Department: Solid Waste Management

Sector Plan 2012/13

SWC 10356

2012/2013 SOLID WASTE MANAGEMENT SECTOR PLAN FOR CITY OF CAPE TOWN (INCORPORATING INTEGRATED WASTE MANAGEMENT PLAN)

Introduction

The Waste Management Sector Plan or Integrated Waste Management (IWM) Plan of the Solid Waste Management (SWM) Department of the City of Cape Town consists of operational and support strategies, and contains a schedule of projects and activities. The aim of the IWM Plan is to give effect to the strategies, to manage and minimise waste, to ensure sustainable and affordable services, as well as to comply and meet the objectives of the National Waste Management Strategy, per the National Waste Act.

The initial IWM Plan was preceded by a thorough status quo assessment of the City's' waste management. It was conducted by a team consisting of expert waste management consultants, Council staff and staff from the Western Cape Department of Environment and Development Planning (D:EA&DP). Public participation was conducted via an extensive series of public meetings in July and August 2004 as part of the statutory process to obtain public input and needs for the plan.

This is the six review and amendment of the plan since the original was adopted by the Executive Mayoral Committee together with the Council's IWM Policy in May 2006 (resolution MC 08/05/06). It is herewith presented for inclusion in the Council's reviewed IDP for 2012/13, per Section 5 of the Municipal Systems Act (MSA).

Principles, service levels and standards for waste management are contained in the City's IWM policy. The overarching policy objectives are to ensure basic waste management services to all residents, to reduce waste that is landfilled, to conserve resources and the environment, clear and clean waste that is illegally dumped and to reduce the impacts of waste on human and environmental health, and the economy. Tariff information is contained in the Council's Tariff Schedule, which is reviewed and adopted by Council at the same time as the Integrated Development Plan (IDP) and the IWM Plan.

Council's IWM By-law for the regulation of waste management activities is aligned with the national imperatives, and was adopted by Council (resolution C15/03/09), and was promulgated on 21 August 2009. This is the first comprehensive waste management by-law aligned to the objectives of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008). The by-law was amended to align with administrative legal and juristic requirements and was then promulgated on 4 June 2010 (PG 6756; LA 21902).

National/Provincial Legislative Requirements

The SA Constitution, Schedule 5B requires municipalities to provide cleaning and cleansing, waste collection and disposal services and related infrastructure. The National Waste Management Strategy (NWMS), and the White Paper on Integrated Pollution and Waste Management for South Africa (informed by the statutory principles affecting environmental management and conservation), are the national policy and regulatory instruments that define an integrated waste management approach, focusing on waste minimisation and service delivery.

The National Environmental Management: Waste Act (No 58 of 2009) (NEMWA) was promulgated on 10 March 2009 and with the exception of section 28(7) (a), Part 8, sections 35-41 and section 46, came into effect on 1 July 2009.

The Local Government Municipal Systems Act, S.11 requires a Council to formulate policies for which the Integrated Waste Management Policy was developed in 2006. In terms of S.12 of the NEMWA, a municipality must formulate an IWM Plan as a means of minimizing waste disposal, providing services, preserving natural resources and extending the use of landfill sites, and protecting the health and the environment.

The revised National Waste Management Strategy (NWMS) was published in November 2011 by the National Minister for the Department of Water and Environmental Affairs (WDEA). The National Waste Management Strategy (NWMS) is a legislative requirement of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), the "Waste Act". The purpose of the NWMS is to achieve the objects of the Waste Act. Organs of state and affected persons are obliged to give effect to the NWMS. The Minister of Water and Environmental Affairs has also published the National Domestic Waste Collection Standards which came into effect on Tuesday, 1 February 2011. The National Domestic Waste Collection Standards published under the National Environmental Management: Waste Act (Act No. 59 of 2008) aims to provide a uniform framework within which domestic waste should be collected in South Africa. These changes to both the NWMS and the National Domestic Waste Collection Standards will have a direct bearing on future waste management strategies of the SWM Department.

DEA has also developed the National Policy for the Provision of Basic Refuse Removal Services to Indigent Households, which came into effect on 22 June 2011. The implementation of the BRR policy will require municipalities to provide a waste collection service to qualifying households fully rebated and provide a waste collection service to previously un-serviced households in order not to discriminate against indigents who cannot afford to pay for their areas of residence to be serviced. This policy is considered to be part of the roll-out plan of the national department to implement NEMWA. The SWM Department provided comment on the draft instrument, as there are financial consequences that will affect the sustainability of services in municipalities.

The most important legislative requirements for these objectives are contained in the following statutes and national policies:

1. The SA Constitution (S.24: Right to a safe and healthy environment);
2. The National Environmental Management Act (Act 107 of 1998) (NEMA);
3. The Environment Conservation Act (ECA) (Act 73 of 1989, amended – relevant sections not repealed yet);
4. National Environmental Management: Waste Management Act, Act 58 of 2009 (NEMWA) – overarching, integrated waste management legislation, to be read with any future policies and regulations promulgated by the minister;
5. White Paper on Integrated Pollution and Waste Management for South Africa (Government Gazette 20978, 17 March 2000) – DEA national waste management policy;
6. National Waste Management Strategy (DEA, 2011– came into effect November 2011);

7. Waste Tyre Regulations (per S.24B of ECA – came into effect 30 June 2009)
8. Consumer Protection Act (Act 68 of 2008, S.59 Recovery and safe disposal of designated products or components)
9. The National Water Act (Act 36 of 1998);
10. The Hazardous Substances Act (Act 15 of 1973) & Regulations;
11. The National Health Act (Act 63 of 1977);
12. The Occupational Health and Safety Act (Act 85 of 1993) and Regulations;
13. The Road Traffic Act (Act 29 of 1989);
14. The Local Government Municipal Systems Act (Act 32 of 2000);
15. The Local Government Municipal Structures Act (Act 117 of 1998);
16. The Local Government Municipal Finance Management Act (Act 56 of 2003);
17. Local Agenda 21 (Sustainable Development principles at a local government level – SA is a signatory to the United Nation's Agenda 21).

This Waste Management Sector Plan of Council, incorporating the IWM Plan and activity schedule, is aimed at complying with statutory requirements for local government waste and environmental management (in particular Chapter 3 of NEMA). It is also devised to maintain standards and achieve targets that are defined in the Council's IWM Policy and to achieve service delivery targets per the SWM Department's Service Delivery Business Implementation Plan (SDBIP). The policy aligns waste management activities in Cape Town with current national, provincial and Council priorities.

SOLID WASTE MANAGEMENT SECTOR: CITY OF CAPE TOWN

Vision for Waste Management in Cape Town

The long-term vision for the City of Cape Town's waste management services, is to integrate waste management services in such a way that they are able to not only provide basic services, but to augment economic activity and minimise the effects of waste on human and environmental health. Much national support and development is necessary, as waste minimisation and recycling activities are not limited to Cape Town and involve the processing and manufacturing sectors on a national scale.

It will require a country-wide approach in terms of planning, infrastructure, facilities, incentives and disincentives to drive out economies of scale that will make this sustainable and economically viable. The new legislation provides for the formulation of Industry Waste Management Plans, the declaration of "priority waste", the submission of waste information and regulations and policies within the powers of the Minister of DEA. It is apparent that this will not be an easy or a quick process. These are the key influences on achieving the long terms waste management vision and objectives set by the Department.

The long-term vision for the City of Cape Town waste management sector is -

- to improve access to basic services for all residents (formal, informal and backyarders) to as close to 100% as possible within the constraints of available funds and unplanned growth;
- to develop multiple integrated initiatives that will reduce waste and the associated impacts substantially as well as contribute to and support economic development;
- to generate other sources of funding for integrated waste management through Public-Private Partnerships within the Cape Town municipal area;
- to improve the income generated by the Council's waste services;
- to optimise the utilisation of the Council's resources and capital; and
- to regulate waste and the associated services that will ensure sustainability and prevent impact or harm to people and the environment

The MSA S.78(3) assessment of alternate service delivery mechanisms findings and recommendations as considered and adopted by Council in March 2011 gives effect to the long-term vision, as part of the integration strategy to achieve large volume waste diversion from landfills. This is driven by the need to comply with the provisions of NEMWA, which compels municipalities to consider waste minimisation in terms of ensuring service provision.

Synopsis of Situation Analysis of Waste Management in City of Cape Town

Population Growth and Development Profiles: City of Cape Town

The City of Cape Town's Solid Waste Management (SWM) Department is the service authority and regulator of waste management activities in Cape Town, per the system of delegations and the municipality's executive powers conferred on it in law. It is also one of the providers of services in the metropolitan municipal area of approximately 2 461 km^2 with approximately 3.7 million people. Waste management services are required by 1 103 182 households (includes growth estimate on 2006 Census), which are either provided directly by the Department or via a contracted-in service that includes community based contracts.

Almost one-third of the population lives in approximately 230 informal settlements consisting of an estimated 193 951 households. The informal areas are where growth and demand for services occurs mostly on an unplanned basis. The current population growth stands at approximately 3% p.a.

Residential services are provided by the Council (SWM Dept) or via Council tenders, which include community based contracts in informal settlements. The Council derives income by billing for services per its annually revised Tariff schedule, unless a household is deemed "indigent". Indigence is based on a household's income threshold. Services to indigent households are deemed "free basic services", and are funded from government grants and cross-subsidised by a portion of the collected rates.

Commerce is serviced by either the SWM Dept or private sector companies, while the industrial sector, which also generates special and hazardous waste, is serviced exclusively by the private sector in terms of Council policy.

Economic Development and Waste Growth Profiles

Tourism to the greater Cape Town area is a key success factor for economic development even though the global economic downturn affected visitor numbers to Cape Town in 2009. Projected SA Tourism figures almost doubled from 2009 to 2010. The visitor's number is 3 million in 2011, and is estimated to be sustained in 2012.

The property development sector is another strong economic activity that contributes to waste generation. Building and demolition waste (rubble) makes up an estimated 22% by mass of the city's waste. Recovery for processing and reuse is an imperative that will continue to be explored. A number of demolition companies operate mobile crushing/ processing plants. The City also has a contract at three sites to increase the diversion of this type of waste from landfill. Many operational departments have committed themselves to use crushed construction waste in their future developments and contracts. The SWM Department is also driving the development of engineering specifications for building and demolition waste material, which could result in the acceptance of the aggregate in road building contracts.

Without minimization and other effects such as the global economic crisis, the projected current waste growth rate reduced from approximately 7% p.a. to approximately 2.5% p.a. Waste minimisation partnerships linked to alternate technology solutions that will improve environmental performance, is a strategic focus in the medium to long-term.

High-grade composting activities in the city are small-scale in relation to the need. The SWM Department decommissioned a mixed waste composting plant (Radnor) due to unsustainable operating conditions. The Radnor and Bellville South Compost plants were commissioned in the late 1960s to treat Municipal Solid Waste (MSW) and convert the organic component into compost. Since both the quality and sales of compost have declined over the last decade, Council decided to close the Radnor facility and undertake Section 78(1), (2) and (3) assessments in terms of the MSA. As part of this assessment the City has now decided to investigate Public-Private Partnerships (PPP) (Resolution dated 9 December 2010) for both the above facilities and this process is currently underway in the City and will also need to be aligned with the overall findings and recommendations in this report from a systems perspective.This presents a potential partnership opportunity as it is estimated that greens and organic waste make up approximately 36% by volume of the waste stream.

A number of key industries and business sectors related to the production, consumption and processing of packaging materials in or near Cape Town feature prominently in terms of a city-wide recycling and waste reduction strategy. This must, however, link with provincial and national initiatives for good effect. One of two major glass manufacturing factories in SA is located in the city. The plastics industry has a scattered presence, and despite the lack of major processing capacity for recycled materials, there are companies in the plastics sector with plans.

The metals industry is well represented by many small scrap metal dealers and some large processors. An unfortunate consequence of metals recovery is the unlawful recovery of especially copper and aluminium cable, and steel and cast iron street furniture that creates negative knock-on effects in the general economy and many times induces hazardous conditions.

The paper/cardboard industry has limited pulping capacity in Cape Town. The major companies have some processing infrastructure (mills). The sorting and baling of different types of paper still needs to be shipped to other centres for treatment and final processing. The previous strong demand for recovered paper and cardboard due to fires in the plantations that affected raw material supplies was dampened by the global recession, which also affected other commodity sectors. The net result is that the demand for recycled materials was affected world-wide.

Locally, there is a lack of capacity to deal with problem wastes such as tyres, household chemicals, e-waste (electronic, computer and white goods), etc. This often results in dumping practices with unnecessary cost and cleanup effort. The Environmental Conservation Act, 1989 (Act 73 of 1989) Waste Tyre Regulations came into effect on 30 June 2009 and the Industry Waste Management Plan was approved by the Minister. The waste tyre problem is expected to dissipate once mechanisms by the tyre industry have been implemented, but it will still need a lot of pressurizing by the City.

It is anticipated that further alignment in the private and public waste management sector will take place since the City's IWM By-law, the new NEMWA and the Consumer Protection Act were promulgated in 2009. Much depends on the changes arising from the contents of long-awaited new Industry Waste Management Plans. It is expected, however, that the continued downturn in the economy as seen in decreased volumes passing through drop-off sites and transfer stations, is likely to affect these plans and joint industry initiatives for waste minimisation in the city. Combined with budgetary constraints, the implementation of initiatives is likely to be delayed.

Quantities and waste type in the City of Cape Town

A waste categorisation study was commissioned in 2007 to update the data generated for the draft IWM Plan in 2003/04. This study was augmented in 2009 by a further study. This entailed evaluating the types of waste that are generated in clearly delineated areas to understand what infrastructure and systems are best suited. These reports and data will be used in years to come to plan further initiatives and schedule services as part of creating efficiencies and improve the effectiveness of the City's waste management system.

The split between waste from residential areas vs. industrial and commercial areas is approximately 46:54. Analyses are complex for a variety of reasons, and will become more complex in future due to densification strategies and the nature of land use in central business districts and adjacent industrial areas, which are being developed more and more with a residential component in mind.

It is estimated that households generate approximately 46%, industry (free and hazardous waste) approximately 27% and commerce (trade waste) approximately 26% of waste in the City.

Building and demolition waste (or builder's rubble) and garden waste (greens) together constitute approximately 30% of the total waste stream. Other significant fractions collectively make up what is referred to as "packaging waste" that represents between 6% and 8%, while the remainder consists of a variety of organic waste, hazardous materials, e-waste, tyres sand, etc.

Organic fractions tend to be higher in informal areas, whilst packaging waste volumes are quite high in formal areas, especially in high income areas.

In 2007/08, 2.1-million tons of general waste was landfilled in the three City owned landfill sites in the municipal area, whilst in 2008/09 1.7-million tonnes of waste was landfilled, and 1.6-million tons in 2009/10. The amount landfilled in 2010/2011 was 1 685 927million tons and which is still less than the projected growth estimates of 2006/07 when the IWM Policy was adopted.

The figure that constitutes an airspace saving due to waste being diverted for recovery to process, recycle and reuse, currently translates to approximately 8.67% of waste by mass not being landfilled for 20010/2011. This takes into account the complex dynamics of population growth and economic development (with major property development and tourism growth) over the past decade, which has slowed down waste generation due to the economic downturn of the past year.

Landfill airspace savings have been achieved despite a downturn in the economy, using various landfill diversion mechanisms that include the composting of garden greens, the crushing and reuse of builder's rubble, diverting glass, paper, cardboard, certain plastics and metal cans from landfill, as well as the pilot separation at source project ("Think Twice") that services 418 300 residential lifts (99 990 formal households) which has been operational for four years now.

Households receiving Waste Management Services

Currently, 100% of formal households in the City receive a weekly curbside refuse collection service, which is defined as the basic service level in the IWM Policy.

The servicing of individual backyarders is still a huge challenge, however the first phase of containerization and individual servicing recently commenced at Council housing stock in Facreton.

Of the known 230 informal settlements, 100% of the households receive a weekly integrated door-to-door refuse collection and area cleaning service. Newly encountered dwellings in existing informal settlements and/or new informal settlements do receive a temporary emergency service until the standard basic service can be implemented.

Key Strategic Issues and Challenges in Cape Town

The following issues and challenges face the City in the short term regarding waste management and the imperative to minimise waste:

- The existing bulk waste infrastructure is operating at near capacity and as a result is depleting the internationally accepted 15 year airspace reserve;
- Bulk Waste infrastructure creation is lagging behind due to land availability, funding constraints and long planning lead time.
- A solution is needed to service all "backyarders" on a sustainable basis;
- Upsets in the commercial waste management sector due to unfavorable economic conditions that invariably put residential service delivery contracts at risk, as well as affect the implementation of joint initiatives to increase the volumes of recycled materials that are diverted from City landfills;
  - Implementation of the recommendations of the Municipal Systems Act Section 78 investigation, specifically regarding the management of waste minimization through community partnerships and Public-Private Partnerships as alternate service mechanisms to aid job creation, local economic and SMME development, and to alleviate poverty, whilst improving general cleanliness conditions in the city.
  - External funding is required to reduce the onerous financial implications of implementing various waste minimisation initiatives per the IWM Plan, especially where there are private sector economic benefits;
  - The development of strategic partnerships, both financial and non-financial, with business, industry and other sectors of society to commission large scale waste minimization initiatives;
- Capital required for refurbishment and replacement of aging compactor fleet (more than eight years average age);
- Inadequate maintenance budget resulting in poor condition of compactor fleet;
- Capital for establishing integrated, multiple activities where clustered waste management infrastructure exists or is being planned, such as at new integrated waste management facilities: Tygerberg design 2011/12; Helderberg design 2015/16. (Completion of construction work estimated at 3 years after finalization of design).
- Delays experienced in the approval processes for the planning and establishment of the new regional landfill site;
- Finalizing an agreement with a competent service provider to mitigate landfill gas (methane) to reduce climate change and environmental impacts;
- Establishment of a Contract Office to ensure attention to detail of Conditions of Service for new tenders, and timeous, successful completion and adjudication of tenders, and the subsequent management of contracts;
- The impact that recycling initiatives would have on tariffs and the legacy challenge of full cost recovery;
- The finalisation of an organisational structure to appoint key strategic staff at all levels to reduce skills and capacity shortages, especially at supervisory level, to instill the required discipline for improved service delivery and revenue levels;
- Streamlining of Council HR policies for shift work is needed to allow utilisation of staff and infrastructure where service and private sector needs require this;

Solid Waste Management Department's Strategy for Integrated Waste Management and Service Delivery

The SWM Dept's overarching long-term strategy underpinned by several support strategies are detailed in the IWM Plan's activity schedule, which contains projects, key activities and timelines. Together with the Council's IWM Policy, the IWM Plan is the implementation vehicle for integrated waste management services. The key aim of the strategy is to turn the traditional waste management and service delivery approach around by increasing waste minimisation and reducing the natural resource, socio-economic and environmental impacts to comply with the objects of the Waste Act. The strategies/ plans that make up the overarching IWM Strategy are summarized below, and provide an overview of various goals and objectives.

1) **Service Authority Strategy**: Institute measures that will enable the Council's waste management Service Authority roles and responsibilities when engaging alternate service provision mechanisms.
2) **Municipal Area Waste Regulator Strategy**: Institute measures that will enable the Council's waste management regulatory roles and responsibilities. An approved IWM By-law now underpins and strengthens this role.
3) **Intergovernmental Strategy**: Clarify roles and responsibilities of different spheres, engage DEA and DEA&DP regarding waste minimisation focus areas that need specific support at a national level. Interact vigorously with all law enforcement agencies to combat illegal activities involving waste.
4) **Lobbying Strategy**: Lobby the relevant legislators for the necessary changes that must enable Extended Producer Responsibility (EPR), Cleaner Production, materials recovery and recycling. Lobby National Treasury for increased funding for integrated waste management at the municipal level.
5) **Labour Utilisation Strategy:** Create an acceptable, flexible staffing arrangement at strategic infrastructure facilities that will improve asset utilisation and reduce illegal dumping.
6) **Service Delivery Strategy:** Improve service levels to ensure equitable, effective and affordable services, focusing on containerisation (wheelie bins) in all formal residential areas where geography does not constrain this, and continue to provide an integrated, community-based collection and area cleaning service for all informal settlements (deemed national best practice).
7) **Recycling and Waste Minimization Strategy**: Develop strategic Public-Private Partnerships specifically aimed at developing sustainable materials recovery and recycling industries that will add value to the economic growth objectives of the city and the region as well as minimise greenhouse gasses.
8) **Stakeholder Communication, Education and Awareness Strategy**: Prepare appropriate campaigns and materials and continue to improve stakeholder attitudes and participation as a base for recycling, and educate people regarding best practical options.
9) **Service Growth Strategy**: Continue with community-based service provision to stimulate job growth, and generate service contracts where it is not possible to service new growth areas with the Council's current resources.
10) **Law Enforcement Strategy**: Implement the IWM by-law and ensure sufficient capacity is available to enforce the Council's waste management by-laws and national and provincial statutes applicable related to waste management.
11) **Revenue Strategy:** Implement contracts, monitoring and reporting measures, combined with billing and debt collection initiatives to improve cost recovery

and revenue completeness. Implement weighbridge and information systems at landfills to improve revenue generated by landfill disposal fees. Complete tariff remodeling to improve sustainability of services.

12) **Funding Strategy:** Procure non-government funds and earmark revenue generated through the Council's waste management activities to improve SWM sustainability and minimise future tariff increases.
13) **Fixed Asset Strategy for waste diversion:** Create the necessary bulk infrastructure (regional landfill site, transfer stations, community drop-offs) on a planned, informed basis to prevent a waste management crisis.
14) **Mobile Asset Strategy:** Improve the Council's fleet age either through a combination of capital replacement and refurbishment programme, augmented by a limited full-maintenance leasing (FML) programme.
15) **Infrastructure Asset Management Strategy:** Develop Infrastructure Asset Management Plans for Solid Waste Management Dept, and capacitate the Department to implement and manage plans, with a focus on Fleet Management, as part of a corporate risk-based strategy resolved by the Executive Management Team.
16) **Management Information Strategy:** Develop and implement systems, technology and procedures that will produce specific information on waste, resources and assets for improved decision-making, billing and revenue generation, integrated waste management planning and statutory reporting.
17) **Performance Management Strategy:** Implement systems and manage and improve the Council's personnel and waste management service delivery performance, as well as the waste management sector performance through regular monitoring and evaluation.

Strategic Programmes Goals & Objectives with Key Deliverables / Outcomes

Priorities and objectives are influenced by the strategic issues and challenges listed above. A summary of strategic programmes, projects and initiatives for waste minimisation and service delivery in the short to medium term is set out below. It includes capital and operational programmes adjusted according to the available budget. The activity details contained in the IWM Plan will be updated accordingly for the period starting 2011/12. The aim of the SWM Department is to ensure the long-term sustainability through effective, efficient, economical and affordable waste management service delivery to the city's residents, and to regulate waste management activities across the waste spectrum in the City of Cape Town.

1. Improve access to basic waste management services (cleaning, collection and disposal), minimise (reduce and divert) waste to landfill.
2. Continue with implementation programme of the IWM By-law: register and accredit waste management service providers.
3. Develop and implement a Waste Information System: Dependent on finalisation of National issues by DEA.
4. Implement the recommendations of the comprehensive MSA S. 78(3) assessment into alternate service delivery mechanisms, particularly focused on changes to the Council's waste management system to incorporate large scale waste minimisation.
5. Construct and commission a new Northern region landfill site to provide landfill airspace to replace decommissioned landfills by 2015/16;
6. Rehabilitate old landfill sites (ongoing permit and MFMA requirements).

7. Establish 2 new integrated waste management facilities (Tygerberg and Helderberg):
8. Tygerberg design commenced 2010/11 (construction to follow, three years untill completion);
9. Helderberg design to commence 2015/16;
10. Licensing of all drop-off facilities to comply with NEMA EIA Regulations;
11. Development of mini-MRF's (material recovery facilities) – to meet demand in all areas ;
12. Containerization and implementation of an equitable refuse collection service to backyarders;
13. Implementation of a Seta-accredited Apprenticeship programme
14. The creation of other internal (internship, learnership, in-service-training) and external (bursaries) training opportunities;
15. Continue with the maintenance and expansion of essential infrastructure;
16. Continue with contract services via community-based organisations for integrated area cleaning and waste collection in informal areas and increase the capacity of the Contract Management section to improve management of the contracts;
17. Implement an Expanded Public Works Programme (EPWP) service mechanism approach to ensure the creation of additional job opportunities;
18. Further implement contracts for sandy areas clean-up programmes in disadvantaged formal areas;
19. Continue to monitor and evaluate the efficiency of a residential split-bag waste collection (Think Twice) pilot project in 5 areas 418 300 residential lifts (99 990 formal households)that gives effect to the separation-at-source principle, already started in Aug 2007;
20. Continue with public education and awareness programmes regarding waste management and waste minimisation (part of WasteWise project).
21. Institute aggressive waste management, minimisation and re-use of demolition/ construction rubble through the establishment of rubble crushing plants – contract already awarded and implemented at three sites, with more being planned;
22. Appointment of Transactional advisors and establishment of PPP's regarding waste beneficiation and alternative-technology disposal facilities to give effect to Council's adoption of the MSA S.78 (3) recommendations;
23. Implement a landfill gas mitigation project;
24. Realign depots, staff and implement flexible working hours to achieve improved service efficiencies, to provide an equitable and predictable service, and to improve asset utilisation, access and use by the public;
25. Establish an integrated infrastructure asset management programme for SWM fixed and movable assets, plant, equipment, infrastructure and superstructure to optimise asset use and service delivery, focusing on waste management fleet as a priority;
26. Establish a financial waste information system to ring-fence cost and revenue for all services.

Critical Success Factors

a. Adequate capacity for service delivery in terms of staffing, resource allocation, expenditure and procurement approvals;
b. Realistic adjustment to tariffs and the introduction of new tariffs for services provided to ensure that increasing capital and operating requirements can be funded sustainably;
c. Accurate and complete billing with effective revenue management;
d. Management of all contracts to ensure performance and delivery;
e. Public private partnerships or alternate funding mechanisms for alternate technologies to landfill to provide for growing capital and operational waste management needs and develop capacity to minimize waste to landfills.
f. Implementation of the Integrated Waste Management By-law that can be used to enforce waste minimisation initiatives needed to meet policy and national targets.

Resources available to achieve planned Outcomes (next MTREF period)

Resources required	2012/2013	2013/2014	2014/2015
Capex[1]	R261,805,510	R338,605,510	R175,005,510
Opex	R2,111,149,876	R2,165,828,671	R2,392,715,076
Staff[2]	3 234	n/a	n/a

Milestones, Targets and Key Performance Indicators, with benchmarks

The Key Performance Indicators for waste management are contained in the Service Delivery Business Implementation Plans (SDBIP's) approved by Council for the next three-year MTREF period in the 5-year term-of-office IDP that started in 2011/2012. The achievement and measuring of targets are in line with SDBIP's, and are reflected at the high level as follows:

1. Increase/maintain basic service access to 100% (impacted by city economic, population growth);
2. Demand Management plan (waste minimisation): Improve landfill airspace savings above 11.95% (mass based) by 2013;
3. 95% Target for implementation of capital projects per the approved schedule for three-year MTREF period starting 2012/2013;
4. Implement a Waste Information System by end-2013 (dependent on finalization of the National Department of Environmental Affairs' system roll-out).

PERFORMANCE AGAINST PLAN

[1] Financial figures per 2012/2013 draft budget estimates (unapproved, to be finalized) at 7%, 11.5%, 8% parameter increase respectively for Collections, Disposal and Area Cleaning, which may change due to future Council resolutions when adopting the final budget.
[2] Figure reflects actual staffing complement as at December 2011, with a marked increase due to the conversion of worker positions from non-permanent to permanent and do not include scares skills shortages needed for service delivery.

Per the milestones and targets set out above, the Solid Waste Management Department of the City of Cape Town has achieved the following during the past year:

1. Basic Services: 100% access to basic services target achieved and maintained.
2. Current airspace savings target of 8.67% (based on mass) achieved to date. Targets are progressively increasing..
3. Landfills surveyed and ground water monitoring completed as per permit conditions.
4. Construction and commissioning of the Kraaifontein Integrated Waste Management Facility (Oostenberg), concept design for Tygerberg Integrated Waste Management Facility is work in progress.
5. Rehabilitation of disused landfills continuing per prioritization schedule.
6. Landfill gas mitigation baseline and feasibility study completed by Central Energy Fund (CEF) and report with recommendations submitted for Council approval to continue with implementation. Successfully negotiated a contract, however CEF at the last minute declined to sign the contract due to changes in legislation. Council took a decision to continue in the lines of a PPP and proceeded with technical and financial feasibility studies.
7. Community-based contracts in informal settlements implemented and being monitored (ongoing).
8. Residential split bag pilot project (Think Twice): five pilot tenders are currently in operation. Four of the tenders focus on individual households and one focuses on flat complexes.
9. Council adoption of the recommendations of the MSA S. 78(3) assessment of alternate service delivery mechanisms in March 2011.
10. Continuing engagement with spheres of government and members of industry, especially the packaging industry, with the aim to increase infrastructure and provide job opportunities to improve the recovery of materials for recycling and reuse.
11. Successful completion of workshops with a variety of industrial and commercial sectors regarding waste minimisation.
12. Continued maintenance of IWEX website developed to provide a free exchange platform for recyclable materials.
13. Continued roll-out of dual weighbridge systems and improved billing at disposal sites.

Major Achievements of a Strategic Nature (Dec 2000 to Dec 2011)

Prior to and since the adoption of an IWM Plan in 2006, the SWM Department has successfully completed a number of notable initiatives and projects to meet the objective of more efficient, effective, sustainable and economically viable waste management services. .

- ***Tariffs, revenue:***
  - Revenue collection: Increased during 2007 to 100.95%;
  - Bin audit project: Has ensured significant correction of billing problems and addition of sites not on billing system that had a marked effect on income levels;

- Tariff convergence: Adopted new tariff structure in 2002/03, duly amended every year since then. The uniform tariff structure defines the cost of a fully tariff-funded collections service according to affordability criteria and service rebates. Further amendments will be aimed at discouraging the disposal of certain waste types as part of the waste minimisation strategy.

- ***Sustainability, Waste Minimisation and Recycling:***
  - Continued successes with the Waste Wise campaign - Festive Season campaign commended by the public media and political leadership;
  - Opening of the Resource Centre at the Athlone Refuse Transfer Station in February 2009 that is being used for community and schools education and visitor communication purposes.
  - Established and upgraded successful of a Waste Exchange Website.
  - Hosted the 1st Cape Town Waste Minimisation Summit in April 2007 involving key industry sectors aimed at instituting recycling and minimisation partnerships;
  - Hosted the 2nd Cape Town Waste Minimisation Summit in March 2009 involving key industry sectors and SMME's aimed at instituting new and building on existing recycling and minimisation partnerships;
  - Cost modeling of the provisions and implications of the Integrated Waste Management By-law was completed by the Stellenbosch University Sustainability Institute with DANIDA funding.
  - Key input on the Sustainability Institute's UNDP-funded report and modeling of waste management (Project title: Integrated Resources Management for Urban Development, UNF/UNFIP Project ID: UND-SAF-03-303);
  - Completion of Compact Fluorescent Light responsible disposal project in partnership with Eskom, the lighting industry and other role players, including a proposed implementation model and guidelines;
  - Held second workshop on alternate technologies to landfill in 2007;
  - Established partnerships with major retailers for waste minimisation;
  - Implementation of the "Think Twice" dual bag collection pilot project in six areas across the City for the diversion of recyclable waste in August 2007 – varying success and lessons learnt for future roll-outs; Successful diversion from landfill of 160 063 tons in 2010/2011.
  - Disposal of builder's rubble at landfills (approximately 286 366 tons in 2010/2011, which includes material set aside for capping purposes);
  - Successful diversion from landfill and chipping and composting of most of the City's garden waste (2010/2011 airspace saving of 142 186 tons, 2009/2010 airspace saving of 334 521m³, 2008/09 airspace saving of 400 197m³, 2007/8 airspace saving of 521 129m³);
  - Continuation of a project for the diversion, crushing and recycling/ reuse of demolition waste, at disposal sites (59 775 ton diverted in the 2008/9 financial year, 26 785 ton in the 2009/2010 financial year and 2 021 tons in the 2010/2011 financial year);

- ***Standardisation of Services across Metro:***

- Once a week refuse collection throughout the year implemented for all areas, and basic levels of service maintained at 100% access to basic refuse collection services during 2010/2011;
- Continued roll-out of containerisation plan implemented in 2006/07 for all formal households, with ongoing repairs and replacement.
- Agreed standard compactor vehicle crew size: Driver plus 4 workers.
- Full implementation of a community-based integrated area cleaning and refuse collection system in informal areas ;
- Ongoing phasing out of weekly skip services in informal areas - only provided as an emergency measure in newly-established settlements.
- Equitable garden refuse collection options and twenty four community drop off sites successfully implemented across the City, each with an average captive area with a 7 km radius;

Capital and Infrastructure Management:

- Record of Decision (RoD) received in 2009 from the MEC for D:EA&DP for the new replacement landfill site to be established near Kalbaskraal; Appeals were lodged against the RoD by members of the community, after which the MEC requested additional information and further investigations to be done by the City. These investigations have been submitted to the office of the MEC for D: EA&DP and are currently being finalized.
- Successful applications to Western Cape Dept of Environment & Development Planning with RoD's for extensions of Bellville South, Coastal Park and Vissershok landfill sites;
- RoD's issued by DEA&DP for Kraaifontein Integrated Waste Management Facility, Tygerberg Refuse Transfer Station, and Helderberg Refuse Transfer Station;
- Completion of Swartklip Transfer Station at the landfill, strategically located close to high-density communities.
- Continuation of rehabilitation of the now-full Brackenfell and Faure landfills.

- ***Policy, Legal and Institutional Development:***
  - FIFA™ 2010 Football World Cup planning completed and budget approved by Council for integrated waste management services.
  - Mayco adopted IWM Policy and Plan as part of 2006/07 IDP (MC08/05/06);
  - Provided comment and input on the NEMA: Waste Management Bill (Bill 39 of 2007) prior to submission to Parliament;
  - City of Cape Town Integrated Waste Management By-law adopted by Council (resolution C15/03/09) on 30 March 2009 (a first for any municipality after the promulgation of the national waste Act on 10 March), and promulgated on 21 August 2009;
  - Council resolution in terms of Municipal Systems Act S.78(2) recommending the appointment of a consultant to assess alternate service delivery mechanisms per S.78(3) (resolution MC23/04/08);
  - Successful implementation of a top management structure for SWM that finalises the transformation from seven Administrations' management structures as one;

- The City was awarded 1st Runner Up in the Cleanest Town (metropolitan municipality category) award in 2009, having won in 2003 and 2007, placed second in 2005, and achieving third place in the Cleanest Town award in 2008 in the SA National competition organised by DEA;
- Council approval for the establishment of an Internal Business Unit (2001).

DIRECTOR: SOLID WASTE MANAGEMENT
Mr. R.KERAAN

DATE 15/05/12

EXECUTIVE DIRECTOR:
UTILITY SERVICES
Mr. L DHLAMINI

DATE 16 May 2012