacts associated with mining have been passed, and some amendments have been proposed. |
| Investigate and broaden the mandate of the Government Task Team dealing with mining remediation to include all forms of remediation. | Partially Implemented – An Inter-Departmental Project Implementation Committee (IPIC) consisting of the DEA, DMR, and DWAS has been established to implement the “One Environment System” intended, amongst others, to ensure that mining activities are brought within the scope of NEMA and that alignment of relevant legislation and regulations is achieved to support this. An intergovernmental committee has been established to ensure the implementation of the Secondary Asbestos Rehabilitation Plan. |

Although the target for remediation plans being approved has been achieved, perhaps a more important metric is the number of sites that have been remediated to the satisfaction of the Minister, and the extent to which the monitoring of management plans is being regularly reported on.

### Roles and Responsibilities

The Waste Act provides for the measures around contaminated lands to be implemented as a concurrent responsibility between national and provincial government. In practice, the register of contaminated lands and approval of phase 1, 2 and 3 assessment reports is accomplished by the national department, with provinces sometimes alerting national government to the need for site investigations. The involvement of the Department of Water and Sanitation (DWS) is integral to reporting and assessment of contaminated lands due to the implications for groundwater contamination. Similarly, the “One Environment System” seeks to bring all environmental authorisations and regulations into a consistent framework under NEMA, with the Minister for Mineral Resources being made the competent authority for issuing environmental authorisations pertaining to mining under NEMA, and the Minister of Environmental Affairs being responsible for appeals in terms of the authorisations. Some challenges remain in terms of aligning legislation and regulations to accord with the principles of One Environmental System.

### Gaps and Challenges

The targets set for goal 7 have been met, largely as a consequence of developing and implementing the framework for the management of contaminated lands, however some gaps remain in relation to the activities specified in the NWMS 2011. For instance, an important intended outcome of the measures for contaminated lands was to ensure that land could not be sold without the buyer’s awareness of the liability associated with contamination of the land and linking the register of contaminated lands with the relevant Deeds registry was to be a mechanism for ensuring this. This has not been achieved, and there is concern from stakeholders about the manner in which the environmentally conservative definition of contamination might apply to transfers involving land that has already been zoned for uses which imply a level of contamination, particularly where such contamination may pose little direct risk to human health. As a consequence, the implications for the property market of integrating the contaminated lands register with the Deeds register needs careful consideration.

Whilst progress is being made in relation to financial provisions for remediation related to mining, the extension of such mechanisms to other industries warrants consideration. Further, in the context of the polluter pays principle, there has been little progress in establishing a remediation fund or funding mechanisms that would apply to state-owned land where the state is responsible for remediation, or in cases where a private party is responsible, but is delinquent.

Challenges remain in terms of aligning legislation and regulations to accord with the principles of One Environmental System, particularly in relation to the Mining and Petroleum Development Act Amendments and the implementation of the measures for financial provisions for the remediation and management of environmental impacts from mining. Further the 2014 Amendments to the Waste Act brought mining residues and deposits under the ambit of the Waste Classification and Management System and with associated Waste Licensing requirements. This imposed significant new regulatory requirements on the mining industry, which advocates a more flexible risk-based approach to mining residues and deposits, and it is currently proposed that the Waste Act be amended again to allow for mining residues and deposits to be handled under separate NEMA regulations.

Finally, the DEA has limited technical capacity to support detailed evaluation and ground-truthing of site assessment reports that it receives, so it a large extent the effectiveness of the framework for management of contaminated lands depends on the integrity with which independent practitioners apply the protocols and norms and standards for undertaking site assessment reports.

## Goal 8: Establish effective compliance with and enforcement of the Waste Act

While the Waste Act outlines a comprehensive legal framework that includes penalties for non-compliance, the extent to which compliance is achieved is of critical importance to the implementation of the NWMS, and forms the rationale for the inclusion of Goal 8 in the 2011 NWMS. Although progress has been made since the 2011 NWMS, compliance and enforcement still poses a significant challenge to government from local through to national level. Stakeholders have raised concerns that the targets formulated for this goal do not serve as reliable indicators of actual levels of compliance with the Waste Act.

A summary table of progress towards goal 8 is provided below.

Table 18: Summary table of Progress towards goal 8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Overall progress towards Goal 8: Establish effective compliance with and enforcement of the Waste Act | | | | | **39%** |
| Progress towards Targets | | **38%** | | | |
| Target | | Progress | | Comment | |
| 50% increase in the number of successful enforcement actions against non-compliant activities. | | 60% | | Criminal prosecutions have decreased and administrative enforcement actions increased. | |
| 800 EMIs appointed in the three spheres of government to enforce the Waste Act | | **19%** | | Not more than 150 EMIs dedicated to the waste sector | |
| Progress towards implementing action plan | | **40%** | | | |
| Actions not implemented | Partially implemented | | Implemented | | |
| 2 | 2 | | 1 | | |

Target: 50% increase in the number of successful enforcement actions against non-compliant activities

The framing of the target does not correspond well to the actual compliance and enforcement activities undertaken in terms of NEMWA. A number of different types of enforcement actions are possible, and the DEA categorises enforcement actions in the following ways:

1. Criminal enforcement – this consist of arrests and criminal investigations that are then passed on to the National Prosecuting Authority (NPA) for prosecution.
2. Administrative enforcement and civil actions – these are not necessarily punitive measures, but include warning letters, and compliance directives and notices.

The level of compliance with administrative enforcement actions is at least as important as the number of successful criminal prosecutions undertaken in terms of NEMWA in terms of monitoring effective enforcement. According to the DEA Annual Report for 2015/16, there was a 75% level of compliance with administrative enforcement actions.

The graph below provides statistics for contraventions of NEMWA reported nationally between 2011 and 2016.

Table 19: NEMWA Contraventions 2011 - 2016

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
| Contraventions of NEMWA | 156 | 219 | 115 | 168 | 269 |

During this period, a relatively low percentage of cases of contravention of environmental legislation handed over to the NPA resulted in either a decision not to prosecute, convictions, plea bargains or acquittals, reflecting capacity constraints on the part of the NPA. In 2016/17, for instance, a total of 416 criminal cases involving contraventions of environmental legislation were handed over to the NPA for prosecution, and only 171 were resolved (41%) either by the NPA declining to prosecute (74 cases), or with a successful conviction or plea bargain (87 cases) or acquittal (10 cases).

Currently, the National Environmental Compliance and Enforcement Reports (NECER) issued annually by the DEA do not break down criminal or administrative enforcement actions according to the environmental legislation under which they were initiated, so enforcement actions under NEMWA cannot be isolated. In terms of administrative enforcement actions, the table below indicates actions taken between 2014 – 2016:

Table 20: Administrative Enforcement actions 2011 - 2016

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Enforcement Action | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
| Warning letters issued | 459 | 187 | 228 | 364 | 309 |
| Pre-directives issued | 86 | 84 | 95 | 111 | 290 |
| Pre-compliances notices issued | 276 | 333 | 400 | 436 | 422 |
| Directives issued | 49 | 36 | 60 | 57 | 146 |
| Final compliance notices issued | 110 | 124 | 154 | 125 | 58 |

The data suggests an increase in the number of warning letters, pre-directives, pre-compliance notices notices, and directives issued, with a recent reduction in the number of final compliance notices issued, which may suggest that successful initial administrative enforcement actions have reduced the need to issue final compliance notices.

Target: 800 EMIs appointed in the three spheres of government to enforce the Waste Act

Waste and pollution crime is very complex and without the ability of EMIs to enforce they are limited in terms of the impact they can have in the enforcement of waste crimes. The DEA need to re-evaluate and assess how EMI’s can effectively support and facilitate compliance and enforcement in the waste sector.

Currently the DEA estimate that there are not more than 150 Environmental Management Inspectors (EMIs) operating across all spheres of government that are dedicated to monitoring, compliance and enforcement of NEMWA, which is well below the NWMS target. This is even though since 2011 there has been a steady increase in the total number of EMIs responsible for monitoring, compliance and enforcement across all aspects of environmental legislation, with a total of 2880 EMIs designated across the country, comprising 2577 national and provincial EMIs and 303 municipal EMIs. The DEA and involved institutions provide training and bridge training to EMIs. The DEA is currently working on securing SETA accreditation for EMI training.

The table below illustrates the progress reported by some Provinces towards this target, noting in some cases that the EMIs are not necessarily specialised and dedicated to enforcing NEMWA.

Table 21: Provincial designations of EMIs

|  |  |
| --- | --- |
| Province | Progress Made |
| Eastern Cape | 17 designated EMIs |
| Limpopo | 2 EMIs have been trained, but have not yet been designated |
| KwaZulu-Natal | 17 designated EMIs |
| North West | 12 EMIs trained and designated to enforce Waste Act on a provincial level. 17 EMIs trained and 1 designated at municipal level. |
| Western Cape | 73 EMIs designated by the province, 31 by the City of Cape Town, and 30 by other municipalities. |

The table below provides the activities listed in the NWMS 2011 to support goal 7 with respect to the training and deployment of EMIs, and progress in relation to each of the activities.

|  |  |
| --- | --- |
| Activities | Outcomes |
| Develop a programme for Strategic Compliance and Enforcement inspections in relation to the Waste Act. | Partially Implemented –  Waste management facilities are required to submit an audit report annually |
| Determine number of EMIs required at each level of government for Waste Act compliance and enforcement. | Not Implemented –  There is currently no coherent strategy for deployment of waste sector EMIs across the three spheres of government. |
| Finalise EMI training manual consisting of a set of Standard Operating Procedures for waste management activities. | Implemented –  The DEA is currently trying to get the training programme SETA accredited. |
| Include EMI Basic Training Material in the Environmental Health Practitioner National Diploma. | Not Implemented –  It is unlikely that EMI training will be included in the EHP National Diploma, which is currently oriented towards registration with the Health Professions Council. |
| Train and designate additional EMIs. | Partially Implemented –  EMIs are trained in environmental crime and then specialise, with waste regulation being one of the options – however most EMIs specialise in wildlife and biodiversity crime. Training continues of EMI’s however most specialise in wildlife and biodiversity crime. |

### Roles and Responsibilities

In terms of the roles and responsibilities for the enforcement of environmental waste and pollution crime there is a large degree of fragmentation. There are gaps and challenges which lie between the enforcement roles of the NPA, SAPS, local authorities, provinces and at the national level. As an example, SAPS will only enforce municipal by-laws and not the Waste Act, contraventions of which are referred to the DEA. There are concurrent competencies in the roles and responsibilities of enforcement entities which results in unclear boundaries of where responsibilities lie which can cause a culture of unaccountability. There is also an element of a lack of capacity to carry out full and thorough enforcement of environmental crimes.

### Gaps and Challenges

The poor performance in relation to compliance of enforcement in the waste sector is at least partly a result of punitive actions being viewed negatively at a time when the country is working towards job creation and economic development. There remain many non-complaint waste management facilities operating and environmental waste crimes taking place, such as illegal dumping. Environmental crime is extremely complex, and it is a difficult and lengthy process to prove non-compliance and issue an action. This is exacerbated by the enforcement of waste crime being fragmented and responsibilities of enforcement lying with different entities and within different spheres of government. Government, whether it be on a local, regional or national level, also lacks the human and financial capacity to successfully and efficiently enforce and monitor compliance with the Waste Act. There is a strong need to align roles and responsibilities between authorities and the different spheres of government and have a single system of enforcement which should sit at a national level.

Although guidelines and norms and standards have been developed there are still waste management facilities which do not comply with regulations and it is difficult to enforce these due to a lack of capacity. An example of this is waste management facilities which do not submit annual audits in the knowledge that they are non-compliant and fear prosecution. The DEA does not have the funding or human capacity to conduct these audits themselves which is required as a form of proof of non-compliance for any legal actions against the waste management facility to take place.

There has been training conducted for EMIs, however most EMIs specialise in the area of wildlife and biodiversity crime and there have not been sufficient appointments of EMIs into the waste sector. The training course has also not been included in the EHP National Diploma, however the DEA is currently working on getting the EMI training course SETA accredited. There is also the common challenge of capacity which limits the designation of EMI’s into the various levels of government.

Waste has a severe detrimental impact on the health and well-being of people and proper socio-economic impact assessments need to be conducted before any legislation or norms and standards can be developed. There is also a perception of misalignment between legislation (NEMWA) and the current philosophies being supported through the Waste and Chemicals Economy Phakisa of economic development and job creation. There is possibly a need for a realignment and rationalisation in terms of the Waste Act and economic development.

## Emerging issues and cross-cutting challenges

A range of issues have emerged from engagements with both internal and external stakeholders that relate to the 2011 NWMS as a whole, rather than simply gaps and challenges encountered with particular goals, targets and activities.

Technical concerns with the framing of targets

A number of concerns have been raised by stakeholders in relation to the approach and substance of the goals, targets and actions in the NWMS 2011. These include technical concerns in relation to the framing of many of the targets specified for the goals, where the indicators were too vague or otherwise inaccurately framed to make progress in relation to the targets meaningful. For instance, there was broad support for targets for recycling to be disaggregated across waste streams and types to provide greater strategic clarity and direction.

Conceptual framing of goals

There were also conceptual issues raised with the framing of the NWMS 2011 goals, with some of the goals appearing to relate to themes for enabling actions, such as: raising awareness around waste; achieving sound financial management in relation to waste services; and effective compliance and enforcement of the Waste Act. Other goals seemed to express more clearly defined waste management imperatives, for instance: to minimise waste; deliver effective waste services; remediate contaminated land. This inconsistent approach to framing goals and targets meant that many of the goals that related to enabling actions had cross-cutting significance across the goals more focused on waste management imperatives.

Alignment of goals, targets and actions

In a number of cases, the targets associated with particular goals did not seem to sufficiently directly reflect impact in relation to the intended goal. For instance, simply running awareness campaigns is not a direct indication of actual impact in the way that reduction of littering or increased rates of household participation in separation of waste at source might be. Related to this problem, there was a concern that aspects of the strategy were shaped by “check-boxing” i.e. stipulating targets and actions that could easily be measured and were relatively easy to achieve, but which did not necessarily have impact – the clearest example of this perhaps being the target for licensing of landfills. This misalignment between strategic goals, targets and actions in the NWMS is reflected somewhat in the scoring of the strategy provided in the review – in some cases, stakeholders may feel that actual progress in relation to the strategic intent behind a particular goal is substantially different to that suggested by a scoring of progress in relations to targets and actions for that goal.

Similarly, in some cases the action plans associated with particular goals and targets did not seem to reflect a particularly robust or coherent theory of change. In the case of the target in relation to separation at source for municipalities, it was hard to discern any actions that directly supported this target within the relevant action plan for goal 1 (waste minimisation), although potential actions to support this could sensibly fit under goal 4 (waste awareness) or goal 5 (integrated waste planning).

One approach to structurally revising the strategy would be to centre it on a few central goals that directly relate to:

* Imperatives in relation to implementing the waste management hierarchy
* Imperatives in relation to service delivery and the socio-economic impact of waste management activities and practices
* Imperatives in relation to pollution, climate change, and the environmental impact of waste

The strategy could then be further elaborated in terms of a more detailed set of objectives and actions, with a far more fine-grained set of indicators rather than high level targets that imperfectly capture the strategic intent behind the goals formulation.

Strategic Content Gaps

Perhaps the most problematic goal in terms of content gaps and inadequacies was the Waste Minimisation goal. Stakeholders clearly felt that the revised strategy needs to provide clearer direction around waste minimisation with respect to particular waste streams and types, prioritising those with the greatest potential impact in terms of sustainable development, and articulating strategies for leveraging that potential in relation to each waste stream and/or type.

Further, as the goal in which the strategic approach to implementing the Waste Management Hierarchy was principally articulated, it was felt that the targets for Goal 1 neglected a suite of waste prevention options at one end of the value chain, and of recovery options at the other. Similarly, the targets for goal 3 (the green economy) seemed overly narrowly focused on jobs and small businesses, but neglected other important sustainable development benefits of waste prevention, minimisation and recovery that form an important part of the business case for the waste sector within the green economy.

While skills and capacity building actions are attached to several goals, the 2011 NWMS action plan appears to offer little in the way of directly supporting research, development and innovation in the waste sector, and appears to almost completely elide the important role of the Department of Science and Technology in the sector. This should be addressed in the revised and updated strategy with reference to the Waste RDI Roadmap.

Implementation Challenges

Challenges in terms of skills, resources and governance are an acknowledged aspect of the landscape against which policies and strategy are implemented in South Africa, and a number of interventions both within the NWMS and contemporaneous with the NWMS have been designed to mitigate this. These include the DST’s Waste RDI Roadmap and COGTA’s Back to Basics programme. Nevertheless, as a consequence of the review of the NWMS certain flaws in the implementation strategy stand out:

* The NWMS did not include a budget for implementation and the socio-economic business case for the strategy was presented in very general terms. Operating from the premise that financing of municipal infrastructure and services is accomplished at the level of local government while technically correct, does not appear to be a practical approach to implementation of the national strategy, which needs to have greater cognisance of the constraints many local authorities face in relation to financing of waste infrastructure and services.
* Significant obstacles were encountered in accessing data on the implementation of the NWMS that reflect both a general problem with availability and reliability of information on waste management and waste streams, and a more specific problem in relation to an inadequate strategy and systems for monitoring and reporting on the targets and actions in the NWMS 2011. At all spheres of government, it is clearly sub-optimal to rely on five year intervals for reporting on progress towards strategic national, provincial and local goals for waste management, and NEMWA requires annual reporting on implementation of IWMPs.

A further implementation challenge relates to the cross-cutting nature of waste management, which holds implications for the activities and mandates of a wide range of government departments, if not all.

# Situational Analysis

The purpose of this section is to provide a contextual overview of the South African waste sector in terms of the legislative and policy environment, institutional roles, waste streams, as well as new development and initiatives in the waste management sector since NWMS 2011 was put in place. Further, key concepts underpinning strategic approaches to waste management and questions of terminology relating to the definition and understanding of the hierarchy of waste management practices will be examined.

## Legislative and Policy Review

The overarching legislative framework for waste management in South Africa is established by Section 24 of the Constitution (Act 108 of 1996) which establishes – for all – fundamental rights to an environment that is not “harmful to their health and well-being” and to have the environment protected to “prevent pollution and ecological degradation” as well as to secure “ecologically sustainable development”. These constitutional rights are given further effect by the environmental framework legislation of the National Environmental Management Act (No 107 of 1998) in terms of which NEMWA is established to legislate for the waste sector and which establishes progressive environmental principles, including the precautionary principle and the polluter pays. The development of the NWMS is mandated by NEMWA, with the 2011 NWMS being the first waste strategy to published after the passing of NEMWA by parliament in 2008.

Policy alignment for waste management in South Africa has its origins in the Polokwane Declaration of 2001 which commits national, provincial and local government, civil society and the business community to what proved to be the overly ambitious goal to “Stabilize waste generation and reduce waste disposal by 50% by 2012 and develop a plan for Zero Waste by 2022”. Despite this goal having been superseded by history, waste minimisation remains at the centre of the 2011 NWMS.

The National Development Plan (NDP) articulates the guiding developmental vision for the country to 2030 and includes prescriptions for “ensuring environmental sustainability and an equitable transition to low-carbon economy” in alignment with the National Strategy for Sustainable Development and the National Climate Change Response (NCCR) white paper of 2011. Both the NDP and the NCCR locate the waste sector as having an important contribution to make in terms of the country’s commitments to making a fair and just contribution to reducing greenhouse gas emissions.

In general, the legislative approach encapsulated in NEMWA can be characterised as one of “Command and control” in relation to the waste sector, in that it creates a detailed legal framework for compliance with, and enforcement of, regulations that includes penalties for non-compliance. Even measures that in theory are instruments for co-regulation with industry, such as Industry Waste Management Plans, in practice have been driven largely by government in the case of the Tyre Waste Management Plan, which was opposed by a significant element of private sector stakeholders.

Some criticism of this approach to management of the waste sector has been voiced by stakeholders. The perception exists that while “command and control” legislation that enforces licensing requirements can be used to establish parameters for sound waste management and create policy certainty that can potentially support investment in waste beneficiation, this requires the capacity for effective and consistent enforcement to be present to support a culture of compliance, which is not currently well established. Furthermore, it is argued that a state regulated system of listed activities and licensing requirements is insufficiently flexible to keep abreast of new technology, and it therefore acts as a brake on innovation in the sector. This is amplified by the difficulty local government has in navigating the requirements of the PFMA and MFMA in relation to procurement processes, which deters long term private sector investment in waste management infrastructure and research and development. Although the limitations on long term contracts imposed by the MFMA are not absolute, there is little capacity or appetite on the part of local government to engage National Treasury on these issues.

A further aspect of the regulatory environment that needs to be considered is that the vast majority of collection of recyclables in South Africa happens in a completely unregulated manner through the informal sector in the form of waste pickers. This is very characteristic of developing economies and has both advantages and disadvantages. In practice, it makes a significant contribution to the livelihoods of the urban poor, but waste picking remains in most cases an economically marginal activity that involves significant risks to health and security for the people involved.

### New Policy and Strategic Initiatives relevant to the revised NWMS

Since NWMS 2011 there have been some significant amendments to NEMWA enacted in 2014. These include provisions that establish the Waste Management Bureau to support the Minister in implementing NEMWA, particularly with the disbursement and management of incentives for waste minimisation and IndWMPs, support of these plans and associated norms and standards, as well as municipal IWMPs. A schedule of category A and B defined wastes is added to the act, and some amendments are made to the definition of waste to remove ambiguities, including the exclusion of “energy” from the definition of recovery, since NEMWA is only concerned with the handling of waste fuels, rather than regulating energy generating processes. Further, as part of the “One Environmental System” which seeks to rationalise all environmental legislation under the umbrella of NEMA, animal carcasses and residue deposits and stockpiles associated with mining fall under NEMWA.

Integrated Urban Development Framework

In the realm of policy and strategy, COGTA’s Integrated Urban Development Framework seeks to create a shared policy framework across government on achieving the goals of economic development, job creation and improved living conditions within the context of managing urbanisation. Since the effective delivery of waste services are critical to living conditions in urban areas, the revised strategy needs to align with this process.

Operation Phakisa: Chemicals and Waste Economy

In an effort to improve delivery of waste management services and enhance the sector’s contribution to the country’s Gross Domestic Product, DEA together with the Department of Planning, Monitoring and Evaluation (DPME) engaged in an intensive five-week workshop programme to develop a shared vision of high-impact initiatives that create jobs and reduce the impact of chemicals and waste on the environment. The methodology used, referred to as Operation Phakisa, is based on the Malaysian model of “Big Fast Results” where participants engage in an intense workshop of problem solving and unlocking blockages to delivery in any sector. Operation Phakisa involved the participation of all stakeholders in the waste sector including government, state owned enterprises, academic institutions, non-government and community-based organisations and business. Over 150 organisations participated with an average of ninety-five 95 participants per day. At the end of the five weeks, participants agreed to aspirations for the sector with detailed 3 feet plans of initiatives over the 5 year period from 2017-2023 with timelines and assigned responsibilities for all stakeholders.

The aspiration that was set and agreed to by all stakeholders was to meet the following objectives:

1. To grow the secondary resources economy through the creation of an enabling regulatory environment, with the target to double the overall recycling rate.
2. To generate opportunities from chemical and waste resources for the creation of jobs/opportunities in new/existing markets specifically through enabling SMMEs.
3. To invest in R&D innovation (including IP) and infrastructure to enhance the utilisation of local waste resources for new products, substances and services that will create jobs and enhance the production of environmentally friendly chemicals.
4. To reduce waste to landfill by 75% of industrial waste and 50% of municipal waste through education and awareness, compliant society and application of cleaner production.

If implemented, the initiatives are projected to contribute to diverting waste to landfill and increasing recycling rate from 12% to 25%. In this regard eighteen (18) initiatives were identified within the following four work streams:

1. Bulk industrial waste which includes ash, gypsum, biomass and slag
2. Municipal waste
3. Waste minimisation
4. Chemicals

To support the implementation of these initiatives, two (2) cross cutting activities were identified which include a nationwide awareness campaign and targeted Small, Medium and Micro-enterprise (SMME) support for new entrepreneurs. The implementation impact of these initiatives is projected at R11.5bn creating 127 000 jobs which include 45 000 direct jobs and 82 000 indirect jobs, 4 300 SMMEs and approximately 20 million tons of waste diverted from landfill sites.

The table below indicates the initiatives per work streams:

Table 22: Phakisa Waste Initiatives

|  |  |  |
| --- | --- | --- |
| WORK STREAMS 1 : INDUSTRIAL BULK WASTE | | |
| Initiatives | Proposed solution | Implication for NWMS |
| Increase uptake of ash, slag and gypsum in brick-making and construction sectors | Unblock legislative impediments to enable classification of bricks for construction purpose | The initiative will contribute to diversion of approximately 10m tons of waste to landfill which will contribute to waste diversion and minimisation goals |
| Accelerate innovation and commercialise existing R&D - Utilisation of ash for Acid Mine Drainage treatment and backfilling mines | To find alternative use of fly-ash as backfill in mines and amelioration of acid mine drainage in mine rehabilitation | The initiative contributes towards re-use objective and land remediation objective |
| Accelerate innovation and commercialise existing R&D - Use of ash as a soil ameliorant | To use fly-ash to improve soil conditions | The initiative contributes towards rehabilitation and restoration of land |
| Positioning South Africa as a globally competitive exporter of ash | To export ash to international markets where it can be re-used | Waste to landfill will be avoided |
| Towards zero sewage sludge to disposal to landfill | To treat sludge for use in land remediation and also develop combined heat plants | Sludge disposal to landfill will be avoided  Development of combined heat plant will reduce approximately 45000 tons of carbon dioxide to mitigate the impacts of climate change |
| Zero meat production waste to landfill by 2023 | To develop waste products from meat waste products that are of beneficial use | Divert 740 000 waste to landfills |
| WOKSTREAM 2 : MUNICIPAL WASTE | | |
| Introduction of an E-waste levy to increase collection rates | Increase collection rate by 30% annually to give an overall recycling rate of 30% of e-waste generated by 2023 | Diversion of e-waste from landfill through increased recycling rates |
| Unlocking government ICT legacy volumes | To reclaim precious metals from used government computers, creating 1000 jobs. | Diversion of waste and recycling of old computers |
| Achieving a minimum of 50% of households separating at source by 2023 | Separation at source and development of at least 9 transfer stations per metropolitan municipalities | This target has to be aligned to the NWMS target of waste separation and recycling |
| Introduction of Material Recovery Facilities (MRFs) and plastic processing plants to increase recycling rate of plastic | Establish 17 MRF and 6 plastic processing facilities for pelletisation | Reduce waste to landfill and promote re-use of waste |
| Produce building aggregates and construction inputs from rubble and glass | A minimum of 30% of construction waste to be re-used in construction activities. | Recycling and alternative use of waste. This will lead diversion of 1,3m tons per annum |
| WORKSTREAM 3: WASTE MINIMISATION | | |
| Establish a Specialised Food Waste Programme to conduct focused research on causes of food loss and upskill AGRO-stakeholders to reduce these losses | Skill development and awareness on ugly food | Reduction food waste to landfill  Poverty alleviation |
| Develop and launch food waste awareness campaign | Create awareness on ugly food |
| Packaging guidelines and establishing a green grading schemes | Green packaging guidelines and extended producer responsibility | Reduction of material use in packaging |
| Formalising an EPR mechanism to enable and increase recycling efforts in the Paper and Packaging Industry | Expand extended producer responsibility for packaging responsibility | Promote waste minimisation |
| Establish a pilot refuse-derived fuel plant | To establish a refuse derived plant | Divert 280 000 tons of diapers and other non-recyclable waste streams. |
| WORKSTREAM 4: CHEMICALS | | |
| Establish a refrigerant reclamation and reusable cylinder industry | Establish an industry for reclamation of refrigerants and phase out import of disposable cylinders | Divert disposal of cylinders and reduce emissions |
| Ban import of harmful chemicals (e.g. leaded paint/paint pigments | Ban local production and import of pigments by 2020 | Pollution reduction |
| Funding strategy for the treatment and disposal of mercury stockpiles | Develop strategy and Source funding for the treatment of mercury stockpiles | Pollution reduction and land remediation |
| Funding strategy for the treatment and disposal of asbestos stockpiles | Develop strategy and source funding for remediation of asbestos polluted areas | Pollution reduction and land remediation |

The initiatives inform and have implications for the revised NWMS as all of them are to be implemented by 2023.

Waste Research, Development and Innovation Roadmap

This is an initiative of the Department of Science and Technology that seeks to foster innovation, job creation and enterprise development within the South African waste sector through the implementation of the 10 year WASTE RDI Roadmap from 2015 to 2025. The Roadmap seeks to maximise the diversion of waste from landfill through prevention of waste and optimising the extraction of value from reuse, recycling and recovery to create significant economic, social and environmental benefits. To this end, the programme has defined six Research, Development and Innovation (RDI) clusters, as described in the diagram below:

Figure 3: Waste RDI Roadmap Clusters

## Institutional roles

Stakeholders in the waste sector have long complained about the tendency of government departments to work in silos, which can create unnecessary bureaucratic hurdles and undermine opportunities for integration and innovation. At the same time the DEA is sometimes accused by other government departments and spheres of overreach in terms of the extent to which environmental policies and legislation impact on them and/or impose responsibilities. As can be seen from the discussion that follows, the number of entities within government that significantly impact on or are impacted by the waste sector is extensive.

The Department of Environmental Affairs is the custodian of the NWMS in terms of its mandate to deliver on Section 24 of the constitution. It is responsible for creating and implementing an enabling legislative and policy environment for the waste sector, and for supporting other government departments and spheres of government, civil society and the business community in relation to the implementation of waste policies and strategies. Within the DEA, the Waste Bureau as established in the 2014 Amendments to NEMWA has particular responsibilities for oversight and capacity building in relation to IndWMPs and IWMPs.

The Department of Science and Technology has an important role to play in promoting technological innovation and localisation within the waste sector, and is collaborating with the CSIR, universities, and the private sector on the Waste RDI Roadmap. The Department of Trade and Industry and the Economic Development Department both have a role to play in terms of encouraging growth and industrial development in relation to the green economy and the waste sector in particular. Relatedly, the South African National Standard (SANS) is responsible for oversight of the South African Bureau for Standards, which has relevance for particular waste management technologies, products and applications.

The department for Cooperative Governance and Traditional Affairs (COGTA) and the Department of Human Settlements (DHS) have responsibilities in relation to local government, housing and the planning of human settlements that impact on waste service delivery.

National Treasury is responsible for oversight of the national fiscus and revenue collection, including fiscal instruments intended to shape consumer and/or industry behaviour around waste management and the system of transfers to provincial and local government, as well as the maintenance of the overall legislative and policy framework for financial management of local government, which is crucial to the financing of waste infrastructure and services by local government. The South African Revenue Service (SARS) also reports to the Minister of Finance and has responsibility for the administration of levies and the system of export and import duties and environmental taxes that may relate to particular wastes.

The Department of Water Affairs and Sanitation shares some concurrent responsibility with DEA in relation to water as a component of the environment, and this is particularly important in relation to wastes that threaten the integrity of water resources, such as sewage, as well as contaminated lands.

The Department of Mineral Resources is a key stakeholder in the One Environmental System as it is responsible for the mining industry, associated with significant environmental impacts and waste generation in the form of mining residues and stockpiles, amongst others, and its Minister shares concurrent responsibilities with DEA in relation to environmental authorisations for mining.

The Department of Energy has a particular interest in waste as a source of fuel involving waste to energy technology applications such as cogeneration, pyrolysis, biogas generation and landfill gas capture. Further, the energy sector is the primary source of flyash, an environmentally significant waste. Similarly, the Department of Transport has an interest in construction and demolition waste as a potential source of aggregate for the construction of roads, as well as the use of waste as a feedstock for biofuels in transport. The Department of Agriculture has a particular interest in the management of organic wastes associated with agriculture, as well as hazardous wastes such as pesticides. The Department of Health has particular responsibilities in relation to Health Care Risk Wastes.

Provincial Government is responsible for developing and implementing provincial IWMPs and building local government capacity in relation to waste services and delivery, and the relevant MEC is responsible for endorsing local government IWMPs and progress reports in relation to the implementation of these.

Greencape is an entity established by the Western Cape government that, amongst other functions, manages a waste exchange programme and supports industrial symbiosis . Similar entities are in the process of being established in Gauteng and KwaZulu Natal.

Local municipalities and metros are required to develop, implement and report on IWMPs and are directly responsible for the collection and disposal of waste, as well as implementing the hierarchy of waste management practices in collaboration with the private sector. District Municipalities are responsible for supporting local municipalities in terms of capacity and coordination in relation to waste services delivery, and for maintaining and delivering regional waste infrastructure and services. Similarly, Districts are required to develop, implement and report on IWMPs.

A number of NGOs and CBOs provide advocacy, services and capacity building in the waste sector. The SAPS provide limited enforcement services in relation to municipal by-laws, with enforcement of NEMWA primarily being accomplished by EMIs in partnership with the NPA.

## Emerging trends and concepts in Waste Management

The concept of the circular economy has become increasingly important in relation to the South African and international approaches to the green economy and transitioning to a low carbon economy.

The essential precept underpinning the concept **circular economy** is based on minimising waste and the use of virgin materials by adopting strategies for:

* **Waste prevention** that avoids the generation of waste wherever possible at all points in the cycle of production and consumption by adopting cleaner production strategies, minimising waste in product design and packaging, including through facilitating reuse and repair of products.
* **Managing** **waste as a secondary resource** that has economic value through **industrial symbiosis**, whereby waste by-products of one companies’ productive process are used as inputs into another’s production process, recycling and recovery of materials from waste, including composting of organic waste, thereby reducing the need for the extraction of raw materials (primary resources).
* Reducing waste disposal to landfill through the application of waste to energy technologies such as thermal treatment, gasification, pyrolysis, and anaerobic digestion.

In this way, the volume and impact of waste generated through economic activity is minimised and the impact of economic activity on the environment through resource extraction is reduced through the use secondary resources, thereby closing the loop of the circular economy.

Essentially, the circular economy is an outcome of the systematic application of the hierarchy of waste management practices as described in the NWMS 2011 at every step in the production and consumption of goods and services. However, it does provide two slightly different entry points to strategy development that can potentially lead to trade-offs. For instance, in order for the significant investments required for environmentally safe energy recovery from waste to be achieved, guarantees of the calorific content and volumes of waste need to be in place for an extended period, and this can constrain options for recycling or composting or even waste avoidance strategies.

Figure 4 below compares different national approaches to municipal solid waste (MSW) management that are instructive in relation to approaches to reducing waste disposed to landfill, which is a key imperative for waste management in South Africa. 10 European countries have achieved rates of less than 10% of MSW disposed to landfill, but there are significant differences in the technologies that they have employed. While incineration and energy recovery are a significant means of waste disposal in all of them, in the case of Austria the largest percentage of waste is composted.

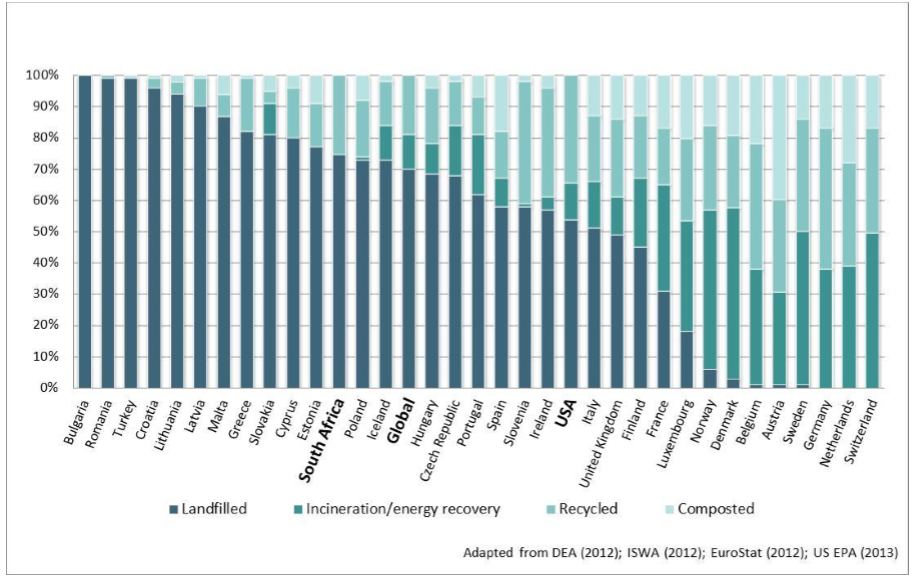


Figure 4: International approaches to management of municipal solid waste

Currently – and this is reflected in the targets and action plan for the waste minimisation goal of the 2011 NWMS – there is very little penetration of either energy recovery or composting of organic waste in the South African waste sector, despite the fact that international trends suggest these are essential components of strategies for diverting significant quantities of waste from landfill. Similarly, waste prevention in the sense of avoiding waste during resource extraction and the design and production of consumer goods has received comparatively little attention in South Africa

Policy and service delivery interventions can impact significantly on the mix of technologies used to process waste. For instance, incentives and norms and standards around packaging can increase the organic fraction of MSW and are critical to addressing the growing problem of marine plastics pollution. 9 countries in Europe have instituted bans on the disposal of post-consumer plastics to landfill and in all cases have achieved recovery rates of over 90% for plastic waste using a mix of energy recovery and recycling technologies. The ban on disposal of plastics has created a significant achievement gap, with the next highest European country disposing almost 40% of plastics to landfill.

# Priorities for the revised NWMS

Waste Prevention and Waste as a Resource

As has been noted in the progress review of the 2011 NWMS and the situational analysis, there is significant scope to increase diversion of waste from landfill by leveraging currently under-exploited opportunities in relation to:

* Waste prevention through clean production, industrial symbiosis, extended producer responsibility, and interventions in product design and packaging. Of particular relevance to this last is the June 2018 announcement by a major South African retailer of its commitment to phase out single-use plastic shopping bags by 2020 and to contribute zero packaging waste to landfill by ensuring all its packaging is reusable or recyclable by 2022.
* Alternative waste disposal methods that leverage the value of waste as a resource, particularly with respect to the organic fraction of waste through composting and as an input into waste to energy processes.
* Increasing demand for recyclates and the economic value of waste as a resource through a variety of measures, including preferential procurement by the state of goods with recycled content, Industry Waste Management Plans, and household separation at source. The introduction of mandatory separation at source supported by by-laws by the City of Johannesburg provides a useful example.

Noting that state interventions that have the effect of increasing the value of recyclates potentially have strongly redistributive impacts on wealth as a consequence of the fact that the vast majority of recyclates are currently collected by the informal sector careful consideration needs to be given to ensuring that these redistributive effects are in fact realised while introducing measures to encourage entrepreneurship, the development of sustainable SMEs, and improve the livelihoods and working conditions of waste pickers.

Extended producer responsibility

NEMWA provides a potentially important mechanism for extended producer responsibility through co-regulation with industry in its provisions for IndWMPs. It is a mechanism which has not as yet been adequately utilised beyond the problematic implementation of the Tyre Waste Management Plan under REDISA. In light of the recent call for IndWMPs in a number of industries, careful attention needs to be paid to addressing the challenges encountered with the REDISA plan. Where implementation of these plans depends on public resources or fiscal instruments such as levies, particular care needs to be taken in relation to governance and alignment with the requirements of the Public Finance Management Act (PFMA). Consideration should be given to a model which allows for a level of competition between differing IndWMPs within the same industry, rather than a single overarching IndWMP per industry. In either case, if the Waste Bureau that has been established under the DEA is to successfully provide oversight of the implementation of IndWMPs, it needs to be appropriately capacitated in terms of suitably skilled and experienced personnel. The Waste Act provides the Bureau with a potentially very broad scope of activity, and there is a need to give careful thought to its institutional arrangements and interpretation of its mandate in the revised strategy.

Compliance and Enforcement

While the National Environmental Compliance and Enforcement (NECER) reports published annually by DEA provide useful insight into the level of compliance and enforcement activities in relation to the environment broadly, there is a need to provide reporting that has greater analytical value in terms of the scope and impact of monitoring, compliance and enforcement in terms of specific environmental legislation – with respect to waste, the NEMWA. For instance, it would be useful if NECER reports structured reporting on criminal and administrative enforcement actions in terms of the legislation or mandate under which they were undertaken. Further, in terms of the success of enforcement actions the current system of annual reporting provides only partial and indirect insight. There is no direct correlation between the statistic of criminal investigations handed over to the NPA in a given year, and the number of convictions secured in that year since these convictions may pertain to cases that were handed over in previous years. There are multiple potential steps in responding to each case of a contravention of waste legislation and from the perspective of deploying resources and effort it would be useful to have insight into compliance outcomes at each step. In other words, rather than an annual cross section of enforcement activities, it would arguably be useful to report annually on the number of current and newly opened “cases” and changes in status of existing and newly opened cases as a result of inspections and administrative or criminal enforcement actions.

A further issue is that current compliance and enforcement activities, and reporting thereof, is currently focused on industrial contraventions of NEMWA. Local government authorities have repeatedly cited littering and illegal dumping as a critical problem. Although NEMWA does include penalties for littering and illegal dumping, to the extent to which there is enforcement – which has been inadequate – this currently takes place primarily on the basis of local by-laws enforced by SAPS. There is therefore an urgent need to develop new approaches to improving compliance with NEMWA in this respect, and public awareness and incentives for behaviour change, particularly where these are implemented within the context of separation at source of organic waste and recyclables need to be considered as important enablers in this respect.

Promote innovation in the waste sector

The revised strategy should align itself with the DST’s Waste RDI Roadmap to promote innovation both in the uptake and development of new waste management technologies as well as in models for the delivery and procurement of waste services by local authorities. Particularly as it relates to models for the financing of waste service delivery and infrastructure and contracting with the private sector by local authorities, National Treasury and COGTA need to be actively involved in this process and seek to establish practical models that can be readily replicated. The revised strategy should also be cognisant of the need to ensure that waste legislation and the approach of government to implementing mechanisms such as Industry Waste Management Plans and norms and standards do not unduly hinder innovation.

1. Jambeck et al, 2015, Plastic waste inputs from land into the ocean, Science Vol 347 Issue 6223 [↑](#footnote-ref-1)