

**ADDRESSING CHALLENGES WITH WASTE SERVICE PROVISION IN
SOUTH AFRICA**

**DISCUSSION DOCUMENT TOWARDS A NATIONAL POLICY ON FREE
BASIC REFUSE REMOVAL AND NATIONAL WASTE COLLECTION
STANDARDS**

DRAFT

APRIL 2009



**environment
& tourism**

Department:
Environmental Affairs and Tourism
REPUBLIC OF SOUTH AFRICA

QUALITY ASSURANCE

GENERAL INFORMATION:

1. TITLE OF REPORT: Addressing Challenges with Waste Service Delivery in South Africa – Discussion Document Towards National Waste Collection Standards and a National Policy on Free Basic Refuse Removal
 2. AUTHOR(S): Oelofse, S, Nhamo, G and Mvuma G
 3. PROJECT NO: JNPWE10 6000 0NPWE
 4. TYPE OF REPORT: External contract report
 5. REPORT NUMBER:
 6. CLIENT: Department of Environmental Affairs and Tourism
-

QUALITY ASSURANCE PROCEDURE:

	CONTROL LEVEL	RESPONSIBLE PERSON	DOCUMENT RECEIVED	COMMENTS CONSIDERED
1	Drafting (authors)	S Oelofse, G Nhamo and Mvuma G		27/02/09
2	Editing	Strydom, W, Masekoameng, E and John, J		
3	Reduced quality assurance	S Oelofse		
4	Normal quality assurance	N Cobbinah		
4	Extended quality assurance	L Godfrey		
5	Final approval			

NUMBER OF COPIES ISSUED:

- CSIR Library: 1 unbound master copy
 1 electronic version (or GWDMS no & gen view rights)
- Author(s): 1 electronic version
- Reviewers: 1 electronic version
- Client: 1 electronic version



DOCUMENT INDEX

Reports as part of this project

REPORT NUMBER	REPORT TITLE	AUTHORS
	Addressing Challenges with Waste Service Provision in South Africa: Inception report and Consultation Plan	Oelofse, SHH
	Municipal Indigent Policy Review Report	Nhamo, G
	Free Basic Services Policies Review Report	Oelofse, SHH
	Waste Sector Challenges and Vision Report	Oelofse SHH
	Domestic waste collection standards comparative assessment Report	Mvuma G, Oelofse SHH and Strydom, W,
	Discussion Document towards a National Policy on Free Basic Refuse Removal Services and Domestic Waste Collection Standards	Oelofse S, Nhamo G and Mvuma G
	International Best Practices on domestic waste collection service	
	Policy on Free Basic Refuse Removal Services	
	Policy Monitoring and Evaluation Plan	
	Waste Sector Targets and Performance Indicators	
	National Waste Collection Standards	
	Waste Sector Plan	

Abbreviations

ASGISA	Accelerated Growth Initiative of South Africa
BUSA	Business Unity South Africa
Cosatu	Congress of South African Trade Unions
DEAT	Department of Environmental Affairs and Tourism
DPLG	Department of Provincial and Local Government
DWAF	Department of Water affairs and Forestry
FBAE	Free Basic Alternative energy
FBE	Free Basic Electricity
FBRR	Free Basic Refuse Removal
FBS	Free Basic Services
FBSan	Free Basic Sanitation
FBW	Free Basic Water
FCA	Full Cost Accounting
GAMAP	Generally Accepted Municipal Accounting Practice
GIS	Geographical Information System
hh	household
IWMP	Integrated Waste Management Plan
IWMSA	Institute of Waste Management of Southern Africa
KZN	Kwa-Zulu Natal
L	litre
m ³	cubic metres
MIG	Municipal Infrastructure Grant
MSW	Municipal Solid Waste
NDCS	National Domestic Collection Standards
RSA	Republic of South Africa
SALGA	South African Local Government Association
SANS	South African National Standards
WSP	Waste Sector Plan

Definitions

The following are some of the terms and definitions for discussion by the key stakeholders.

Free Basic Refuse Removal means

Household means ..

“Indigent” means indigent as per the localised description supplied by the concerned Municipality.

“Municipality” means a municipality as defined by the Municipal Systems Act (Act No. 32 of 2000).

Executive Summary

This document has been prepared to open up discussions around the development of twin outputs namely: a National Policy on Free Basic Refuse Removal Service; and National Domestic Waste Collection Standards. The document starts by presenting background and purpose of the project “Addressing Challenges with Waste Service Provision in South Africa” that is being driven by the Department of Environmental Affairs and Tourism (DEAT). The background covers aspects such as the need for the Project, elements included in the Project, stakeholders identified, consultation plan, time frames and overview on background documentation.

The discussions towards the production of the twin landmark outputs as indicated above will involve key stakeholders including:

- Relevant National Government Departments
- Waste collection sections of metropolitan, district and local municipalities
- South African Local Government Association (SALGA) - Infrastructure Services
- Business Unity South Africa (BUSA)
- Institute of Waste Management of Southern Africa (IWMSA) and
- Congress of South African Trade Unions (Cosatu)

Insights from background research that resulted in the development of a series of documents by DEAT in 2009 are drawn on and integrated into this discussion document. Some of the key background documents that were used to prepare this report include:

- Addressing Challenges with Waste Service Provision in South Africa: Inception Report and Consultation Plan (DEAT 2009a)
- Municipal Indigent Policy Review Report (DEAT 2009b)
- Free Basic Services Policies Review Report (DEAT 2009c)
- Waste Sector Challenges and Vision Report (DEAT 2009d)
- Domestic Waste Collection Standards: Comparative Assessment Report (DEAT 2009e)

The major pointers raised in this discussion document requiring attention from the stakeholders concerning the proposed National Policy on Free basic Refuse Removal service include:

- The Problem statement
- Policy context which covers the legislative framework and objectives
- Definition of recipients of FBRR service
- Criteria for identifying the indigent and indigent households
- Definition of waste collection service levels at basic, intermediate and full levels
- Analysis of alternatives and financial issues in FBRR
- FBRR policy principles
- Government roles and responsibilities – focusing at the division of roles and responsibilities across the three spheres of government in South Africa and
- Implementation of the National Policy on FBRR

The major pointers raised in this discussion document requiring attention from the stakeholders concerning the proposed **National Domestic Collection Standards** include:

- An overview of collection systems in developing countries that looks at house to house collection, communal collection, block collection and non-collection
- Domestic waste collection that looks at:
 - Separation at source
 - Applicable storage containers

- Frequency of collection
- Domestic Bulk Containers and
- Commercial and Industrial Waste Collection

The purpose of the discussion document is to open up debate around issues that are central to the success of the development and implementation of the FBRR policy and Domestic waste collection standards.

TABLE OF CONTENTS

Executive Summary	v
TABLE OF CONTENTS	vii
1 Background and Purpose of the Project.....	1
1.1 Need for the project.....	1
1.2 Elements included in the project	2
1.3 Stakeholders identified	2
1.4 Consultation plan.....	3
1.5 Time Frames.....	3
1.6 Background documents to this discussion document	3
2 National Policy on Free Basic Refuse Removal.....	4
2.1 Problem Statement	4
2.2 Policy Context and Objective.....	4
2.2.1 Legislative Framework	4
2.2.2 Objectives	5
2.3 Defining recipients of the Free Basic Refuse Removal (FBRR) Service	5
2.3.1 Basic criteria for identifying the indigent and indigent household.....	6
2.4 Defining Waste Collection Service levels	6
2.4.1 Basic	7
2.4.1.1 Rural/low density	7
2.4.1.2 Urban/high density	7
2.4.2 Intermediate.....	7
2.4.2.1 Rural/low density	7
2.4.2.2 Urban/high density	7
2.4.3 Full.....	7
2.4.3.1 Rural/low density	7
2.4.3.2 Urban/high density	7
2.5 Analysis of alternatives and Financial issues	8
2.5.1 Cost associated with FBRR provision	8
2.5.2 Funding mechanisms for FBRR	9
2.6 Policy Principles.....	11
2.7 Policy restrictions	12
2.8 Government Roles and Responsibilities.....	13
2.9 Implementation of the Policy	16
3 National Waste Collection Standards	16
3.1 Overview of collection systems in developing countries	16
3.1.1 House to house collection.....	16
3.1.2 Communal collection sites.....	17
3.1.3 Block collection.....	17
3.1.4 Non-collection	17
3.2 Domestic waste collection	17
3.2.1 Separation at source.....	17
3.2.1.1 Low density.....	17
3.2.1.2 High density	18
3.2.2 Applicable storage containers.....	18
3.2.2.1 Recyclable and non-recyclable waste	19
3.2.2.2 Low density.....	19
3.2.2.3 High density	20
3.2.3 Frequency of collection	20
3.2.3.1 Recyclable and non-recyclable waste	20
3.3 Domestic Bulk Container Service	20

3.3.1	Storage containers	20
3.3.2	Frequency of collection	21
3.3.2.1	Low density.....	21
3.3.2.2	High density	21
3.4	Commercial and Industrial Waste Collection.....	21
3.4.1	Frequency of collection	21
3.4.1.1	Normal	22
3.4.1.2	Bulk.....	22
3.4.2	Separation at source of recyclables	22
3.5	General	22
4	References.....	23

1 Background and Purpose of the Project

The main purpose of the project is to address challenges regarding waste services provision in South Africa in the context of offering Free Basic Services (FBS) similar to those undertaken in the water and energy sectors. The scope of this project broadly covers:

- The development of a national policy on free basic refuse removal.
- The development of national domestic waste collection standards to guide the waste service delivery at local government level; and
- The development of a comprehensive waste sector plan that will provide a practical strategy to deal with the waste services delivery and infrastructure backlogs in South Africa.

1.1 Need for the project

The provision of an adequate and sustainable waste service delivery system in South Africa has had many challenges and there has been very little progress with regard to significant movement in this area. There are many households in the country that still have no access to waste services. Some households just cannot afford the cost of waste services including refuse removal due to their poor economic situation. The Constitution of the country places the responsibility on government to ensure that every person has access to basic services, in order to make sure that poor people or households are not discriminated against due to their economic status.

The policy approach to basic services since 1994 has been that government funded the capital costs of new services infrastructure while the users covered operation and maintenance costs. The poorest (indigent) cannot afford the charges. As such, this arrangement would not be adequate to ensure either sustainability of services or equity of access to services. The adoption of the *Free Basic Services Policy* in 2001 to provide a basket of free basic services to all, linked to an indigent policy which targets the poorest sections of communities, has become an integral part of the programme to alleviate poverty among poor households. The basket of services includes solid waste, water, sanitation and electricity. Since the introduction of the policy by government in 2001, the government has made progress in giving effect to the right to free basic services. Policies with regard to free basic water, free basic energy and free basic sanitation have already been developed and implemented. Therefore, the country still needs a ***Policy on Free Basic Refuse Removal*** services. As the lead national department of this sector, DEAT must drive the development of such a national policy.

Critical to the provisioning of services is an acknowledgement of the differentiated capacities of municipalities in providing the services. However, there needs to be some level of uniformity in the range of services that are provided, in order that citizens of this country do not experience different standards of service. In addition, there is a need for municipalities to adopt similar services standards. Currently there are major discrepancies in the provisioning of waste services in particular low income and rural areas still receive very low levels of service as opposed to high income areas. Once again, DEAT must develop ***National Domestic Waste Collection Standards*** that contain a range of service standards appropriate to different contexts.

In an attempt to fast track service delivery, Cabinet required of all sector departments to take account of all the services backlogs and then develop sector plans to address the backlogs. Consequently, DEAT undertook and completed a study in 2007, which assessed the status of waste services delivery as well as capacity at local government. The study presented an account of the backlog with regards to solid waste service delivery in all the municipalities in South Africa. Municipalities in South Africa are battling with huge infrastructure and service backlogs due to many challenges at their level. DEAT needs to drive the development of a ***Waste Sector Plan*** (WSP) which is to contain a strategy which, once implemented, will effectively address the backlogs in terms of solid waste service delivery as well as addressing backlogs related to infrastructure, covering all 56 District Municipalities and 6 Metros in South Africa. The WSP will *inter alia* identify service delivery targets

and specific interventions to reach the targets. The WSP will therefore focus on the performance of government but will assess and account for the role of other partners in the waste sector, in ensuring that sustainable service delivery is realised.

1.2 Elements included in the project

The project includes elements of research and stakeholder consultation towards the development of:

- A National Policy on Free Basic Refuse Removal
- National Domestic Waste Collection Standards to guide the waste service delivery at local government level; and
- A comprehensive Waste Sector Plan that will provide a practical strategy to deal with the waste services delivery and infrastructure backlogs in South Africa.

Each of the main deliverables is supported by sub-deliverables as listed in table 1.

Table 1: Sub-deliverables in support of the three main deliverables of the Waste Service Delivery project.

National Policy on Free Basic Refuse Removal (FBRR)	National Domestic Collection Standards (NDCS)	Waste Sector Plan (WSP)
Municipal Indigent Policy Review	Comparative assessment of existing waste collection standards	Challenges and Vision of the Waste Sector
Review of free basic services policies from other sectors	International best practice on domestic waste collection	Waste Services Geographical Information System (GIS)
Policy monitoring and evaluation plan		Waste Sector Targets and Performance Indicators
		Key interventions and Action Plan

1.3 Stakeholders identified

The importance of stakeholder buy-in in the development of the policy, standards and sector plan cannot be over emphasised. Special care was therefore taken to invite representatives from stakeholder groupings that can inform the development of the deliverables as well as stakeholders and local municipalities who will be faced with the mammoth task of implementing the FBRR policy and the NDCS at ground level. The identified stakeholders for this project are therefore:

- Department of Environmental Affairs and Tourism: Pollution and Waste Management
- Department of Water Affairs and Forestry: Free Basic Water and Sanitation
- Department of Trade and Industry
- Department of Transport
- Department of Housing
- Department of Provincial and Local Government: Free Basic Services
- National Treasury
- Provincial Departments responsible for the Environment (Waste Management)
- Waste Collection sections of Metropolitan, district and local municipalities
- SALGA: Infrastructure Services
- BUSA
- IWMSA
- Cosatu

1.4 Consultation plan

Stakeholder consultation will primarily be done at workshop sessions. Information gathering may, however, entail meetings, interviews and visits to selected stakeholders as and when required. The project plan provides for six workshops to be held in the provinces with potentially one National workshop strictly limited to government participation towards the end of the consultation process.

It is anticipated that the first round of stakeholder workshops focussing on the policy and waste collection standards will be conducted in early June 2009 and a second round focussing on the waste sector plan and finalisation of the policy will be conducted around August or September 2009. A project website is also being developed to allow additional stakeholders not attending the workshops the opportunity to comment on line.

1.5 Time Frames

The project was initiated in January 2009 and is expected to conclude at the end of April 2010 (refer to Table 2). Project milestones and time frames are presented in Table 2.

Table 2: Time frames

Milestone	Date
Stakeholder consultation workshops	
- Rustenburg	2 June
- Durban	4 June
- Port Elizabeth	9 June
Draft policy on Free basic refuse removal services	mid July '09
Draft policy monitoring and Evaluation plan	mid July '09
Draft Background/Discussion paper on Waste Sector Targets and Performance indicators	mid July '09
Draft National Waste Collection Standards	mid July '09
Final Waste Collection Standards	Mid July '09
Stakeholder Consultations on Waste Sector Plan and Free Basic services	Aug -Sept
Draft Key interventions and Action Plan	End Aug 09
Draft Reporting and monitoring plan	End Aug 09
Final Waste Sector Plan	Mid Dec '09
Draft National Policy on Free Basic refuse removal for cabinet approval	Mid Dec 09
Waste Sector Plan comprising	end Nov 09
Final Policy on Free basic refuse removal services	30 Mar '10
Project Closure	30 Apr '10

1.6 Background documents to this discussion document

The following documents prepared with the view to inform this discussion document can be made reference to and are available from DEAT:

1. Addressing Challenges with Waste Service Provision in South Africa: Inception Report and Consultation Plan (DEAT 2009a)
2. Municipal Indigent Policy Review Report (DEAT 2009b)
3. Free Basic Services Policies Review Report (DEAT 2009c)
4. Waste Sector Challenges and Vision Report (DEAT 2009d)
5. Domestic Waste Collection Standards: Comparative Assessment Report (DEAT 2009e)

2 National Policy on Free Basic Refuse Removal

A National Policy on Free Basic Refuse Removal (FBRR) service will help in paving way for municipalities in South Africa to provide FBRR services within their areas of jurisdiction. It has emerged over the years that South Africa has a backlog in terms of provisioning of basic and free basic refuse removal services. Most of the households that suffer from the prolonged lack of refuse removal are those from previously disadvantaged localities such as the high density, low-income areas.

2.1 Problem Statement

South African municipalities face a number of challenges with respect to delivering an effective and sustainable waste service to all households, including insufficient budget, skilled capacity, lack of appropriate equipment and poor access to service areas (Municipal Capacity Assessments). These challenges are exacerbated by growing urban populations who need access to municipal services and poverty driven migration from rural to urban areas. South Africa's economic policy (ASGISA) is also expected to see increasing volumes of waste being generated, associated with increased economic growth.

Waste management service delivery including refuse storage, refuse removal, refuse dumps and solid waste disposal, is a local government function in terms of the Constitution (Schedule 5). A report on the status of waste service delivery and capacity at the local government level (DEAT, 2007) revealed certain challenges associated with waste service provision in the country. In addition, according to the 2006 South Africa Environment Outlook Report (DEAT, 2006) almost 50% of the population do not have access to waste services. The poor majority of South Africans, however, cannot afford to pay the full price for essential municipal services. Yet, in terms of Section 74(2)(c) of the Municipal Systems Act, 2000 (Act 32 of 2000) poor households must have access to at least basic services.

The DEAT has embarked on executing a project to address challenges with waste services provision in municipalities. The overall objective of the project is: "to address challenges facing waste services provision in South Africa with a view to implement the Free Basic Service for the poor"¹.

Currently municipalities have differentiated capacities for providing services; however a certain level of uniformity in the range of services provided needs to be established. All citizens of South Africa should experience the same standards of services irrespective of where they live and therefore municipalities must adopt similar service standards, while ensuring appropriateness to their given local conditions.

2.2 Policy Context and Objective

The purpose of the National Policy on FBRR (Policy on FBRR) service can be summarised as the need to ensure that poor (indigent) households have access to at least basic (essential) refuse removal services from the concerned municipality. In doing so, there is a need to align the Policy on FBRR service to the financial management system of the municipality and to ensure that there is uniformity when dealing with various cases of the indigent households².

2.2.1 Legislative Framework

¹ For further details please refer to DEAT (2009) Inception Report on Waste Services and Consultation Plan.

² See detailed study on Municipal Indigent Policies available from DEAT (2009).

The key legislative provisions informing the Policy on FBRR service include:

- Constitution of the Republic of South Africa Act No.108 of 1996: Section 27 (1) (c) stipulates that everyone has the right to have access to social security, and if they are unable to support themselves and their dependants, appropriate social assistance. Section 27 (2) places responsibility on the state to take reasonable legislative steps and other measures within its available resources, to achieve the progressive realisation of these rights.
- White Paper on the Transformation of the Public Service of 1997: Stipulates that service delivery is one of Government's eight priorities. To this effect, government has launched an initiative under the banner of Batho-Pele – meaning 'People First' in Sesotho – aimed at improving the delivery of public services (including waste management services).
- Local Government: Municipal Systems Act No. 32 of 2000: Section 74 stipulates that a municipal council must adopt and implement a tariff policy and Section 74(i) indicates that in adopting a tariff policy, the council should at least take into consideration the extent of subsidization of tariffs for poor households.
- Municipal Finance Management Act No 56 of 2003: Section 62 states that the accounting officer of a municipality is responsible for managing the financial administration of the municipality. For the purposes of many municipal indigent policies that officer (usually the Municipal Manager or Chief Finance Officer as delegated) must take all reasonable steps to ensure that the municipality has and implements an indigent policy.

2.2.2 Objectives

The following objectives could be among those that can inform the National Policy on FBRR service:

1. To establish a framework (or set guidelines) for the development, identification and management of indigent households that can be enrolled for the FBRR service within their municipalities.
2. To set broad principles, resulting in the adoption of by-laws for the implementation and enforcement of tariff policies that will support FBRR service in concerned municipalities.

2.3 Defining recipients of the Free Basic Refuse Removal (FBRR) Service

Given the limitations of available resources, especially money and skills at municipal level, it will not be possible to provide free basic refuse removal services to all. Government must therefore develop a set of criteria to define and at the same time identify recipients at an appropriate level (in this case the municipal level) to be enrolled for the FBRR service programme. The criteria must ensure equity in the application of the policy once finalised.

Drawing insights from reviews done on Municipal Indigent Policies (DEAT, 2009b) and the Free Basic Services Policies for Water and Electricity (DEAT, 2009c) in South Africa, a set of criteria for defining recipients of FBRR services is proposed henceforth.

Since the government needs to provide FBRR services to individuals and communities that cannot afford to pay for such a service mainly due to their poor status, one is compelled to consider the indigent (poor) in FBRR. To this end, the definition of indigent as provided by the Department of Provincial and Local Government could be adopted for this policy (Box 1).

Box 1: Defining the Indigent in FBRR service

The Framework for a Municipal Indigent Policy by the DPLG provides a definition of indigent as adopted from

the Oxford Dictionary as “lacking the necessities of life”. The necessities of life in the South African context refer to having access to sufficient water, basic sanitation, refuse removal in denser settlements, environmental health, basic energy, health care, basic housing as well as food and clothing (DPLG, 2005a). Hence any South African without access to the goods and services outlined above would be considered *indigent*.

The DPLG, however, establishes two further categories related to services namely: full social services package and the essential household service package. Based on the current limited available resources in municipalities, the full social services package cannot be offered to the indigent. A more realistic package which includes five essential goods and services was therefore established as the essential package that include (DPLG, 2005a: 11): water supply; sanitation; refuse removal; supply of basic energy and assisting in the housing process.

It is important to note that the indigent and indigent households as defined by municipalities can vary as separate municipalities can use different criteria for such determination. One of the original determinates for indigence used by the sector departments and the National Treasury was a household income that is equivalent to *two old age pensions*. In April 2005 the maximum old age grant was increased to R 780 per month leading to two old age pensions equal R 1 560 rounded to R 1 600 (DPLG, 2005b). A decision is therefore required on what the National definition of Indigent should be as a minimum. If municipalities can afford to provide a free service to people with a higher income it will be a bonus.

2.3.1 Basic criteria for identifying the indigent and indigent household

The following key features and characteristics could be used in determining the indigent to be accorded FBRR service status in South Africa:

- Level of income: Must receive a monthly gross household collective or joint gross income of members of an indigent households of less than or equal to *two old age pensions*
- Residence status - National: Citizenship or recognised temporary resident (including refugee status)
- Special consideration for child headed households
- Proof of residency for a concerned municipality

2.4 Defining Waste Collection Service levels

In the context of domestic waste collection, the term “level of service” subscribes to the frequency of the waste removal service and the type of service that is rendered. There are a variety of levels of service that can be utilised in the provision of waste collection services, with obvious implications, such as costs associated with the technology that is used in providing this service. Table 3 shows options for the different levels of service for refuse removal. Therefore a satisfactory delivery of waste collection service will require that municipalities meet these options and at the same time ensuring that the minimum basic level of service is achieved.

According to the Municipal Infrastructure Grant document (DPLG, 2005); the government requires that “a refuse removal service” be provided at least once a week, simply meaning that an arrangement has to be made to remove the solid waste from an ascribed area at least weekly. This is interpreted as the basic level of service for solid waste collection. It must be borne in mind that the basic level service for solid waste collection requires that solid waste generators (households) have appropriate on-site storage facilities that allow household owners take this waste to the communal containers, which should also be positioned in convenient places for easy reach and proper disposal.

Table 3: Levels of Domestic Waste Collection Service for Urban Areas

Level of service	Service type	Details of the Type of service
Basic Level of Service	Communal dump site	(a) Households are required to transport their own waste to a dumping site outside of the settlement area. (b) The dumping site is provided and operated by the service provider or appointed contractor and is basically a small landfill site.

Intermediate level of Service	Households transfer to communal bins (skips)	(a) Households are required to carry their own solid waste to a communal point in the neighbourhood where large bins (skips) are provided. (b) The skips are then removed to the landfill site and emptied by the district council or an appointed contractor
Full Level of Service	Kerbside collection	(a) Households put their separated out waste out for collection once a week (or more frequently if required). (b) The municipality or appointed contractors collect the recyclable and residual waste from each household in trucks, or with tractors and trailers, etc. and transports it to the landfill and or recycling handling facility.

Source: Modified from Otto *et al*, 2008

2.4.1 Basic

2.4.1.1 Rural/low density

In remote rural areas and farms (the B4 types of municipalities), it may be recommended that on-site disposal be an option if the waste is of organic nature and on assumption that the households are far apart. In the absence of this, it may be necessary that both rural households and farms may require a regular waste removal service in the form of ‘Basic Level of Service’.

2.4.1.2 Urban/high density

In dense urban areas, service levels would be similar to those indicated in Table 3. This would be the Basic Level type (b), the dumping site is provided and operated by the service provider or appointed contractor and is basically a small landfill site.

2.4.2 Intermediate

2.4.2.1 Rural/low density

This would take the form of a combination of basic level (b) and intermediate (a), i.e. households are required to carry their own solid waste to a communal point in the neighbourhood where large bins (skips) are provided and the dumping site is provided and operated by the service provider or appointed contractor and is basically a small landfill site.

2.4.2.2 Urban/high density

Part (a) of full service level would apply, i.e. households put their separated out waste out for collection once a week (or more frequently if required). This is because in urban areas, more recyclables material would be found in high density areas.

2.4.3 Full

2.4.3.1 Rural/low density

In rural low dense areas means the households are of well-to-do people, hence part (a) of full service level as in 2.4.2 above would apply

2.4.3.2 Urban/high density

This would assume the full service in which households put their separated out waste out for collection (once a week would be a recommended one) and the municipality or waste contractor can collect the recyclables for recycling while the residues are taken for disposal.

NB: It must be pointed out that domestic collection minimum level for urban business areas should be at not less than once a week, this frequency should increase if the business area generates putrescible organic wastes. As seen from the results in the study, the rate of waste collection Metros and B1/2 Municipalities is mostly between 2 – 5 times per week. In addition, under no circumstance should the waste service provider be allowed to burn the waste on-site.

2.5 Analysis of alternatives and Financial issues

In general, municipalities can only make informed decisions about the financing of FBRR services if they understand the costs of different elements of the service (DEAT, 2002a). Thus, the first step required of a municipality in financing a FBRR policy is to establish the costs of providing the service (DEAT, 2002). For example, an understanding of these costs is important in determining the scale of implementation that can be funded through the equitable share grant (DEAT, 2005d). In addition, it is important in the development of a municipal tariff strategy that will ensure that sufficient revenues are generated to cover these costs (DEAT, 2002a), and thus for determining the extent to which the municipality can generate internal revenue for financing the policy.

According to the DPLG (2005d), one of the issues related to inadequate funding for FBS in other sectors (such as water, electricity and sanitation) is that municipalities are unable to assess the full costs associated with providing FBS. Thus, developing a financing mechanism for a FBRR policy requires that municipalities familiarise themselves with the concept of full cost accounting (FCA) in the context of municipal solid waste (MSW) (DEAT, 2002b).

2.5.1 Cost associated with FBRR provision

Historically, local governments have tended to prepare municipal accounts using cash flow accounting, which tracks the flow of current financial resources by recording cash outlays (expenditures) as they occur (i.e. when cash is actually paid for goods and services); rather than focusing on actual costs as they are incurred (i.e. when resources are used). Focusing solely on the flow of financial resources in terms of the current budget can obscure the actual costs of municipal FBRR, because significant expenditures are incurred before and after the operating life of specific facilities and services. Cash flow accounting therefore gives a distorted picture of the actual costs of MSW management services. By contrast, full cost accounting (FCA) records actual costs as they are incurred (i.e. as the resources are used or committed, regardless of when money is spent), taking into account the full monetary cost of resources used or committed to FBRR activities, thus providing a fuller account of the actual costs that the municipality incurs in providing the service. It incorporates the direct and indirect operating costs of FBRR services (including overhead costs), as well as upfront (past) and back-end (future) expenses (Environmental Protection Agency, 2009a). The main difference therefore lies in the allocation of costs – cash flow accounting is based on the flow of financial resources within the current budget, while FCA is based on the functional allocation of resources, and spreads costs over the lifetime of a specific programme or service.

Through the use of techniques such as depreciation and amortization, FCA produces a more accurate picture of the costs of FBRR programmes, without the distortions that can result from focusing solely on a given year's cash expenditures. For example, cash flow accounting records capital expenditures for garbage collection vehicles entirely in the year of purchase, while FCA spreads the expenditures over the useful life of the vehicle, i.e. over the time that the actual costs are incurred. FCA also includes future costs that are directly related to current activities, such as landfill closure and post-closure, as well as other costs that may be ignored in conventional municipal accounting, such as overhead costs (Environmental Protection Agency, 1996).

Although the introduction of Generally Accepted Municipal Accounting Practice (GAMAP) will begin to address many of these issues, it is not yet fully implemented and in the interim municipalities would benefit from an improved understanding of the full costs of their FBRR operations (DEAT, 2002a). This section aims to provide an approach toward achieving this understanding, particularly in the context of FBRR. The five fundamental principles in FCA are presented in Box 2.

Box 2: The Five FCA Principles (Source: Environmental Protection Agency, 2009c).

FCA embodies several key concepts that distinguish it from standard accounting techniques. The following list highlights the five basic tenets of FCA.

1. *Accounting for costs rather than outlays.* An *outlay* is an expenditure of cash to acquire or use a resource. A *cost* is the dollar value of the resource as it is used. For example, an outlay is made when a collection truck is purchased, but the cost of the truck is incurred over its active life (e.g., 10 years). The *cost* of the truck must be allocated over a period of time because every year of its use contributes to the deterioration of the truck's value.
2. *Accounting for hidden costs.* With FCA, the value of goods and services is reflected as a *cost* even if no cash *outlay* is involved. One municipality might receive a grant a higher tier of government, for example, to purchase solid waste equipment. This equipment has value, even though the municipality did not pay for it in cash. The equipment, therefore, should be valued in an FCA analysis.
3. *Accounting for overhead and indirect costs to individual solid waste services.* FCA accounts for all overhead and indirect costs, including those that are shared with other public agencies. Overhead and indirect costs might include legal services, administrative support, data processing, billing, and purchasing.
4. *Accounting for past and future outlays.* Past and future cash outlays often do not appear on annual budgets under cash accounting systems. *Past (or upfront)* costs are initial investments necessary to implement MSW services such as the acquisition of vehicles, equipment, or facilities. *Future (or back-end)* outlays are costs incurred to complete MSW operations such as landfill closure and post-closure care and post-employment health and retirement benefits.
5. *Accounting for costs according to activities or paths.* Integrated solid waste management systems consist of a variety of MSW activities and paths. *Activities* are the building blocks of the system, which may include waste collection, operation of transfer stations, transport to waste management facilities, waste processing and disposal, and sale of byproducts. *Paths* are the directions that MSW follows in the course of integrated solid waste management (i.e., the point of generation through processing and ultimate disposition) and include recycling, composting, waste-to-energy, and landfill disposal. The cost of some activities is shared between paths. Understanding the costs of MSW activities is often necessary for compiling the costs of the entire solid waste system, and helps you evaluate whether to provide a service yourself or contract out for it. However, in considering changes that affect how much MSW ends up being recycled, composted, converted to energy, or landfilled, you should focus on the costs of the different paths. Understanding the full costs of each MSW path is an essential first step in discussing whether to shift the flows of MSW one way or another. See Environmental Protection Agency (1997:11-18) for more on MSW activities and paths.

2.5.2 Funding mechanisms for FBRR

The required revenue for providing FBS can come from one or both of two main sources of income, namely internal sources (such as cross subsidies within the municipality); and external sources, primarily the equitable share grant. In general, the following internal and external sources of funding are available to the municipality for the provision of FBRR:

- Internal sources, i.e. revenues from local tariffs and other taxes levied and collected by municipalities themselves:
 - Core municipal administration revenue, e.g. property rates
 - Cross subsidies from non-residential and wealthy consumers of the service in question, who are charged higher rates (above what is required for cost recovery) at

higher levels of use (e.g. through a rising block tariff structure) to generate surplus revenues, which are used to cover the cost of providing lower levels of the service free of charge to poorer consumers

- External sources, in particular transfers from the national fiscus, through the
 - equitable share grant; and the
 - Municipal Infrastructure Grant (MIG)

The equitable share grant and its relevance to the financing of FBRR are described in Box 3.

Box 3: The equitable share grant (DWAF, 2002; 2003; RSA, 2003)

The equitable share grant is based on the principle of an equalisation grant, which recognises that local authorities have differing capacities to raise revenue and differing expenditure needs and that there is not always a match between these. Equalisation grants operate on the principle that central government should direct assistance to where the mismatch between needs and resources are greatest.

Section 227 of the Constitution requires that an equitable share of revenue raised nationally be allocated to local sphere of government to enable it to provide basic services and perform the functions allocated to it. One purpose of the Equitable Share grant is to ensure that low-income households in all municipalities receive access to basic municipal services. The equitable share grant is an unconditional grant assisting municipalities in supplementing their revenue to deliver services to poor households. The population, per capita expenditure, household size, urban-rural proportions, and the number of poor households in the municipality are the primary factors used in determining formulae-based allocations for individual municipalities.

The following six budget windows were used in the allocation of the equitable share grant for the 2003/04 national financial year:

- (1) R293 allocations
- (2) S-grant (including guarantees)
- (3) I-grant
- (4) Nodal allocation 300
- (5) Free basic services (water, sanitation, refuse)
- (6) Free basic electricity

The S-grant is the biggest component within the equitable share grant and is designed to meet the operating costs of a municipality when providing a package of basic services to low income households. Poor households are classified as those spending less than R1 100 per month. The formula for the S-grant recognises differences in the financial and administrative capacities of rural and urban municipalities. The S-grant is divided between category B and C municipalities in line with functions performed. The overall S-grant is split up as follows: 23.3 per cent is for water supply, 41.9 per cent is for electricity supply, 11,6 per cent for sanitation services and 23,3 per cent for refuse removal.

In addition, in 2003/2004, a separate window within the local government equitable share grant was created for the funding of free basic services (electricity, water, sanitation and refuse). This additional grant over and above the equitable share allocation is a supplementary component which will enable municipalities to accelerate the provision of free basic services (including refuse removal) to poor communities. The division between municipalities was determined by the S-grant formula and 1996 Census data on municipal infrastructure for water, sanitation, refuse and electricity infrastructure for poor households.

Thus, after determining the full costs of providing the service, the next step is for the municipality to ensure that adequate revenue is available to cover these costs, by determining what resources are available from both internal sources (primarily cross subsidisation) and external sources (largely through the equitable share and MIG) (Department of Water Affairs and Forestry, 2002). In other words, it must determine the allocation of money that is available for FBRR from the local government equitable share and the MIG, and it must assess what level of cross subsidisation from other consumers is both feasible and sustainable (Department of Water Affairs and Forestry, 2003).

This section discusses cross subsidies, the equitable share grant and the MIG as potential sources of revenue for funding FBRR.

Since FBS is essentially a subsidy, cost recovery from beneficiaries through user charges is not an option, while the scope for cross subsidisation from other consumers is likely to be limited in most cases. Indeed, in other sectors where FBS policies have been implemented (electricity, water and sanitation – see Box 4); the main source of funding is the equitable share grant and other national grants, with internal cross subsidies through municipal tariffs seen as a supplementary measure that would not support FBS provision on its own (Department of Provincial and Local Government, 2005b; d)

Box 4: Funding of FBS in other sectors (Source: DPLG, 2005d; DEAT, 2009b)

FBS in other sectors are funded as follows:

Free basic water (FBW)

Municipalities rely heavily on the Equitable Share (61% of respondents) as the primary source of funding for FBW. Support is also received from other national grants (6% of respondents), which provide resources that complement the FBS provision. Municipal tariffs are listed as a supplementary resource and would not sustain the provision of FBS on its own. Municipalities did not view cross subsidy as a primary means of financing FBS.

Free basic electricity (FBE)

As in the case with FBW, municipalities rely heavily on the equitable share (56%) and other national grants (4%) to fund their FBE initiatives. Tariffs are once again seen as a supplementary resource to the delivery expense, and comprehensive cross subsidisation is not anticipated.

Free basic sanitation (FBSan)

As in the responses received for FBW and FBE, municipalities rely on the equitable share (46% of respondents) and national grants (4% of respondents) to support their FBSan processes.

In addition, in the case of *free basic alternative energy (FBAE)*, the equitable share grant is disbursed by the DPLG to local government for the provision of FBE. In the absence of infrastructure to provide FBE, these funds must be channelled to FBAE. Municipalities are encouraged to supplement the FBE grant from their own income sources.

2.6 Policy Principles

In implementing the National Policy on FBRR service, the following principles could be considered for discussion purposes:

1. Municipality must ensure that any relief provided in terms of the FBRR Service policy is constitutional, practical, fair, equitable and justifiable in order to avoid the exclusion of any deserving households.
2. There will be differentiation between households in accordance with the FBRR Service policy and resolutions of Municipal Councils and legislation.
 - a. Differentiation shall be permitted in respect of the level of FBRR Service provided to or to be provided to indigent households.
 - b. The FBRR Service is made available to all the indigents and households that qualify for the service.
 - c. Households with greater ability to pay for the refuse removal service should pay more.
3. Municipalities should provide FBRR Services within the bound of their financial stability and sustainability.

4. The Municipality should review and amend the qualification criteria for indigent support for FBRR Service on an annual basis as provided by it and as when necessary.
5. Municipalities should put in place FBRR Service administrative structures that lead to effective and efficient mechanisms of implementation.
6. FBRR Service tariffs should be clear and easily understood by the key stakeholders, especially those from the municipality.
7. Tariffs should be set with an appropriate level of participation from the households that have the ability to pay more towards FBRR Service.
8. Operating subsidies for FBRR Service within the municipality should be well targeted in order to reach the identify indigent.
9. The FBRR Services Policy will apply during each financial year of the Municipal Council and financial support to the indigent households will dependent upon the availability of funds.
10. Indigent households must formally apply using a prescribed municipal system for FBRR Service and will qualify for such support according to prescribed criteria/principles laid down by that particular municipality.
11. Indigent households registered for FBRR Service must be re-evaluated after a given period of time (say six months or such period as the municipality sees fit).
12. Disciplinary measures decided by the municipality should be imposed on indigent households and/or individuals abuse the FBRR Service by whatever means determined by the municipality as fraudulent.
13. The municipality will put in place reasonable measures to publicise the FBRR Service within its jurisdiction, including measures to put in place an effective communication programme.
14. The roles of the social worker/municipal official/councillor/traditional leader or any other authority so designated in the evaluation of the indigent household for the FBRR Service should be fully recognised.
15. The list of applicants for FBRR Service should be made available for public scrutiny for at least one month at most accessible public points within the municipality.
16. Clear registration time and cut-off dates must be outline (Registration could take place in January and/ or February of each year so as to provide municipalities with the numbers of indigents to be planned for in the next financial year's budget).

2.7 Policy restrictions

The restrictions that a National Policy on FBRR services should consider are: financial, the socio-political set up, institutional arrangement as well as technical aspects. As adopted from the Free Basic Water Implementation Strategy (DWAF, 2002), the following explanations are key:

1. *Financial*: how to finance and target the provision of FBRR Service in a sustainable and efficient manner.
2. *Socio-political*: how to establish successful communication and co-operation between consumers, councillors, local government officials and different spheres of government leading to the provision of the FBRR Service.
3. *Institutional*: how to develop the required organisational capacity and working relationships between different institutions involved in the FBRR Service.
4. *Technical*: how to choose the appropriate technical service level options to facilitate FBRR Service.

The Department of Provincial and Local Government (DPLG) also observed the following additional challenges linked to the establishment and implementation of a municipal indigent policy, which could be included for discussion are:

- Defining beneficiaries: in terms of households, account holders or citizens and then reporting accordingly.

- Defining what constitutes a household: how should municipalities deal with properties that have a main structure as well as other living structures on the same property, and what should municipalities do about dwellings with more than one household?
- Defining who is an indigent.
- Targeting methods to be used.
- Accessing non account holders (homeless, people not receiving services etc).
- Although administered means testing is the most effective way of targeting and tracking indigents, it does pose administration challenges for municipalities.
- Very few municipalities have been monitoring the implementation of their Free Basic Services (FBS) programme and even less can talk to the real impacts that the programme has had on the quality of life of beneficiaries.
- Difficulties in the process of verifying application details.
- Exit strategies for identified indigents to move off the list of beneficiaries
- Municipalities can only provide what they can afford. Many municipalities highlight that they do not believe they have sufficient funds for a full scale implementation of the FBS programme (DPLG, 2005b: 16-17).

2.8 Government Roles and Responsibilities

The South African Constitution establishes a three tier government system that includes the National Government, the Provincial Government and Local Government³. Given that a failure to come up with a specific grid of responsibilities for each tier of government could lead to duplication and possibly conflict and confusion, the grid in Table 4 proposes roles and responsibilities that could be associated with each of the three spheres of government.

These need further deliberations and clarity.

³ This tier is further divided into District Municipalities, Metropolitan Municipalities and Local Municipalities. In implementing a National Policy on FBRR service, stakeholders need therefore to be aware of the different capacities of the municipalities in terms of the skills base and funding.

Table 4: Government roles and responsibilities in FBRR service

Government Level		Specific Roles and Responsibilities	Cross-cutting roles and responsibilities
National		<ul style="list-style-type: none"> Put in place a National Policy on FBRR service. Put in place the National Domestic Waste Collection Standards that makes reference to the need to implement a National Policy on FBRR service. Update both a National Policy on FBRR service and the National Domestic Waste Collection Standards. Make the Provincial Governments aware of the existence of a National Policy on FBRR service and the National Domestic Waste Collection Standards. Continuously update the National Policy on FBRR service and the National Domestic Waste Collection Standards as when need arises. Get involved in provincial and municipal capacity building and training. 	<p>All to evaluate the National Policy on FBRR service performance in terms of:</p> <ul style="list-style-type: none"> Effectiveness: Were the goals of the National Policy on FBRR service achieved? If not, why were they not? Efficiency: Were the available resources for the FBRR service implementation (human, financial, institutional and technical) utilised in the most efficient and cost-effective manner? Adequacy: To what extent does the FBRR service address the problem of failed refuse removal? Equity: To what extent does the FBRR service address imbalance of the past in terms of refuse removal backlogs? Responsiveness: Has the FBRR service been sensitive and responsive to existing needs and preferences of stakeholders? Appropriateness: Are the strategies being
Provincial		<ul style="list-style-type: none"> Determine municipality capacity in line with the National Policy on FBRR service mandate with the aim of recommending to the DPLG what roles and responsibilities could be delegated to the concerned municipalities. Make the Local Governments aware of the existence of the National Policy on FBRR service and the National Domestic Waste Collection Standards. This should be done with the District Municipalities. Assist District Municipalities in drawing up guidelines on the development of FBRR Service Policies and Domestic Collection Standards for Local Municipalities at the District level. 	
Local Government	District Municipalities	<ul style="list-style-type: none"> District Municipalities to make Local Municipalities aware of the existence of the National Policy on FBRR service and the National Domestic Waste Collection Standards. This should be done with the view of explaining the Local Municipalities' mandate. Provide District Municipality-wide guidelines on developing FBRR service policies and Domestic Collection Standards and where necessary render technical assistance to local municipalities with limited capacity. 	

	Local Municipalities	<ul style="list-style-type: none"> • Come up with Municipal FBRR Service policies (where appropriate) or integrate this into existing Indigent Policies as top-ups. This is in line with the fact that the existing Municipal Indigent Policies do not address the issue of refuse removal adequately. • Mandated to identify and select deserving indigent households for FBRR service in their jurisdictions. • Raise awareness on the existence of a FBRR service policy • Set appropriate criteria and mechanisms for identifying the indigent household for the purposes of the FBRR service policy. • Establish proper risk management programme in order to minimise fraudulent activities during the implementation of the FBRR service policy in their jurisdictions. • Regularly update its FBRR service indigent household database. 	implemented from the FBRR service matching the expectations of the broad policy context?
--	----------------------	---	--

2.9 Implementation of the Policy

Policy implementation always presents challenges, especially those unforeseen. The consultations with key stakeholders will therefore present valuable insights as to how best the proposed National Policy on FBRR service could be implemented based on experiences on the ground. A detailed implementation plan could then be drawn up for use by relevant stakeholders, especially the lead agency, DEAT.

3 National Waste Collection Standards

3.1 Overview of collection systems in developing countries

The primary focus of research on solid waste in developing countries are on improving health and safety in developing urban areas through appropriate waste collection systems (Korfmacher, 1997). It is noted that solid waste management in developing countries are fundamentally different from those in developed countries. In most developed countries, solid waste is collected from urban areas by compactor trucks which collect waste from each household once or twice a week (Korfmacher, 1997). There are however, several reasons for such collection systems not being feasible in developing urban communities (Korfmacher, 1997) including:

- Road conditions often make truck access to individual households difficult;
- The nature of waste in poorer areas – denser more corrosive due to higher organic content makes compaction unfeasible and contributes to frequent equipment failure; and
- Difficulty to recover costs for waste collection services.

For these reasons, there is a need for innovative collection systems better suited to developing urban areas as well as densely populated rural areas. Korfmacher (1997) presented the following four types of systems which will be discussed in more detail. Each of the four types of systems differ in terms of equipment necessary (transport and storage), the effort required by the household and in terms of cost.

3.1.1 House to house collection

House to house collection systems (“primary collection”) have been designed to be appropriate to developing urban areas and are significantly different from traditional developed world collection systems. One example quoted (Korfmacher, 1997) used indigenously designed and produced donkey carts for waste collection by local contractors (photo below). The collection of fees for this service was also left to the contractor delivering the service. In another example, co-operatives were formed to provide the waste collection service. The Nelson Mandela Metro reported success with co-operatives providing services in their areas of jurisdiction.



An example of an animal drawn cart (Photo by Ray Lombard)

According to GDACE, (2008), the following impacts should be taken into account if this system is to be utilised:

- Cost of feeding and caring for animals is a added factor
- Negative impact on environment in terms of excreta on the roads
- Can only travel short distances and carry limited loads

3.1.2 Communal collection sites

Communal collection sites refer to collection points where waste from a number of households is stored for collection. Such communal collection sites typically involve communal skips placed at accessible points in the community. These programmes can consist of various layers of collection networks. Abidjan in the Ivory Coast used two-wheeled barrows to transport communal drums (which are placed less than 30m from each house) to skips at communal collection points. The skips are then periodically emptied by the municipality or a private collection company appointed by the municipality.

3.1.3 Block collection

Block collection refer to a collection vehicle travelling a scheduled route, stopping periodically for residents to bring their waste to the collection vehicle. Although less convenient for residents, block collection eliminates the need for intermediate storage containers and thus may be a relative cheap waste collection service. A low-technology version of this approach is the use of two-wheeled pushcarts which makes daily rounds. The success of this approach in developing countries can be attributed to a daily service being rendered to each neighbourhood (Korfmacher, 1997). A team of workers can also collect bags or empty drums onto canvas sheets and take these to the trucks passing on the central routes.

3.1.4 Non-collection

Several areas have implemented collection systems which do not involve collection by contractors or the municipality in the usual sense. Instead, residents receive incentives for bringing their waste to central locations. In Curitiba, Brazil, this system involves that residents ‘sold’ their waste in exchange for bus tickets, agricultural produce or dairy produce.

3.2 Domestic waste collection

3.2.1 Separation at source

The success and sustainability of recycling initiatives will be enhanced through separation at source. The main benefit of separation at source is the fact that more recyclables can be recovered at a reduced cost and better quality i.e. uncontaminated paper. There is cost savings if recyclables do not have to be separated from non-recyclables. Savings of landfill airspace due to reduced volumes of waste being disposed of result in cost savings for the municipality.

3.2.1.1 Low density

In low density areas with kerbside collection, separated waste can be collected by the municipality, waste contractor or recyclers at any required frequency that are appropriate to the type and volume of waste. The mode of preference would be the provision of two different types of containers that can be collected simultaneously.

3.2.1.2 High density

In high density areas a two bag system (different colours) could be implemented. Communal collection sites could be fitted with two or more marked skips to ensure that separated waste remains separated.

3.2.2 *Applicable storage containers*

Applicable storage containers are essential to efficient waste collection services. It is the responsibility of the Municipality or the service provider to supply or prescribe applicable containers or create an enabling environment for the waste generator to provide the container. The containers for household waste collection could take the form of a plastic bag or re-usable bins. It should be noted that although reusable bins are initially more expensive to provide than bin liners, the reusable bins have a long life expectancy while provision of bin liners is an ongoing expense.

Typical examples of these types of receptors shown below as illustrated by GDACE (2008).

(a) 85 litre plastic bin liners are useful for the following reasons:

- Door-to-door collection is possible
- Inexpensive and easily available
- Available in different colours and different durability
- Manual collection of bags

The use of plastic bag may however result in stray animals tearing the bags and scavenging through the waste.



Courtesy of GDACE, (2008)

(b) 85 litre galvanised steel or rubber bins which, according to GDACE (2008) pose the following challenges:

- Difficult to pick up
- Can be tipped over which results in scattering of waste.



Courtesy of GDACE, (2008)

(c) The 120 or 240 litre mobile bins are commonly utilised in urban low density areas, although some municipalities also provide them in dense settlements. The use of these bins enables collection from demarcated areas but collection vehicles must be compatible to the container.



Courtesy of GDACE, (2008)

3.2.2.1 Recyclable and non-recyclable waste

Standards for containers for recyclable waste could include, among others, that they must be water-proof, dimensions and colour for these containers. These colours will need to be approved by the relevant authority. It is also recommended that these containers should either be made of material which is recyclable and or contains a blend of the maximum practicable recyclable content.

3.2.2.2 Low density

The survey results indicate that low density urban areas mainly refer to metropolitan, B1 and B2 municipalities. The majority of these municipalities make use of wheelie bins for domestic waste collection. It would therefore be recommended that plastic bags of specific colour should be used for recyclables while the wheelie bins would be used for non-recyclables.

A 240 ℓ wheelie bin may however be too big if recyclables are taken out. Perhaps municipalities planning to implement separation at source should consider using smaller wheelie bins than the standards 240 ℓ size bins. There is little incentive to household to reduce the volume of waste generated if the size of receptor is not limited. Perhaps households should be allowed to decide on the most appropriate size of wheelie bin that will cater for their needs.

3.2.2.3 High density

High density areas are found in formal areas (flats and other complexes) as well as in informal areas. The results of the survey in high density areas indicated that for informal settlement, plastic bags are mostly used while wheelie bins are frequently used in the formal areas. Distinctly coloured or clear plastic bags will therefore work well for recyclables in high density areas.

3.2.3 Frequency of collection

The results of assessment of waste collection standards in municipalities provide the following insights:

(a) *Residential households, including informal settlements:*

Service providers should collect waste from residential areas including informal settlements at least once a week. More frequent collection of household waste may be considered in high density areas. The sustainability of more frequent domestic waste collection could however be problematic due to excessive costs to the municipality.

(b) *Commercial and Business:*

Service provider should collect waste at least once to twice a week from commercial and business areas. It is recommended that the collection frequency should be adapted to be appropriate for the type and quantity of waste in question. For example if the waste produced is mainly food waste there may be a need to collect on a daily basis; and if the quantities are high, the frequency may also need to be increased.

3.2.3.1 Recyclable and non-recyclable waste

(a) *Residential households, including informal settlements*

The service provider should be required to communicate the waste streams to be separated at source, where the recyclables should be taken to and the container for recyclables must be clearly labelled. The collection frequency will be determined by the type of recyclable waste to be collected as well as the bulk thereof. Fortnightly collection of paper may be sufficient while weekly collection of mixed recyclables may be required.

(b) *Commercial and Business:*

From the research results, it has been observed that the frequency of collection from commercial and business is determined by the volumes and type of waste generated. However, a minimum requirement based on the type and volume of waste should be set for commercial and business areas i.e. daily collection of restaurant waste.

3.3 Domestic Bulk Container Service

3.3.1 Storage containers

In general, the bulk containers used in this service, are skips. However, wheelie bins are also utilised in certain circumstances. Skips are more often used for commercial/business and the communal collection of waste from informal areas or areas which cannot be accessed by a waste collection vehicle. Typical of example of a skip is provided in (d) below.

(d) These range from 4.5; 5.5; 6.9 and 11 cubic metres containers (skips)



Courtesy of GDACE, (2008)

In this case, the service provider must make special arrangements to move waste to a point that is both accessible to the collection vehicle and where the stored waste will not create a nuisance. Such containers require adequate volume to accommodate large amounts of waste coming from a number of households.

3.3.2 *Frequency of collection*

From the results of this study, it is indicated that the frequency of collection is determined by the municipality or the service provider. Usually, the requirement is that it should be emptied within two days time after the container is full.

3.3.2.1 Low density

In low density it is required to be emptied almost on weekly basis. Mostly this system is used when household owner wants to do renovations or has some demolitions to make.

3.3.2.2 High density

In high density areas it is determined by the frequency of the filling of the container and it is required to be removed within two days of its filling. Alternative arrangement should be made to avoid overloading of full skips and illegal dumping as a result of full skips.

3.4 **Commercial and Industrial Waste Collection**

The waste types covered by this collection service consist of business waste, non-hazardous industrial waste and builder's rubble. Therefore the service provider will require information on the type and size of containers required, the number of containers as well as details on the location where the containers should be placed.

Typical storage containers for commercial and business waste collection range from 1.0 to 1.3 cubic metres. However, the bulk sizes of 11; 15; to 35 cubic metres (skips) are also available.

3.4.1 *Frequency of collection*

Current practice in most municipalities is that the frequency of collection is based upon the mutual agreement between the customer and the service provider. However, this should not be less than once per week so as to prevent the accumulation of waste in quantities detrimental to public health or

safety. However, exceptions can be made based on the type and quantity of waste. A standard should be set distinguishing between ‘normal’ and ‘bulk’.

3.4.1.1 Normal

In terms of the normal, the frequency of collection should not be less than once per week so as to prevent the accumulation of waste in quantities detrimental to public health or safety.

3.4.1.2 Bulk

Bulk containers should be easily accessible to the collection vehicle. This should be in an area which can safely accommodate the dimensions of the skip and that must not have any part extending beyond the curb into the road and should only be placed there for a period not exceeding 2 weeks.

3.4.2 Separation at source of recyclables

In general, the municipality or service provider will need to ensure:

- That the customer knows what waste should be separated out.
- That the customer knows the types, number, and locations of containers.
- That the container provided to the customer is appropriate for the purposes of the type of waste separated out.
- That the customer is able to identify the containers in terms of the type of recyclables stored in them.

3.5 General

The following should be taken into account when developing National Domestic Waste Collection Standards for South Africa:

- ‘Waste’ needs to be defined, especially domestic waste because it is only then that the context of developing standards will be in uniform and harmonised manner
- The Basic Level of Service for waste collection needs to be clearly defined and the associated costs determined - (the DPLG’s basic level of service with regards to solid waste disposal is that “a refuse removal service” be provided at least once a week (DPLG, 2005). This can be interpreted as any arrangement to remove solid waste from an area at least once a week).
- It is important to link ‘Indigent Policy’ and the ‘Free Basic Service’ to these standards and officials in municipalities should be made fully aware of its existence and the financial and service delivery implications.
- It must be noted that even though the trend of rendering waste collection services looks very similar in most municipalities in South Africa, local municipalities face more challenges than metropolitan municipalities due to limited resources.
- The setting of standards should include the issues of transportation to ensure that vehicles transporting waste must be appropriate for the type of waste transported and should be of adequate size and of right construction for the waste types.
- The setting of standards should also address the issues of Health and Safety

- A process of recording and dealing with complaints to ensuring good customer -service provider relationships (GDACE, 2008)

The initiative to formulate the domestic waste collection standards should be welcomed as this aims at harmonising the way domestic waste collection service is delivered to all communities across the board thus bringing about equity, which is lacking at the moment.

4 References

DEAT (2009a). Addressing Challenges with Waste Service Provision in South Africa: Inception Report and Consultation Plan. Pretoria: Government Printers.

DEAT (2009b). Municipal Indigent Policy Review Report. Pretoria: Government Printers.

DEAT (2009c). Free Basic Services Policies Review Report. Pretoria: Government Printers.

DEAT (2009d). Waste Sector Challenges and Vision Report. Pretoria: Government Printers.

DEAT (2009e). Domestic Waste Collection Standards: Comparative Assessment Report. Pretoria: Government Printers.

DEAT (2002a). Municipal solid waste tariff strategy. Pretoria. Department of Environmental Affairs and Tourism

DEAT (2002b). Solid waste tariff setting guidelines for local authorities. Pretoria. Department of Environmental Affairs and Tourism

DPLG (2005). The Municipal Infrastructure Grant: Basic Levels of Services and Unit Costs: A guide for Municipalities.

DME (2003). Electricity Basic Services Support Tariff (Free Basic Electricity) Policy for the Republic of South Africa. Government Gazette Vol. 547, No 25088 General Notice 1693 of 4 July 2003. Pretoria. Department of Minerals and Energy

DPLG (2004). Policy framework for the introduction of the Municipal Infrastructure Grant (MIG). Pretoria. Department of Provincial and Local Government: Municipal Infrastructure Task Team

DPLG (2005a). Framework for a municipal indigent policy. Pretoria. Department of Provincial and Local Government

DPLG (2005b). Guidelines for the implementation of the national indigent policy by municipalities. Johannesburg. Erasibo (Pty) Ltd

DPLG (2005c). The Municipal Infrastructure Grant. Basic level of services and unit costs: A guide for municipalities. Pretoria. Department of Provincial and Local Government

DPLG (2005d). Study to determine progress with and challenges faced by municipalities in the provision of free basic services and supporting those municipalities struggling with implementation - Final study report. Pretoria. Department of Provincial and Local Government

DWAF (2002). Free Basic Water Implementation Strategy. Version 2. Pretoria. Department of Water Affairs and Forestry

DWAF (2003). Strategic Framework for Water Services - Water is life, sanitation is dignity. Pretoria. Department of Water Affairs and Forestry

Environmental Protection Agency (1996). Making solid (waste) decisions with Full Cost Accounting. EPA530-K-96-001. US EPA, Solid Waste and Emergency Response

Environmental Protection Agency (1997). Full Cost Accounting for Municipal Solid Waste Management: A handbook. EPA530-R-95-041. US EPA, Solid Waste and Emergency Response

Environmental Protection Agency (1998). Questions and answers about Full Cost Accounting. EPA530-F-98-003. US EPA, Solid Waste and Emergency Response

Otto et al (2008). General Waste Collection Standards for Gauteng, Appendix 6

Republic of South Africa (2000). Local Government: Municipal Systems Act, Act No 32 of 2000. Government Gazette Vol. 425 No. 21776. Cape Town. Republic of South Africa

RSA (2003). The division of revenue bill: The equitable share grant for local government. www.info.gov.za/bills/2003/b9b-03/part5.pdf

RSA (1996). The Constitution of the Republic of South Africa, Act No 108 of 1996.