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Market Based Instruments:
A key component of South Africa's Future Regulatory Regime for Domestic Waste Management

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I hereby declare that I have read and understood the regulations governing the submission of Master of Laws dissertations, including those relating to the length and plagiarism, as contained in the rules of this University, and that this dissertation conforms to those regulations.

LIST OF ACRONYMS

DWAF	Department of Water Affairs and Forestry
DEAT	Department of Environmental Affairs and Tourism
ECA	Environment Conservation Act, 73 of 1989
EIA	Environmental Impact Assessment
FDR	National Waste Management Strategy - Implementation Programme: Framework Document for Recycling
MBI	Market Based Instruments
MSA	Municipal Solid Waste
NEMA	National Environmental Management Act, 107 of 1998
WM Bill	National Environmental Management: Waste Management Bill, 2007
NWMS	National Waste Management Strategy
OECD	Organisation for Economic Development
PAIA	Promotion of Access to Information Act, 2 of 2000
PAJA	Promotion of Administrative Justice Act, 3 of 2000
USA	United States of America

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Abstract

This paper highlights the domestic waste management problems that South Africa is facing and provides an overview of the current legal regime pertaining to domestic waste management in South Africa. Market based instruments that are relevant in terms of creating incentives for improved domestic waste management are examined. The extent to which market based instruments may be appropriate and useful as a tool within the domestic waste management regulatory regime and the opportunities for South Africa to effectively make use of these instruments are assessed with reference to experiences in other countries.

CHAPTER 1 INTRODUCTION

Environmental issues are receiving increasing attention worldwide and this is equally the case in South Africa. Debates around global warming and climate change, the clash between development versus environmental protection, water shortages and waste issues are just some of the subjects that are regularly covered in the media.

Since 1998 the government has introduced various laws dealing with the regulation of the environment and natural resources. Most recently the National Environmental Management: Waste Management Bill, 2007 (WM Bill) has been published for public comment. Traditional regulatory instruments such as standards, bans on certain goods and technologies, liability payments and non-tradable permit systems, are the most common means of achieving environmental outcomes in South Africa. Environmentally related taxes and user charges have been used to a much lesser degree and there are a small amount of private sector deposit refund systems for glass, cans and car batteries.[1]

Waste management is one of the more pressing environmental problems facing South Africa and the country is currently lagging far behind the rest of the world in terms of regulating the generation of waste and providing measures to reduce, re-use and recycle waste.[2] The term waste applies to a variety of different waste streams including mining waste, industrial waste, agricultural waste, domestic waste.

In examining the application of MBIs for improving waste management, this paper will focus on domestic waste. The recent WM Bill defines domestic waste as "waste, excluding hazardous waste, that emanates from premises used wholly or mainly for residential, educational, healthcare, sport or recreation, purposes". Waste management includes the measures that are necessary to prevent or to minimise the

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[1] National Treasury 'A Framework for Considering Market based Instruments to support Environmental Fiscal Reform in South Africa' (2006) Draft Policy Paper at 43

[2] Over 42 million cubic metres of general waste is generated every year across the country, The average amount of waste generated per person per day in South Africa is 0.7 kilograms. This is closer to the average produced in developed countries (73 kg in the UK and 0.87 kg in Singapore), than to the average in developing countries such as 0.3 kg in Nepal). *Extract from 1999 State of Environment Report for South Africa (DEAT, 1999).*

amount of waste that is produced and the risk that is posed by waste to health and the environment.[3]

Internationally it has been recognized for some time that market based instruments (MBIs), including fiscal incentives, can be used to provide an effective means of environmental regulation. It is not easy to attach a monetary value to environmental costs and benefits and MBIs have the potential to cure the market failure associated with the use of environmental goods.

Domestic waste disposal is a good example of a market failure as it is often funded by lump sum taxes or flat payments. As a result of this type of funding, the marginal cost of waste disposal is zero and there is no incentive to produce less waste. Households will generally chose the method of disposal that has the lowest cost, including costs of time and effort.

In April 2006, the South African Treasury Department released a Draft Policy Paper entitled "*A Framework for Considering Market-Based Instruments to Support Environmental Fiscal Reform in South Africa"* (Draft Policy Paper). The Draft Policy Paper looks at the role that MBIs could play in supporting sustainable development in South Africa and provides a framework for reviewing environmentally-related taxes.

The objective of this paper is to provide an overview of the current legal regime and the problems pertaining to domestic waste management in South Africa. This paper will examine MBIs that are relevant in terms of creating incentives for improved domestic waste management. The extent to which they may be appropriate and useful as a tool for South Africa and the opportunities for South Africa to effectively make use of these instruments will be critically assessed by reference to a comparative analysis of the experiences in other countries.

[3] National Environmental Management: Waste Management Bill, 2007

CHAPTER 2 SOUTH AFRICA'S WASTE MANAGEMENT REALITIES

2.1 Introduction

The generation and disposal of waste is recognized as a key environmental issue in South Africa.[4] As the material standard of living increases, so too does consumption, the use of natural resources and the production of waste and pollution, resulting in a strain on the environment. This is the situation that South Africa finds itself in where the amount of waste produced annually is rapidly increasing. For example, in 2003 the waste produced in Cape Town was already rising at 6% per year.[5]

Waste issues in South Africa are connected to various other environmental problems and are not an isolated problem. The diverse nature of the waste that is being generated results in different environmental problems.[6] When waste is not managed effectively it can result in air, land and water pollution.

The Minister of Environmental Affairs and Tourism, Marthinus van Schalkwyk, recently announced that millions of South Africans do not have access to domestic waste-collection services. He has also acknowledged half of the waste landfill sites around the country are unauthorised, and many need to be closed.

> 'It is estimated that 45% of South Africans, mainly living in informal settlements and rural areas, do not have access to domestic waste-collection services. In addition, the country has 1 321 landfill sites, of which 629 are unauthorised, many of which must be formally closed. Included in these are 58 hazardous landfill sites, which are not permitted. This situation clearly has a significant negative effect on human health and the environment.' [7]

The Minister has cited lack of finance, operational equipment and capacity to be serious problems for waste management systems in many municipalities. Within the Municipal Infrastructure Grant System waste has an allocation of 5% in a category termed 'other' that also includes street lights and other smaller infrastructures. The

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[4] Draft Policy Paper at iii
[5] http://www.capetown.gov.za/press/Newpress.asp?itemcode=635
[6] Draft Policy Paper at 20
[7] Opening debate on DEATs budget vote in the National Council of Provinces

Minister has acknowledged that this is not adequate to address the challenges facing South Africa.

This Chapter will look at some of the more pressing issues relating to waste collection, illegal dumping, landfills and recycling, all of which are major challenges for effective waste management in South Africa.

2.2 Waste Collection

There are various statistics regarding how many South African do not have access to waste collection. Generally the range is cited as somewhere between 40% – 50% of the total population, with the majority of these people coming from communities in rural areas, informal settlements and townships. Furthermore, where waste collection services do exist in these areas, the standards are unacceptably poor.[8] The improvement of waste collection throughout the country needs urgent attention. The National Waste Management Strategy (NWMS) identifies waste collection as a priority.

South African charges for waste disposal tend to be much lower than in other countries. The relatively low waste tariffs may also contribute to the public's lack of awareness regarding the need to minimise waste. Rates vary between different municipalities and between different disposal operators. With regard to hazardous waste, the charges are higher and reflect the costs of handling, treatment and any potential remediation that may be necessary. Generally the charges in South Africa are directed at covering the cost for the provision of the service. In most municipalities this is put out to tender to private sector operators. Often waste removal is not charged for separately, but is financed through property taxes. Where houses are charged directly some of the criteria are flat rates, household income brackets or plot size. There is not necessarily any direct relationship between these factors and the charges and the weight or quantity of waste that is disposed of.[9]

This is a good example of market failure and offers a prime opportunity for the regulatory framework to be restructured in order to incorporate tools such as MBIs that can fill these gaps and offer viable solutions.

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[8] 'Department of Environmental Affairs and Tourism 'Action plan for General Waste Collection' (15 October 1999) *National Waste Management Strategies and Action Plans South Africa* Version C

[9] Draft Policy Paper at 38

2.3 Illegal dumping

Another problem is the illegal dumping of waste in open areas. It is not unusual to see beverage cans, cigarette packets, fast food packaging and other waste on streets and in public areas in South Africa. There is general apathy towards littering and illegal dumping and a drastic shift in the public mindset is needed in order to change this.

Not only is illegal dumping unsightly but it also creates a health hazard and deprives communities of space that could otherwise be used for recreation. Illegal disposal results in high social costs because contamination of water resources, the spread of disease, litter and aesthetic deterioration are all problems resulting from illegal disposal. Furthermore, the financial costs of cleaning up illegal dumping exceed hundreds of millions of Rand each year.

There are, however, ways to prevent and manage illegal disposal, for example education campaigns, enforcement efforts, positive rewards for legal disposal, careful design of variable rates and free collection of certain hazardous wastes or large appliances would all assist in keeping it down to a minimum.[10]

2.4 Landfills

One of the biggest concerns for South Africa in terms of waste management is the lack of space for landfills. Department of Environmental Affairs and Tourism (DEAT) Deputy Director-General for Environmental Quality and Protection, Joanne Yawitch recently told a media conference 'We are running out of landfill space and waste management is placing a drain on the finances of local government.'[11] Landfill space is measured in years which reflect how much time is left, at the current rate of waste generation, before the available space in a landfill is used up. Over 42 million cubic meters of solid waste are generated every year, and a shortage of landfill sites in 5 provinces is predicted over the next 10 years.[12]

Waste disposal sites, especially those containing hazardous, medical, and veterinarian waste, may result in land pollution problems. Some of the problems associated with

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[10] Menell, P 'An Economic Assessment of Market-Based Approaches to Regulating the Municipal Solid Waste Stream' (2004) *UC Berkeley Public Law Research Paper* No. 588541 at 16

[11] Olivier, M , 'Legislation to tackle SA's waste-management problem' *Engineering News* 12 Dec 2006 www.engineeringnews.co.za

[12] Department of Water Affairs and Forestry, Report on waste generation sub-project. Report (1997) No. 3064/1505/4/S. Pretoria: DWAF

waste disposal include the poor design, location and/or inadequate management of many of the disposal sites, leachate, illegal waste disposal sites, a lack of suitable hazardous waste disposal sites and poor town planning. A further problem arises from pickers at landfill sites, who disrupt operations and may be exposed to hazardous waste.[13]

Piles of old computer equipment, including circuit boards and old monitors, litter waste land in Johannesburg, Pretoria and on the Cape Flats. This waste is high in toxic chemicals such as hexavalent chromium, mercury, water soluble barium, cadmium, and beryllium. Once e-waste starts corroding these chemicals can seep into the ground and waste systems and cause diseases, neurological problems, birth defects, brain swelling, heart disease and emphysema, to name a few. The valuable components such as second hand hard drives, are usually stripped out and the rest is left to rot.

DEAT has admitted that 119 of South Africa's 629 known illegal landfills are in the Eastern Cape. The illegal landfills are a danger to residents. Most residents are unaware that they are living on hazardous landfills that can cause life-threatening health problems such as cancer and birth defects. Most townships have a pit where rubbish is dumped and most sites do not have the required lining to prevent toxic leachate from decomposing refuse leaking into rivers and underground water sources.[14]

South Africa's 1200 landfill sites are taking increasing strain. By the end of the 1990s it was estimated that the annual waste stream amounted to 15 million tons of domestic waste and 25 million tons of waste from industry. Plastic waste, especially bottles, creates a particular challenge as the volumes take up space while the material takes thousands of years to break down and degrade.[15] Many products are wrapped in layers of plastic, polystyrene and paper which just results in more waste for consumers

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[13] White Paper on Integrated Waste Management, March 2000 at 3.4.3
[14] 13 July 2007 The Herald www.epherald.co.za
[15] PETCO was established in December 2004 as a Pty Ltd Company with the specific objective of promoting and improving the waste management and recycling of post consumer Polyethylene Terephthalate (PET) products on behalf of all stakeholders in the PET industry in South Africa. Petco.co.za

to dispose of. Clean production and waste minimisation require awareness and support from industry as well as from packing and retailers. [16]

Reducing waste would mean that the existing landfills would last longer and it would reduce the need for more landfills in the future. With this in mind, the government has set a national target to reduce the amount of waste products, specifically, plastics, cans, paper, glass and tyres, going to landfills by 70% by 2022. International best practice aims to reuse or recycle 95 % of waste and to send only 5% of waste to landfills.

2.5 Recycling

When comparing South Africa to countries such as the United States of America (USA), Germany, Japan and the United Kingdom, the rate of recycling is very poor. The general awareness of environmental issues is much lower and there is no legislation requiring the separation of domestic waste. Waste specific bins and drop-off centres are few and far between and are not easily accessible for the majority of people.

However, South Africa does have a relatively good recycling record for certain products, especially steel beverage cans. Recycling rates for paper and card recovery have also increased significantly over the last 10 years. It has been estimated by "Collect-a-Can" that over 37,000 people are employed directly or indirectly in can collection and recycling schemes.[17] Most recycling activities are carried out by private recycling companies that recycle paper, plastics, aluminium, glass, oil and rubber. There is also recycling in the informal sector where waste is recycled into goods which are then sold. For example, plastic is used to make mats, toys and bags and cans are used to make art, toys and souvenirs.[18] Using these items again both extracts value from waste that is generated and reduces the strain on natural resources. A viable market for recycled goods needs to be created before recycling initiatives can become cost effective. Recycling initiatives can also serve the purpose of providing work for poorer communities and creating opportunities for small and medium enterprises.

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[16]Olivier, M 'A sustainable approach to waste management' *Engineering News*, 13 April 2007 www.engineeringnews.co.za

[17] Schemmel, J 'Environmental Fiscal Reform for Sustainable Development and Poverty Reduction: Workshop Proceedings and Country Case Studies' (2004) Deutshe Gesellschaft 1-153 http://www.gtz.de

[18] www.environment.gov.za/projprog,wastemgmt/recycling/index.htm at 10

A number of municipalities are introducing pilot programs for waste separation at source. For example the City of Cape Town has embarked on a pilot project to reduce the amount of recyclable waste that is thrown away. On average Cape Townians produce 2kg of waste per person per day, of which roughly 0.5kg is dry and recyclable. Households in the participating suburbs are issued with plastic bags for dry waste that should be placed in the upper portion of the bin on the normal collection day. Each household is allowed one clear plastic bag per week.

These pilot projects are for initial research surveys and it will be interesting to see what the outcome is. At this stage participation by households is voluntary and there is no financial incentive for households to minimise or separate waste.

MBIs have a role to play by creating incentives for people to minimise their waste, to drop off their recyclable waste at recycling centres and to encourage people to buy products that are packaged in a way that is sensitive to minimising waste creation.

2.6 Conclusion

It can be seen that with regard to waste management, South Africa faces a number of challenges relating to waste collection, illegal dumping, landfills and recycling. There are also a number of other related issues, including encouraging waste minimisation and cleaner production, ensuring funding and capacity at the local authority level and instigating a change in the national mindset towards waste.

A further ideal is to share the costs of solid waste management more equitable and to put the polluter pays principle into practice. These are all serious challenges, none of which can be solved quickly and easily. However, international experience has shown that there are methods, such as the use of MBIs, which can be more effective and successful than others.

Ultimately, the overarching goal in order to resolve the abovementioned problems is to achieve waste minimisation and to encourage the reduction, reuse and recycling of waste. The next Chapter will look at how, if at all, the existing legislation assists in achieving these outcomes.

CHAPTER 3 SOUTH AFRICA'S CURRENT LEGAL FRAMEWORK FOR WASTE DISPOSAL

3.1 Introduction

The effective implementation of waste minimization and recycling requires as a minimum that the basic issues are dealt with in legislation in order to ensure that that the rules of the system, and mechanisms for giving effect to waste minimization, are clear and accessible. Legislation is the primary tool for effective domestic waste management because it sets the framework for private and government behaviour and ensures the consistent application of enforceable rules.[19]

Legislation is the key to the development of the regulation of waste minimization. Legislation defines institutional functions, responsibilities and powers of the different levels of government. It also establishes the parameters and requirements which must be adhered to when generating or managing waste.[20]

In 1991 research conducted by the CSIR indicated that legislation regulating waste on land is dealt with in thirty-seven Acts, sixteen provincial ordinances and numerous municipal by-laws.[21] Since 1991, even more legislation dealing with waste management has come into force, for example, the Constitution[22], the National Environmental Management Act[23] and the National Water Act.[24] However, in spite of all this legislation, there is no single Act that provides for waste management in its entirety.

Different departments at various levels of government have promulgated legislation dealing with waste management, as part of the general regulation of activities which fall within their jurisdiction and as a perceived need arose. This has led to waste

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[19] Department of Environmental Affairs and Tourism 'The Regulation of Waste Minimisation in South Africa – An Assessment of the Need and Options for Law Reform' (3 April 2006) *National Waste Management Strategy Implementation Project South Africa* at 2
[20] Ibid at 2
[21] Centre for Scientific and Industrial Research, The Situation of Waste Management and Pollution Control in South Africa' (1991) *Report to the Department of Environmental Affairs*
[22] Act No. 108 of 1996
[23] Act No. 107 of 1998
[24] Act No. 106 of 1998

management legislation being promulgated reactively and in a piecemeal manner. A comprehensive and integrated waste management system has not been adopted and as a result, the legislation is fragmented and lacks cohesion.[25] For example, the diagram below illustrates the various government departments that would be involved if a recycling were to be implemented.[26]

Responsible authority	**Relevant mandate**	**Legislation**
Minister of Environment & Department of Environmental Affairs and Tourism	Protection of the environment	Environment Conservation Act, 73 of 1989 National Environmental Management Act, 107 of 1998
Minister of Trade and Industry & Department of Trade and Industry	Promotion of trade Setting of national technical standards via SABS, including SANS10248 and SANS 452	Import and Export Control Act, 45 of 1963
Minister of Labour & Department of Labour	Protection of worker health and safety	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
Provincial departments	Concurrent responsibility for the protection of the environment	National Environmental Management Act, 1998 (Act No. 107 of 1998)
Local authorities	Constitutional obligation to protect the environment and constitutional responsibility for refuse removal, refuse dumps and solid waste disposal	Several municipalities have by-laws which include provisions regarding the recycling of waste

[25] Department of Environmental Affairs and Tourism 'The Regulation of Waste Minimisation in South Africa – An Assessment of the Need and Options for Law Reform' (3 April 2006) *National Waste Management Strategy Implementation Project South Africa*

26 Department of Environmental Affairs and Tourism 'Legal Considerations for the Undertaking of a Pilot Project on Recycling in South Africa' (October 2006) *National Waste Management Strategy Implementation Project*

Currently, legislation in respect of waste and recycling is going through a lot of change. For example, the new Environmental Impact Assessment (EIA) Regulations have expanded the list of activities that require environmental authorisation to include a range of recycling activities and a new WM Bill which will give effect to waste management has been published for public comment.

This Chapter will provide a broad overview of South Africa's current legal regime that has relevance for waste disposal.

3.2 Legal Regime

In South Africa, the approach to environmental management and pollution control has always been reactive. Global trends have influenced more recent developments in South Africa and we are now seeing a move towards a more proactive approach that will attempt to minimize and prevent the generation of pollution.

Following the introduction of the Constitution in 1996, which included an environmental right, a new set of values formed the basis of environmental law in South Africa. Many of these values such as sustainable development and the polluter pays principle have filtered down from international law.

In 1998, the National Water Act, 36 of 1998 and the National Environmental Management Act, 107 of 1998 (NEMA) were introduced and since then various pieces of environmental legislation such as the Marine Living Resources Act, 18 of 1998, National Forest Act, 84 of 1998, Minerals and Petroleum Resources Development Act, 28 of 2002, the National Environmental Management: Biodiversity Act, 10 of 2004, the National Environmental Management: Protected Areas Act, 57 of 2003 and the National Environmental Management: Air Quality Act, 39 of 2004 and numerous regulations have being promulgated, increasing the suite of 'green' legislation in South Africa. Most recently, in January 2007, the NEM: WM Bill was published for public comment.

The abovementioned Acts are founded on the NEMA principles, including the polluter pays principle. In many instances of pollution relating to environmental public goods, such as air or public land or water, the cost or burden of pollution is externalised. This means that the cost or burden of the pollution is not borne by the person doing the polluting, but is rather shared amongst the general population. The polluter pays

principle calls for the external cost of improper waste management to be internalized by the polluter. It is included in NEMA as follows:

> "[t]he costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment."

This principle is based on the rationale that the polluter should bear the burden or cost of pollution. When looking at MBIs as incentives for improved waste management, the polluter pays principle is particularly relevant. Various MBIs take make use of the polluter pays principle and are in this way effective as an incentive to change behaviour. User charges, taxes that internalise negative environmental externalities, and liability rules that provide for payments for damages to victims of pollution or to pay for remediation costs are all examples of MBIs that incorporate the polluter pays principle.[27]

3.3 Constitution of the Republic of South Africa

The Constitution of the Republic of South Africa was promulgated in 1996, guaranteeing environmental rights for South African citizens. Section 24 of the Constitution states that:

"Everyone has the right-

(a) to an environment that is not harmful to their health or well-being; and

(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-

  (i) prevent pollution and ecological degradation;

  (ii) promote conservation; and

  (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."

There are two parts to this right, firstly, the right to a clean and healthy environment and secondly there is an obligation on government to promulgate legislation to give

[27] Draft Policy Paper at 69

effect to the right. All organs of state are bound by the Constitution,[28] and must give effect to it.

With regard to the environmental right it is the State's duty to establish an effective regulatory framework. Waste generation and disposal forms an important part of any regulatory framework dealing with pollution and a healthful environment

The Constitution also protects other rights that have a bearing on effective waste management. These are procedural rights such as just administrative action and access to information. These are dealt with in more detail below.

Waste management is not dealt with in the Constitution in any detail. However, the Constitution sets out authority and responsibility for functional areas to the different spheres of government. Schedules 4 and 5 of the Constitution determine which levels of government are responsible for various aspects of waste management.

Schedule 4 of the Constitution sets out functional areas that fall concurrently within national and provincial legislative competence. These areas include environment, nature conservations, pollution control, soil conservation pollution control, soil conservation, vehicle licensing, air pollution, and water and sanitation services (limited to potable water supply systems and domestic waste-water and sewage disposal systems).

Schedule 5 of the Constitution provides that all three spheres of government, national, provincial and local, are responsible for waste management. It further sets out the areas that are exclusively within the jurisdiction of provincial and local government. Local governments are exclusively responsible for, amongst other things, cleansing, refuse removal, refuse dumps and solid waste disposal and may pass by-laws to deal with these issues. These by-laws must be compatible with relevant national and provincial legislation.

The Constitution reinforces the fact that the administration of waste legislation falls within the jurisdiction of several different government departments at different levels of government. This division of regulatory responsibilities makes the successful implementation of an integrated system for waste minimisation challenging. It is therefore

[28] Sections 7 and 8

important that departments co-ordinate to ensure that any waste minimisation system is effective.

The Constitution provides a framework for governance based on the concept of co-operative government, the principles of which are set out in chapter 3. This has implications for the way in which information and communication activities are structured and processes that are established for the purpose of facilitating co-operative governance. For example, government departments should liaise with other government departments regarding the implementation of waste management matters falling within each other's competence.

3.4 Promotion of Access to Information

The Promotion of Access to Information Act, 2 of 2000 (PAIA) enforces the right guaranteed in section 32 of the Constitution to improved access to information. The significance of PAIA for waste management is that it allows both the government and the public at large a greater degree of access to a company's pollution related information than was ever available previously. It also allows the public to access information held by local authorities or other government departments relating to landfills, pollution studies, environmental impact assessments. This is vital in order to give effect to the Constitutional right to the environment and empowers the public to ensure that their rights are being protected.

3.5 Promotion of Administrative Justice Act

The Promotion of Administrative Justice Act, 3 of 2000 (PAJA) protects the right provided for in section 33 of the Constitution to just administrative action. PAJA requires that administrative action is done timeously and in a manner that is fair, reasonable and transparent. Environmental law encompasses a large number of administrative actions taken by the government, including the issuing of licenses, permits and certificates. With regards to waste management, PAJA has relevance for people who want to challenge decisions made by local authorities that relate to the award of contracts, permits and licenses for waste collection, the management of landfill site or for recycling programs.

3.6 National Environmental Management Act

As already mentioned, NEMA is the overarching piece of legislation dealing with the environment. Amongst other things it provides for co-operative environmental

governance and establishes institutional structures and procedures for coordinating environmental functions exercised by organs of state.

Section 2 of sets out a number of basic principles which provide guidance and a framework of reference for all issues relating to environmental management. NEMA highlights the following principle in relation to waste: "that waste is avoided, or where it cannot be altogether avoided, minimised and reused or recycled where possible and otherwise disposed of in a responsible manner".[29]

Section 28 gives effect to the polluter pays principle and provides for a duty of care and for the remediation of environmental damage. Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring.

NEMA recognizes a range of tools and various approaches to environmental management and pollution control. However, it does not in any way provide for or take advantage of MBIs. The closest it comes to making use of any kind of MBI is though making provision for liability payments. Sections 33 and 34 deal with legal standing to enforce environmental laws and the issue of private prosecutions. Finally, in section 34 the recovery of damages in criminal proceedings is provided for.

3.6.1 National Environmental Management Act: Gauteng Waste Information Regulations

The Gauteng Waste Information Regulations[30] deal with the establishment and functioning of a Waste Information System for the Gauteng Province. In terms of these Regulations, persons involved in certain categories of waste generation or transportation, landfill site operation or treatment facility operation must register with the Department responsible within a specified time.

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[29] Section 2(4)(a)(iv),
[30] GenN 3034 of 2004 in *Gauteng Provincial Gazette* 372 dated 15 September 2004

3.6.2 National Environmental Management Act: Environmental Impact Assessment Regulations

In April 2006 new Regulations[31] dealing with EIAs were published in terms of Chapter 5 of NEMA. The Regulations set out a new regulatory system relating to EIAs that provide for either a Basic Assessment or a more in depth assessment process consisting of scoping and an EIA.

Two Notices were published with the Regulations, the first Notice[32] lists activities that are required to be dealt with in terms of Regulations 22 to 26. These activities are subject to a basic assessment. The following identified activities have relevance for waste management:

> "1. The construction of facilities or infrastructure, including associated structures or infrastructure, for -
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> > (o) the recycling, re-use, handling, temporary storage or treatment of general waste with a throughput capacity of 20 cubic metres or more daily average measured over a period of thirty days, but less than 50 tons daily average measured over a period of 30 days;
> > (p) the temporary storage of hazardous waste
>
> 24. The recommissioning or use of any facility or infrastructure, excluding any facility or infrastructure that commenced under an environmental authorisation issued in terms of the Environmental Impact Assessment Regulations 32006 , made under section 14(5) of the Act and published in Government Notice R 385 of 2006, after a period of two years from closure or temporary closure, for –
>
> > (a) electricity generation;
> > (b) nuclear reactors and nuclear fuel storage; or
> > (c) facilities for any process or activity, which require permission, authorisation, or further authorisation, in terms of legislation governing the release of emissions, pollution, effluent or waste prior to the facility being recommissioned.
>
> 25. The expansion of or changes to existing facilities for any process or activity, which requires an amendment of an existing permit or licence or a new permit or licence in terms of legislation governing the release of emissions, pollution or effluent."

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[31] GN R 385 in *Government Gazette* 28753 dated 21 April 2006
[32] GN R 386 in *Government Gazette* 28753 dated 21 April 2006

The second Notice[33] lists the activities that are required to be dealt with in terms of Regulations 27 to 36. The activities listed in this Notice require a more thorough assessment process consisting of scoping and an EIA. Of relevance to waste management are the following:

> "1. The construction of facilities or infrastructure, including associated structures or infrastructure, for
>
> > (e) any process or activity which requires a permit or license in terms of legislation governing the generation or release of emissions, pollution, effluent or waste and which is not identified in Government Notice No. R, 386 of 2006;
> >
> > (f) the recycling, re-use, handling, temporary storage or treatment of general waste with a throughput capacity of 50 tons or more daily average measured over a period of 30 days; (g)the use, recycling, handling, treatment, storage or final disposal of hazardous waste;
> >
> > (o) the final disposal of general waste covering an area of 100 square metres or more or 200 cubic metres or more of airspace;
> >
> > (q) the incineration, burning, evaporation, thermal treatment, roasting or heat sterilisation of waste or effluent, including the cremation of human or animal tissue;
> >
> > (r) the microbial deactivation, chemical sterilisation or non-thermal treatment of waste or effluent."

These Regulations will impact on recycling initiatives and could possibly act as a deterrent if people perceive the scoping and EIA procedures to be onerous or costly. Similarly, the requirements may create delays and hold up the progress of projects.

3.7 Environmental Conservation Act

Prior to the promulgation of NEMA, the Environmental Conservation Act, 73 of 1989 (ECA) was South Africa's primary piece of legislation dedicated to environmental matters. The ECA has, but for a few remaining sections, been repealed and replaced by NEMA. Significantly, it is those sections dealing with waste and, particularly, the

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[33] GN R 387 in *Government Gazette* 28753 dated 21 April 2006

disposal of waste and the operation of a disposal site that are still dealt with by the ECA.

This means that the ECA is currently the primary statute for regulating waste, but it does not explicitly state that waste minimisation is part of its objectives, nor does it give effect to the waste management hierarchy or provide a comprehensive suite of mechanisms for regulating waste minimisation initiatives. Mechanisms that are have become standard waste management tools internationally, such as mandatory recycling targets, separation at source and economic incentives, are currently not provided for in South African legislation.[34]

Section 1 of the ECA provides for the formulation of a definition of waste by regulation. In 1990 Regulations setting out such a definition was passed.[35] In terms of the regulation, waste is defined as:

> *"an undesirable or superfluous by-product, emission, residue or remainder of any process or activity, any matter, gaseous, liquid or solid or any combination thereof originating from any residential, commercial or industrial area, which is discarded by any person, is accumulated and stored by any person with the purpose of eventually discarding it with or without prior treatment connected with the discarding thereof, or which is stored by any person with the purpose of recycling, re-using or extracting a useable product from such matter."*

Sections 19 and 20 of the ECA deal with litter prevention and control. Section 19 prohibits littering and imposes a duty on certain persons to provide containers for the disposal of litter. Section 19A deals with the removal of litter and imposes a duty on specified persons to remove litter.

Section 20 of the ECA deals with waste management and section 20(1) provides that no person may establish, provide or operate a disposal site without a permit issued by the Minister. Waste disposal permits used to be administered by the Department of Water Affairs and Forestry but in 2003 the Environment Conservation Amendment Act, 50 of 2003 amended section 20 and permits are now regulated by DEAT.

In terms of section 20(6) the issuing of a waste disposal site permit is subject to-

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[34] Department of Environmental Affairs and Tourism 'The Regulation of Waste Minimisation in South Africa – An Assessment of the Need and Options for Law Reform' (3 April 2006) *National Waste Management Strategy Implementation Project South Africa* at 2

[35] GN R 1986 in *Government Gazette* 12703 dated 24 August 1990

"(a) the concurrence of the Minister of Water Affairs and Forestry; and

(b) the inclusion therein of the conditions contained in a Record of Decision issued by the Minister of Water Affairs and Forestry regarding any measures that the Minister of Water Affairs and Forestry considers necessary to protect a water resource as defined in the National Water Act, 1998 (Act 36 of 1998)"

Provision is also made for the event that concurrence cannot be reached.

Section 20 (9) provides that no person may discard waste or dispose of it in any other manner, except at a disposal site for which a permit has been issued or 'in a manner or by means of a facility or method and subject to such conditions as the Minister may prescribe.' All commercial waste operators require a waste operator licence to conduct business. These licences are issued according to specific waste streams such as recyclable material, industrial waste, medical waste, hazardous waste and building waste.

DEAT has not taken advantage of the power to make regulations to address waste minimisation. As a result there are very few obligations in practise and this means that waste minimisation is not functionally operational in the current regulatory regime.[36]

3.7.1 DWAF Minimum Requirements[37]

In 1998, the Department of Water Affairs and Forestry ("DWAF") published a Waste Management Series made up of three documents. These are Document 1: Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste, Document 2: Minimum Requirements for Waste Disposal by Landfill and Document 3: Minimum Requirements for the Monitoring of Water Quality at Waste Management Facilities.

Document 1 sets out the waste classification system. The requirements for pre-treatment and disposal are provided for in accordance with the waste classification. Hazardous waste prevention and minimization, the handling, transportation and

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[36] Department of Environmental Affairs and Tourism 'The Regulation of Waste Minimisation in South Africa – An Assessment of the Need and Options for Law Reform' (3 April 2006) *National Waste Management Strategy Implementation Project South Africa* at 2

[37] The DAWF Minimum Requirements document forms part of the Waste Management Series, Second Edition 1998 produced by the Department of Water Affairs & Forestry. The documents were first published in 1994.

storage of waste are also dealt with. Document 2 addresses landfill classification, and the siting, investigation, design, operation and monitoring of landfill sites. Document 3 addresses the monitoring of water quality at and around waste disposal facilities.

While these Documents are not legislation in their own right, the Minister of Water Affairs and Forestry has, however, indicated that he will not grant a permit in terms of section 20 of the ECA until and unless the applicant has complied with the requirements set out in these documents. In this way form part of the legal requirements one needs to consider for waste disposal sites.

3.7.2 Plastic *Bag Regulations*[38]

In 2003 the government introduced regulations, promulgated in terms of the ECA, banning the manufacturing and distribution of thin plastic bags. The plastic bag tax is the only waste related product tax in South Africa. The intention of the levy was not to change behaviour, but was rather to raise revenue, of which some would be used to fund the recycling of plastic.[39] The government is using the revenue generated from a levy on plastic bags to establish a not-for profit company called Buyisa-e-Bag that is implementing a waste minimisation strategy in the plastic bag industry.

The compulsory tax on plastic bags has resulted in consumers paying more than R100 million. The Regulations stipulate that the full costs of the plastic bags must be passed on to the consumer. The intention of collecting the money was to set up a national recycling programme that would benefit the environment and create jobs. However, as at November 2006 not a single plastic bag had been recycled from funds.

The Regulations have resulted in an increased awareness and there was an initial decrease in demand for plastic bags and consumers made a concerted effort to reuse bags. However, this initial change in behaviour has slowly slipped and demand for plastic bags has increased again.

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[38] GN 7548 in *Government Gazette* 23393 dated 09 May 2002, Plastic Carrier Bags and Plastic Flat Bags Regulations as contained in GN R 625 of 2003, published in *Government Gazette* 24839 dated 9 May 2003, Compulsory Specification for Plastic Carrier Bags and Flat Bags as contained in GN R 867 of 2003, published in *Government Gazette* 25082 dated 20 June 2003

[39] Draft Policy Paper at 38

There is uncertainty about the effectiveness of SARS collection of the tax since it was implemented in May 2004 but the tax from the 2003/4 financial year was not collected. Other criticisms are that before consumers started paying for plastic bags, retailers absorbed the cost into their overheads. Many people believe that retailers are now making money out of the plastic bag price.

Of the R102 million collected from the levy DEAT only receives R20 million annually for the Buyisa-e-Bag initiative. This is because "ring fencing" taxes, that is keeping them separate and setting them aside for a particular use, is not practiced by the Treasury Department. All taxes go into a collective pool and DEAT then has to apply to the Treasury Department in the normal course in order to receive any benefit from the tax collected from plastic bags. Due to this reluctance to ring fence taxes, MBIs are at risk of becoming just another tax without necessarily achieving the aim for which they were originally introduced.

Further there have been numerous problems setting up the Section 21 company Buyisa-e-Bag. Identifying land for recycling depots, leasing it from municipalities, completing EIAs and getting permits was all taking much longer than was expected. The company only commenced its function towards the end of the 2005/6 financial year and its function does not involve any actual recycling. Rather it has established buy-back centres which will then recycle plastic waste. DEAT has also recognized that there are problems with the scheme and has indicated that it will be looking into an evaluation of the Regulations.

3.7.3 Waste Tyre Regulations[40]

In February 2007, the Minister of Environmental Affairs and Tourism published Draft Waste Tyre Regulations in terms of the ECA. The Draft Regulations relate to the management of waste tyres and provide for the storage of waste tyres. The regulations also set out for mechanisms for tyre dealers to deal with the disposal and mutilation of waste tyres.

The Draft Regulations further provide for, inter alia, fines of R100 000.00 and imprisonment for up to ten years, or both such fines and imprisonment, as well as a further fine up to three times the commercial value of anything in respect of which the offence was committed for offences in terms of Regulations 3 and 4.

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[40] GN 147, as published in *Government Gazette* 29647, 23 February 2007

There is a transition period of one year from the date of commencement of the Regulations, within which time any person who operated as a tyre dealer before the Regulations commenced, must comply with certain provisions.

3.8 National Water Act

The National Water Act, 36 of 1998 defines waste as follows:

> '… any solid material or material that is suspended, dissolved or transported in water (including sediment) and which is spilled or deposited on land or into a water resource in such volume, composition or manner as to cause, or to be reasonably likely to cause, the water resource to be polluted.'[41]

This definition is different to the one contained in the ECA and does not contain any exclusions.[42] The Act is relevant to waste where water is used to transport waste and where water is, or may be, polluted by waste. In terms of domestic solid waste this would become applicable where landfills or recycling operations had a detrimental impact on a water resource. The Act controls all use of water and water may only be used if permitted by the Act. The uses set out below are relevant to waste –

- engaging in an activity controlled in terms of section 37 which includes –
  - the irrigation of any land with waste or water containing waste generated through any industrial activity or waterwork, and
  - intentionally recharging an aquifer with any waste or water containing waste;
- discharging waste into a water resource or in a manner which may detrimentally impact on a water resource.[43]

Section 19 of the NWA puts the polluter pays principle into practice and provides that the owner, controller, occupier or user of land is responsible to prevent the pollution of water resources on that land.

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[41] Section 1
[42] Department of Environmental Affairs and Tourism 'The Regulation of Waste Minimisation in South Africa – An Assessment of the Need and Options for Law Reform' (3 April 2006) *National Waste Management Strategy Implementation Project South Africa* at 2
[43] Section 21

3.9 *Local Authority Legislation*

Local authority legislation is where the nuts and bolts of waste management are dealt with in South African law. There are **310** local authorities in South Africa. Each of these local authorities have different by-laws in place and varying degrees of administrative and financial capacity.

In 2000 the local authorities underwent a restructuring. Since then, the vast majority of local authorities have been going through a process of consolidating and updating their by-laws. This has proven to be a long and slow process and to date many local authorities are still using by-laws that are up to 70 years old. Most by-laws are not available in electronic format and some municipalities can't even locate copies of their old by-laws and confirm what legislation, if any, is currently in force. To this extent it is hardly surprising that in many instances local authorities are not enforcing by-laws with regard to a variety of issues.

None of the local authority by-laws studied[44] provide for any kind of source separation or recycling. The WM Bill empowers municipalities to require any person making use of the municipal collection service to separate their waste into specified types of waste for recycling, re-use or recover.[45]

Most of the by-laws have provisions relating to the duties of the Council, the provision of bins and containers, the placing of bins and containers, access to disposal sites, tariffs and offences. The only extent to which they address the separation of waste is through separate provisions for garden waste, builders waste and medical waste.

Once the WM Bill has been promulgated, local authority by-laws will all need to be re-assessed and aligned to give effect to the Act and to remove any obstacles to achieving waste minimisation. A potential problem that will need to be addressed in the future is that many of the by-laws provide that all domestic waste must be collected and disposed of by the municipality. This may present obstacles for achieving effective waste minimisation and for separation and recycling initiatives.

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[44] See Bibliography for a list of Local Authority Legislation
[45] Section 30

3.10 Common law

Legislation that empowers people to enforce their various environmental rights or to sue for damages goes a long way towards creating an incentive for polluters to control their actives. The common law provides three further avenues for protecting or enforcing environmental rights. These three areas of common law are the law of delict, nuisance law and neighbour law.

The common law of nuisance recognises the right of a land owner to enjoy their property without unreasonable interference to their convenience, comfort and well being from others. There are various types of nuisance, public nuisance, statutory nuisance and private nuisance. It is not necessary to prove fault when pursuing protection under nuisance law. Every landowner should be prepared to put up with some nuisance but if the nuisance is unreasonable then it is considered unlawful and a landowner can take action to protect his common law right by way of an interdict and can also recover damages. In order to secure an interdict there must be an act, which is wrongful where no other remedy is available. A court will consider the balance of convenience and either a temporary of final interdict can be granted.

One of the common law principles that is applicable and of relevance to environmental law is '*sic utere tuo ut alienum non laedus',* which means use your property in such a way that it does not harm others. This means that a landowner's right to use the property is limited and that there is an obligation on him or her not to act in a way that will infringe the rights of a neighbour. Reasonableness and fairness are the criteria against which this duty is tested. Property rights are not absolute and when using neighbour law it is necessary to prove fault.

A delict is '…the act of a person which in a wrongful and culpable way causes harm to another.'[46] In order to recover damages under delict there are five elements that must be proven. These are an act or omission, wrongfulness, fault in the form of either intention or negligence, causation and that some type of damage has been suffered. If these factors can be proven then a plaintiff is entitled to recover their losses and to be put in a position that they would have been in if the delict had not occurred.

With regard to domestic waste management, common law liability becomes relevant for local municipalities where waste has caused harm, damage or loss to another person.

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[46] Neethling, Potgieter & Visser, *Law of Delict* (3ed) Butterworths 1998 at 4

3.11 Conclusion

From the above overview of the relevant legislation, it can be seen that extent to which the current legislation actually makes use of MBIs is very small while command and control regulation is the primary tool for environmental control. For the most part, the goals for waste management, such as reduced production, recycling, and proper disposal, are either ignored completely or are inadequately addressed in the current legislation. Those provisions dealing with waste management provide for the treatment and disposal of waste and have an end of pipe focus.[47]

The predominant enforcement mechanism provided for in South African environmental legislation is criminal sanction.[48] It is suggested that criminal sanction should not be the default enforcement mechanism but that it should rather be reserved for serious offences.[49]

A major problem with the current regulatory framework dealing with waste management is the lack of a consistent definition of waste. In addition to this, the definition contains exclusions so even if the regulatory provisions of the ECA are used, such regulations will not apply to certain waste streams.[50]

While South Africa is making significant inroads in terms of improving environmental protection and creating a good framework of environmental regulation, it should be borne in mind that "legislation is not the critical factor in environmental improvements." [51] The quantity of legislation does not serve as any indication of performance or success and what happens in practice is in no way guaranteed merely by the existence

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[47] Department of Environmental Affairs and Tourism 'The Regulation of Waste Minimisation in South Africa – An Assessment of the Need and Options for Law Reform' (3 April 2006) *National Waste Management Strategy Implementation Project South Africa* at 2

[48] Kidd, M 'Alternatives to the Criminal Sanction in the Enforcement of Environmental Law' (2002) 9 *South African Journal of Environmental Law and Policy* 21

[49] Ibid at 21

[50] Department of Environmental Affairs and Tourism 'The Regulation of Waste Minimisation in South Africa – An Assessment of the Need and Options for Law Reform' (3 April 2006) *National Waste Management Strategy Implementation Project South Africa* at 2

[51] Huber R, Ruitenbach, J and Seroa da Motta R 'Market Based Instruments for environmental policymaking in Latin America and the Caribbean – lessons from eleven countries' (1998) *World Bank Discussion Paper* No WDP 381 at 21

of legislation.[52] The key issue is the difficulty of implementing effective control and implementation mechanisms to give effect to the legal provisions.[53]

It is important to realise that a change in legislation is on its own not going to change South Africa's waste problem. Awareness and support from communities, consumers, from industry and retailers all have a role to play in achieving results.

Despite South Africa's extensive legislative framework for environmental protection, the government's real commitment to environmental issues is debateable. Like all developing countries, there are increasing and urgent social and economic needs such as housing, education, and employment, that are regarded as far more pressing. This undermines concern for the environment which is seen as something only the privileged can afford to worry about.

Capacity and funding at local authority level, both for district and local municipalities is a major consideration. In order to implement change and to effectively administer waste management initiatives in a sustainable manner, local authorities need staff and equipment.

Currently there is very little legislation that specifically regulates recycling. Despite this lack of legislation, there are a number of departments and spheres of government under whom various powers and responsibilities relating to recycling fall under. This issue is often referred to as the fragmented nature of South African environmental law and is dealt with in more detail in Chapter 6 below.

There is a major fragmentation of the law dealing with waste in South Africa. The new NEM: WM Bill will hopefully consolidate this and lead to greater clarity in the future. Environmental law and policy is constantly evolving in South Africa. This changing regulatory climate creates a lot of uncertainty but is necessary for progress and to fulfil the goals of improved environmental management.

The next Chapter looks at the shifting policy framework that is sowing the seeds for change and recognises MBIs as a potential solution for improving the waste

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[52] Shuwen, J 'Assessing the Dragon's Choice: the Use of Market-Based Instruments in Chinese Environmental Policy' (2004) *The Georgetown International Environmental Law Review* 617 at 624

[53] Huber et al at 21

management regulatory framework in order that it may over come the narrow approach and effectively deal with the challenges of a lack of resources and of compliance and enforcement.

CHAPTER 4 SHIFTING POLICY FRAMEWORK

4.1 Introduction

In addition to the legislation, there are also a number of policy documents that have relevance to waste management and MBIs. These policies represent a shift from the current way of thinking and dealing with waste that focuses on end of pipe remediation to a more proactive approach that looks at pollution prevention.

Both the National Waste Management Strategy[54] (NWMS) and the White Paper on Integrated Pollution and Waste Management for South Africa[55] (White Paper) aim to give effect to the Constitutional environmental right and to the principles and objectives of the White Paper on an Environmental Management Policy for South Africa. As such, their aim is to achieve sustainable development through, inter alia, the prevention of pollution and ecological degradation whilst promoting justifiable economic and social development. The NWMS and the White Paper make explicit mention of MBIs and recognise MBIs as a potential solution to waste management problems.

A further policy document that has great significance for the introduction of MBIs is a report published by the National Treasury in 2006 entitled "A Framework for Considering Market Based Instruments to Support Environmental Fiscal Reform in South Africa (Draft Policy Paper). This Draft Policy Paper will be examined in more detail below.

Finally, eight years after the National Waste Management Strategy and seven years after the White Paper, DEAT has published the National Environmental Management: Waste Management Bill for public comment. The Bill provides a framework within which MBIs can be used to improve domestic waste management.

This Chapter will give a brief overview of the abovementioned policies and will discuss their relevance for the use of MBIs to improve domestic waste management.

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[54] (PMG130, PSC69 Version C of 15 October 1999)
[55] White Paper on Integrated Pollution and Waste Management for South Africa, GN 227 published in *Government Gazette* 20978 dated 17 March 2000

4.2 National Waste Management Strategy 1999

The NWMS was a significant shift for South African waste policy because it signified the turning point from when attention was focussed on pollution prevention rather than remediation. The NWMS was released by DEAT in 1999 along with six Action Plans. The NWMS is basically an action plan for the White Paper on Integrated Pollution and Waste Management for South Africa ("the White Paper"). The NWMS provides for integrated pollution control and waste management and sets out a long-term plan to address key issues around waste management through legislative and regulatory changes to pollution and waste management. The programme will take several years to complete and in the shorter term it looks at improving waste collection and treatment.

The NWMS identifies short term priority initiatives that need urgent consideration and implementation. Amongst these is a National Waste Minimisation Programme and the promotion of recycling. The Action Plan for Waste Minimisation and Recycling[56] addresses both of these issues in further detail. The Action Plan sets out four key outputs as follows:

- Introduce by 2002 regulatory instruments to promote waste minimisation and recycling
- Implementation by 2002 of a suite of financial incentives to achieve those goals
- Adoption of measures to co-ordinate implementation of waste minimisation and recycling initiatives
- Introduce an information dissemination programme[57]

The Action Plan goes further by identifying what must be done to achieve these outputs. For example, including waste minimisation targets in legislation for industrial sectors and waste generators by 2001 and providing for waste minimisation in the EIA Regulations in terms of NEMA.[58]

The NWMS provides for legislative effect being given to pollution and waste management through the promulgation of an Act.

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[56] Department of Environmental Affairs and Tourism 'Action plan for General Waste Collection' (15 October 1999) *National Waste Management Strategies and Action Plans South Africa* Version C

[57] Ibid at paragraph 3.4

[58] Ibid at paragraph 3.5

4.3 White Paper on Integrated Pollution and Waste Management for South Africa- A Policy on Pollution Prevention, Waste Minimisation, Impact Management and Remediation[59]

In March 2000, DEAT published a White Paper on Integrated Pollution and Waste Management ("White Paper") for South Africa. The White Paper is not legislation and is not promulgated in terms of the ECA, but it is the latest policy statement on waste management for South Africa. The White Paper examines how waste is dealt with and highlights the view that efforts should focus on preventing pollution and minimizing waste, rather than dealing with waste after it has already been produced.[60]

The White Paper acknowledges that **"**[W]aste management legislation is currently fragmented, unfocused and ineffective, with a resultant lack of control in all aspects of waste management. In addition, a lack of government capacity means that the enforcement of existing legislation is frequently unfocused, especially with regard to waste disposal."[61]

It also recognizes that there are unacceptable standards of waste management in rural areas that suffer from a lack of services. Further, non-payment and poor financial planning has resulted in waste services collapsing in urban communities that have always had poor quality services.[62] Some of the unacceptable practices mentioned in the White Paper are "substandard, ineffective or non-existent waste collection and street-cleaning systems, illegal dumping and littering, waste disposal sites which are poorly sited, designed and operated."[63]

The White Paper acknowledges that there is a lack of waste avoidance, minimisation and cleaner production technology initiatives, as well as a lack of regulatory initiatives to manage waste minimization. There are no incentives for reducing waste and there is inadequate resource recovery and a general lack of commitment to recycling. Furthermore, there is no legislation, policy or waste management culture that promotes resource recovery or makes it financially viable.[64]

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[59] issued by the Department of Environmental Affairs and Tourism in Government Notice 227 published in *Government Gazette* 20978 dated 17 March 2000
[60] DEAT (2006-05-19c)
[61] At 3.4.2
[62] At 3.4.3
[63] At 3.4.3
[64] At 3.4.3

Chapter 5 of the White Paper looks at Strategic Goals and Objectives of the Policy. Goal 1 is sets out as "Effective institutional framework and legislation".[65] Included in this goal is the identification and implementation of appropriate economic instruments and other financial incentives for correct pricing of environmental assets and reducing pollution generating activities. In particular, the introduction of levies on products or materials with high environmental impact, and the implementation of deposit-return schemes for refillable or recyclable containers are mentioned.

The insufficient involvement and empowerment of people is another issue that is addressed by the White Paper. This is dealt with in Goal 5 which looks at "Empowerment and education in integrated pollution and waste management".[66] The aim is to promote education and empowerment to increase awareness of and concern for pollution and waste issues. In order to achieve integrated pollution and waste management it will be necessary to develop knowledge, skills, values and commitment. As will be discussed in more detail later in this paper, this is an important factor for the successful implementation of MBIs.

The White Paper sets out various mechanisms for use to ensure the shift towards pollution prevention. These include traditional command and control approaches using regulatory instruments such as standards, permits, licenses and land use controls. It also looks to introduce more innovative MBIs such as tax incentives for cleaner production and lower waste streams, and considers voluntary agreements entered into between industry and authorities.

The difference between a tax, the purpose of which is to generate revenue, and a charge which is meant to recover costs, is pointed out. The White Paper provides that cost recovery mechanisms will be investigated as part of the NWMS. Examples of these types of MBIs that may be considered include resource charges, pollution charges input charges, and deposit refund systems. Other MBIs that are mentioned are those which would be investigated in collaboration with the Department of Trade and Industry and includes investment credits, accelerated depreciation and product/service subsidies.

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[65] At 5.2.1
[66] At 5.2.5

4.4 National Waste Management Strategy - Implementation Programme: Framework Document for Recycling May 2000

The NWMS- Implementation Programme: Framework Document for Recycling (FDR) sets out issues relating to recycling in South Africa. It points out that recycling of waste has not generally been viewed as essential to waste management in South Africa and as a result there is no mechanism for implementing and funding recycling. There is also no formal system of source separation of waste, but due to the high levels of recyclable materials arriving at landfill sites, there is widespread informal salvaging.[67] Importantly, the FDR recognises that recycling is not a "*panacea* for environmental problems" and should not be pursued to the extent that it is not cost effective.[68]

It sets out the main objectives for promoting and expanding recycling initiatives. These include the creation of jobs, a reduction of pollution and conservation of natural resources, the conservation of energy and reduction of costs in manufacturing sectors, litter abatement, the reduction of the waste stream and the reduction of scavenging on landfill sites.[69]

The FDR examines various policy instruments including both regulatory approaches as well as MBI's to achieve recycling targets. The regulatory approaches include the setting of targets for levels of recycling and for reducing the quantity of domestic waste disposed of at landfill sites.[70] Furthermore, the FDR recommends that government departments should amend their procurement policies to include specifications for recycled content thereby creating a stronger demand for recycled products.[71]

The MBIs identified in the FDR include subsidies for collection or transportation of materials; raw material charges; tax exemption for recyclers purchasing new recycling equipment; provision of low interest loans for purchase of recycling capital equipment; and landfill charges.[72]

The FDR does not in any way go into details or analyse the social, environmental or economic costs associated with recycling. It suggests that commodity producers

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[67] Department of Environmental Affairs and Tourism 'Framework Document for Recycling' (May 2000) *National Waste Management Strategy – Implementation Programme* at 2
[68] Ibid at 4
[69] Ibid at 4
[70] At 5 and 6
[71] At 7
[72] At 8

should motivate proposals for the use of MBIs in their business plans to be submitted to the government.[73] While it may give space for new ideas that government may not have thought about, it is not an ideal solution or situation and seems like a lazy way out. The government should identify those MBIs which it has given careful consideration to and which it believes will work and do well.

4.5 Polokwane Declaration

In September 2001, the first National Waste Summit meeting was held in Pietersburg, now called Polokwane, with representatives from civil society, the business community and national, provincial and local government. The outcome of this meeting was the Polokwane Declaration which was an initiative endorsed by DEAT.

The Polokwane Declaration provides South Africa with targets and timeframes for waste reduction and recycling and states a vision of zero waste for South Africa by 2022.[74] It declares that that government, business and civil society need to join in common efforts toward the reduction of waste generation by 50% and disposal by 25% by 2012. The signatories commit themselves to engage in a number of actions which have relevance to the use of MBIs. These include the following:

> '(2) Implementation of the National Waste Management Strategy.
>
> (3) Development and implementation of a Legislative and Regulatory Framework to promote waste avoidance, prevention, reduction, re-use and recycle.
>
> (9) Explore the use of economic instruments to support waste management initiatives.
>
> (10) Develop and provide the public with educative resources necessary to allow participation in the waste elimination process on an informed basis.
>
> (11) Develop Intergovernmental Capacity.
>
> (13) Establish systems that ensure that physical and financial responsibility for waste is borne by the product producers.'[75]

Of further relevance to MBIs is the fact that National, Provincial and Local Government commit themselves

> '(1) [t]o develop and implement a comprehensive legislative and regulatory framework by June 2002.
>
> (2) Implement the NWMS.
>
> (3) To build capacity within all spheres of government.
>
> (4) Promote strong intergovernmental coordination and cooperation.

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[73] At 8
[74] DEAT (2006-05-19a)
[75] At 2

(6) Explore and support appropriate economic instruments to support the NWMS.

(7) To set up a Multi Stakeholder forum consisting of national, provincial, local government.'[76]

Civil Society commits to "[p]articipate actively in regulatory mechanisms through monitoring and contributing in effective management of disposal sites."[77] The Business Community commits to "[c]omply with legislation, regulation and standards, [c]ontribute towards improved networking and information sharing" and "[e]ngage in programmes that promote responsible advertisement and labelling of products."[78]

4.6 National Treasury: Draft Policy Paper

The Draft Policy Paper sets out the role that environmentally-related taxes and charges could play to mould behaviour and generate income in such a way that it supports sustainable development in South Africa. It focuses on fiscal reform. It considers how taxes are able to contribute to revenue raising requirement and it provides a framework for assessing their potential application. It considers how to co-ordinate, harmonise and facilitate implementation.

The Draft Policy Paper is significant in that it illustrates that the Treasury Department appreciates the importance of environmental issues. It provides a starting point from which various MBIs can be considered and assessed. Most importantly, it provides a practical platform from which the shifting policy framework can begin to take effect. The Draft Policy Paper is discussed in further detail in Chapter 6 below.

4.7 National Environmental Management: Waste Management Bill, 2007

The WM Bill was published for General Comment in January 2007.[79] The WM Bill will be submitted to Parliament in July for approval and promulgation. It seeks to introduce best practice in waste management into South African legislation in order to give it a more holotistic approach.

The driving force behind the WM Bill is the section 24 Constitutional right to the environment. The focus of the WM Bill is the management of waste in the light of those

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[76] At 2.1.1
[77] At 2.1.2 (4)
[78] At 2.1.3 (3), (7) and (8)
[79] GenN 1832 of 2007, 12 January 2007 in *Government Gazette* 29487 dated 12 January 2007

Constitutional rights. Waste management is a broad topic that requires attention to detail if it is to be effective and the length of the WM Bill illustrates this. Whilst it contains a fair amount of detail, there is still much more detail, such as strategies, standards, plans, institutional arrangements and regulations, at all three levels of government, that still have to be put in place. The WM Bill makes provision for the establishment of such detail. Consequently, this WM Bill is the first step in a comprehensive strategy to put measures in place for the effective management of waste in South Africa.

In essence, the WM Bill places clear duties on national, provincial and local government to establish waste management strategies, standards and integrated plans. It sets out a wide range of powers and duties of all three levels of government, including the appointment of waste management officers. Further, it provides for a set of waste management measures, including the identification and management of priority wastes, listing and conducting of waste management activities, storage, collection and transportation of waste, recovery, re-use and recycling of waste, separation, treatment, processing, transformation and disposal, industry waste management plans, contaminated land and other measures such as producer responsibility for products.

The WM Bill contains lengthy provisions dealing with the licensing of waste management activities. It requires the Minister to establish a national waste information system, and allows for the establishment of provincial waste information systems.

Compliance and enforcement, offences and penalties and a range of general matters are also addressed. These include the promulgation of regulations by the Minister, consultative processes, delegations and exemptions, the repeal of legislation, and transitional provisions relating to the repeal of section 20 of the ECA.

The WM Bill places a duty on each person and every organisation, whether public or private, to play their part in managing waste properly. It is significant to note that the WM Bill proposes maximum penalties of fines of R10 million or imprisonment of 10 years, or both a fine and imprisonment. This is an indication of the seriousness with which the national government is approaching the issue of waste management.

Once in force, it will repeal Sections 19, 19A and 20 of the Environment Conservation Act, 73 of 1998, and will make some amendments to definitions in the National Environmental Management Act, 107 of 1998.

4.7.1 The Waste Management Bill and MBIs

The WM Bill combines command and control measures with MBIs and it gives effect to the polluter pays principle. In its preamble, the WM Bill recognises that 'the impacts of improper waste management practises are often borne disproportionately by the poor.'

In terms of Section 8(1), the Minister is required to establish national standards for various things. Section 8(2) provides that he may, in consultation with the Minister of Finance, establish national standards in respect of tariffs for waste services provided by municipalities. The optional standards can "place limitations on surplus or profit; place limitations on the use of income generated by the recovery of charges; and provide for Tariffs to be used to provide waste management infrastructure or facilities." Section 22 makes provision for information disclosure and eco-labelling.

The real regulatory tools that would have the scope to introduce and take advantage of MBIs are left to be provided for in regulations. Section 74 empowers the Minister to make regulations relating to various things including MBIs. Significantly some of the issues that the Minister has the power to deal with in regulations include setting standards, refundable deposits, setting targets, restrictions relating to the composition, volume or weight of packaging, incentives, labelling and the dissemination of information to the public.

Section 77 and 78 set out procedures for public participation and consultation. These sections of the WM Bill require an appropriate consultative process to be followed before any power is exercised in terms of the Act by the Minister or MEC. This requirement ensures that should any MBI be introduced there will be a public participation process followed first. This is important because it has been recognised that in order for MBIs to be successful they must have public support and general acceptance.

The WM Bill provides a comprehensive framework but it will take some time before all the regulations provided for are put into place. The WM Bill is a useful starting point,

but to the extent that it is only a framework, there is still a lot of detail that needs to be filled in and work to be done. There is a lot of input required at national, provincial and municipal level in order to put measures in place and to set out the necessary detail.

The WM Bill provides for a detailed framework that is administratively burdensome. Too a large extent the provisions relating to landfills overlap with the EIA regulations promulgated in terms of NEMA. The licensing provisions in Section 52 of the WM Bill and the EIA authorisations required in terms of Section 24 of NEMA, are a duplication and will lead to inefficiency, delays and confusion.

Section 30 of the Bill deals with recycling, reusing and recovery of waste. The WM imposes an onerous burden on any person undertaking these activities by requiring them to ensure that fewer natural resources are used than disposal and that the activity is less harmful to the environment, prior to undertaking those activities. The problem with this is that it is not always possible to calculate this or to determine accurate answers to these provisos.

The WM Bill provides for very wide exemptions in section Part 3 of Chapter 8, entitled Delegations and Exemptions. Section 80 to 83 contain broad, open ended provisions in terms of which an applicant can be exempted from any obligation of the WM Bill. This not only gives rise to potential abuse but also defeats the aim of the WM Bill.

It is problems such as those mentioned above that act as disincentives for the pursuit of waste management goals. There is not much benefit in introducing MBIs and other instruments to encourage the achievement of waste management goals if there are larger more general obstacles in place that will detract from the benefits of MBIs and diminish their allure.

4.8 Conclusion

Both the NWMS and the Draft Policy Paper[80] recognise the generally accepted hierarchy of waste management that is used to guide management practices. It is based on the idea that prevention is better than cure and it makes sense to prioritise the avoidance and minimisation of waste as most desirable before treatment and disposal. This is already a major change from the current end of pipe approach.

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[80] At 75

There above analysis indicates that there is a change in the policy relating to waste management, albeit a very slow change. The new policies all look at MBIs as an important tool for waste management and recognise the important contribution that MBIs can make.

While the WM Bill lays the foundation to put these policies into action and to introduce MBIs, it by no means goes into any kind of detail to secure their success. Once enacted the WM Bill will provide a comprehensive framework and set norms and standards for waste management. But to achieve the desired outcome of a reduction in the production of waste and an increase reuse and recycling it remains to be seen whether the framework will be used to its full advantage and which MBIs, if any will be made use of. The next Chapter will examine MBIs in more detail.

CHAPTER 5 MBIS AS A POTENTIAL SOLUTION

5.1 Introduction

In general, the use of MBIs internationally is steadily increasing. Since 1995, international organisations such as the World Bank and the Organisation for Economic Development[81] (OECD) have participated in providing funding and expertise for environmental protection efforts in developing countries, including initiatives on MBIs in Latin America, the Caribbean and Eastern Europe. The OECD has been particularly active in promoting and assessing the use of MBIs worldwide and has published various studies in this regard. Looking at OECD countries, environmental taxes and similar instruments are widely used and these taxes comprise approximately 2% of GDP and about 5.5% of total tax revenue across the OECD.[82]

Waste management covers a range of different issues and as a result there are opportunities for the use of a number of different MBIs to contribute towards improved waste management. Deposit-refund systems, product levies, differential charging and disposal taxes are all potential ways of resolving problems relating to domestic waste management, if implemented correctly. Results from other countries show that MBIs can reduce the environmental costs associated with waste and can encourage a more "resource efficient" economy.[83]

This Chapter will look at some general trends with regard to MBIs and then examine MBIs in detail, focussing on those that can contribute towards improving domestic waste management. The benefits of MBIs and their potential weaknesses will also be addressed.

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[81] The OECD is committed to democratic government and the market economy. It has 30 member countries including Austria, Belgium, Czech Republic, Denmark, Finland, Germany, Hungary, Iceland, Ireland, Japan, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom, and the United States. It has global reach through its relationships with some 70 other countries and economies, NGOs and civil society. The OECD is best known for its publications and statistics, and its work covers economic and social issues. www.oecd.org

[82] Whitten, S, van Buren, M and Collins, D 'An Overview of Market-based Instruments and Environmental Policy in Australia' (2003) at 8 http://www.ecosystemservicesproject.org/html/publications/docs/MBIs_overview.pdf

[83] Schemmel at 148

5.2 International Policy Framework

South Africa is party to a number of International Conventions and Treaties that deal with environmental issues and with sustainable development in particular. These conventions reflect international consensus on the core principles of environmental protection and sustainable development. The concept of MBIs as a tool to achieve environmental goals has been present in international discourse for some time and many of these conventions explicitly refer to MBIs as a tool that should be used to address environmental problems. For example, Principle 16 of the Rio Declaration states that:

> '[n]ational authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.'[84]

The United Nations Agenda 21 of 1992 also refers to MBIs and states in Chapter 21 that "[g]overnments are encouraged to apply economic and regulatory instruments… to support the principle that generators of waste pay for their disposal."

The spotlight has been on MBIs for a number of years now, especially since emissions trading and environmental taxes have been applied in the USA with success. Development banks and environmental think tanks have also recommended MBIs as being cost effective and environmentally efficient.[85]

5.3 International trend away from Command and Control

Traditional regulatory tools such as permits, standards and regulations that rely on administrative enforcement are commonly referred to as command and control measures. Under command and control regulation "the government creates specific obligations and generally relies upon the negative incentives of civil and criminal penalties to motivate individuals or organizations to comply with these obligations." [86]

For various reasons there is an international movement away from using only the traditional regulatory methods of command and control. Some of the criticisms against command and control measures include the fact that they are not conducive to

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[84] Principle 16, Rio Declaration on Environment and Development, United Nations 1992
[85] Shuwen at 619
[86] Malloy, T 'Regulating by Incentives: Myths, Models, and Micromarkets' (2001-2002) 80 *Texas Law Review* 531 at 531

flexibility or towards accommodating change. Setting standards takes time and is often a laborious process. As a result, a real concern is that by the time new standards are issued, they may no longer be appropriate. Further, changing or adjusting standards frequently leads to uncertainty for industry.[87] Accordingly, command and control regulation can be difficult to administer[88] and imposes an excessive responsibility on government.[89] Thus, in many developing countries, the effectiveness of command and control regulation is undermined by capacity constraints.[90] Furthermore, monitoring and enforcing direct regulation can be costly. [91]

Another problem is that regulations are often inflexible in their application and do not cater for geographical, sectoral or individual differences.[92] This means it can often result in inequitable effects because the same standard applies to everyone but the cost of implementation is different for different people.[93] Furthermore, regulations do not resolve 'the problem of market failure to account for the use of environmental goods and services such as soil, air, water, fauna, flora and broader ecosystems.'[94]

Command and control regulations generally focus on an end of pipe approach to controlling rather than influencing behaviour before the event. For example, imposing fines, creating standards and issuing permits are all actions that either allow undesirable behaviour to occur or are imposed after the undesirable event has already occurred. They do very little to change behaviour from the outset.

Command and control measures are seen to hamper technological innovation because they set pre-determined standards for technology or for pollution. As a result there are no financial incentives for business to do anything over and above the predetermined level set for targets.[95] Similarly, set technological or design specifications that are rigid may prevent a company that is reluctant to not strictly comply with the law, from

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[87] Shuwen at 634
[88]Henderson, P 'Fiscal Incentives for Environmental Protection –Introduction' (1994) 1 *South African Journal of Environmental Law and Policy* 49 at 51, Faruqee at 8
[89] Kidd at 27
[90] Paterson, A 'Pruning the Money-Tree to ensure sustainable growth: Facilitating Sustainable Development through Market Based Instruments' (2006) 2 *Potchefstroom Electronic Law Journal* 1-21 at 2
[91] Faruqee, R 'Using Economic Policy to Improve Environmental Protection in Pakistan' (1997) World Bank Policy Research Working Paper No WPS1757 at 8
[92] Paterson at 2
[93] Faruqee at 8
[94] Paterson at 2
[95] Faruqee at 8

adopting non-approved or non-stipulated technology even if it is environmentally superior. It is for this reason that command and control regulations stifle innovation and development of new technologies that could benefit pollution control and waste management.[96] This lack of innovation is a draw back particularly from a long term perspective.

A further criticism of traditional regulatory regimes is that often the financial benefits of non-compliance out weigh the risks of non-compliance.[97] Command and control regulation is always exposed to the chance that companies may be content to take the risk of being caught knowing that there is a lack of resources for effective enforcement or that fines are not high enough to create a disincentive for non-compliance.

All of the abovementioned problems relating to command and control regulation have led to a growing interest in MBIs.

5.4 Theoretical underpinnings

MBIs have been receiving increasing attention and are widely recognized as tools with a lot of potential for contributing substantially towards environmental protection. The purpose of MBIs is to "cure market failure caused by externalities which occur when environmental costs are incurred without payment".[98] Fiscal measures such as subsidies, taxes and user charges make use of markets and prices that already exist in order to improve environmental outcomes. They aim to internalise environmental costs and benefits that were previously un-priced by incorporating them into price structures.[99] In this way MBIs decrease externalities and put the polluter-pays principle into practice.[100]

For these reasons MBIs are referred to as regulations that 'encourage behaviour through market signals rather than through explicit directives regarding pollution control levels or methods.' These policy instruments are often described as harnessing market

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[96] Stavins, R 'Experience with Market-Based Environmental Policy Instruments' (2001) *Resources for the Future* at 2

[97] Pirozzi, E 'Compliance Through Alliance: Regulatory Reform and the Application of Market-Based Incentives to the United States-Mexico Border Region Hazardous Waste problem' (1997) 12 *Journal of Environmental Law and Litigation* 337 – 370 at 360

[98] Kidd, M 'Alternatives to the Criminal Sanction in the Enforcement of Environmental Law' (2002) 9 *South African Journal of Environmental Law and Policy* 21 – 50 at 29

[99] Draft Policy Paper at 44

[100] United Nations 'Integrating Environmental Considerations into Economic Policy Making Processes' *Economic and Social Commission for Asia and the Pacific (ESCAP)* http://www.unescap.org/DRPAD/VC/reception/reception.htm

forces because they encourage firms to undertake pollution control efforts that are in their own interest but will also meet policy goals.[101] Examples of these instruments are tradable permits, pollution charges, product subsidies, fiscal incentives.

With regard to improved domestic waste management, government intervention through the introduction of MBIs, facilitates the potential for markets to promote and administer recycling initiatives. For example assisting by removing obstacles that are preventing the achievement of efficient recycling levels.

Taxes can be used to achieve a variety of outcomes such as curing market failure, raising revenue and to modify behaviour in order to achieve environmental outcomes.[102] The types of taxes that could be used to improve management of domestic waste would include accelerated depreciation allowances schemes where taxpayers can write-off the value of fixed assets such as machinery and buildings used for specified purposes relating to recycling activities or waste minimisation technology, over a shorter time period than would normally be the case. This financial benefit would act as an incentive for business to invest in certain technology and to start up recycling initiatives.[103]

MBIs that can contribute to improved domestic waste management are aimed at reducing waste production, providing incentives for recycling, recovering the full social costs of waste disposal, and providing funds to initiate recycling.[104] These MBIs serve two functions, encouraging waste reduction and increasing the recycling or reuse of certain materials.[105] Examples of these types of MBIs include waste taxes, such as landfill taxes, that aim to reduce the production of waste, taxes on packaging or products that reduce their use and/or recover their disposal costs, deposit-refund systems, "pay-as-you-throw" schemes that charge households for the collection of domestic waste, and government grants and subsidies, for transportation, infrastructure and/or recyclable goods, that stimulate the market for recycled products.[106]

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[101] Stavins at 1
[102] Henderson, 'Fiscal Incentives for Environmental Protection – the way forward' (1995) 2 *South African Journal of Environmental Law and Policy* 151
[103] Paterson at 17
[104] Schemmel at 148
[105] Ibid at 148
[106] Ibid at 148

5.5 Types of MBIs

This section will examine six MBIs that have relevance for domestic waste management in South Africa. These are product tax, disposal tax, variable rate pricing, deposit refund systems and eco-labelling.

5.5.1 Product Tax

This involves taxing a particular product in order to reduce the demand for that product and thereby the amount of waste generated. This type of tax can be imposed on a variety of goods such as tyres, packaging, electronic equipment, batteries, fluorescent tubes, glass, paper and cardboard.

The source of externality is important to take into account when considering product taxes. For example, it is not always the use of the product that is a cost to the environment but rather the disposal of the product that has a cost to the environment that is not factored into the price of the good.

5.5.2 Disposal Tax

Disposal taxes are another type of MBI. These would occur in the final stages of the waste management hierarchy. The basic idea behind this instrument is that by making particular disposal methods or the disposal of particular products more expensive one would encourage other more desirable outcomes higher up in the hierarchy such as avoidance, minimisation and recycling.

An example of this is the Chinese system of pollution charges was implemented in the early 1980's. It was a system of taxes aimed at controlling water effluent, air emissions, solid waste and noise from industry. The system is similar to non-compliance fees because it imposes taxes only on those units of emissions that are above specified standards, thereby providing an incentive for industry to comply with environmental standards.[107] The tax revenue is then used as a further incentive by being put into an environmental fund which is used to subsidise investments by industries in pollution abatement technology. A firm can claim back up to 80% of its tax

[107] Draft Policy Paper at 51

payments to subsidise a proposed investment. The tax remains effective by also imposing penalties which are not available for claims through the subsidy system.[108]

It has been claimed that the system has been effective in reducing the overall pollution intensity of Chinese industries, although it has had varied success in different regions due to different level of enforcement.[109]

5.5.3 Differential Tariffs / Variable Rate Pricing

The municipal solid waste (MSW) stream reflects decisions made by product and packaging manufacturers, consumers, households, waste processors and municipalities. All these parties are involved in determining and influencing behaviour that determines what will end up in the waste stream.[110] Variable rate pricing has been successful in many communities in the USA as a means of decreasing the volume of waste being taken to landfills. Variable rate pricing can be implemented by using metered bags or tags, or subscription containers. In contrast to flat fees, it provides a clear pricing signal to households and can accordingly lead to source reduction and increased recycling participation. It also influences consumer behaviour, which will cause producers to respond with reduced packaging products. This system has reduced waste and encouraged recycling in various cities in the USA.[111]

Studies have shown that curbside service has the greatest impact on recycling participation. Unit pricing has been touted as way for municipalities to encourage higher recycling participation and reduce household waste generation.[112] However, its overall economic impact, taking into account operational costs and adverse impacts, are not certain. Bearing in mind that most communities and municipalities want to reduce waste and increase recycling, the issue of whether or not it has a favourable cost-benefit ratio may be less important than the end result. It may still be the most cost effective way of achieving the goal. In the USA at least, this approach to MSW

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[108] Ibid at 51
[109] Ibid at 51
[110] Menell at 5-6
[111] Reschovsky, J and Stone, E 'Incentives to Encourage Household Waste Recycling: Paying for What You Throw Away' *Journal of Policy Analysis and Management,* 13:1.
[112]Reschovsky and Stone at 13:1.

management has become accepted and is expected to expand and become more sophisticated over time. [113]

In the USA, the total cost of disposal has declined in many cities and concerns regarding an increase in illegal disposal were largely unfounded since instances of illegal disposal have been modest and manageable. Ultimately the majority of communities have embraced variable price rating. It must be noted that it is most suited to suburban communities where it is easier to implement, although there has been success in large cities.

There are many similarities between the MSW crisis that USA found itself in in the early 1990's and South Africa's current situation. For example, many Americans either did not care about or were too lazy to protect the environment. The marginal cost to households to deposit their waste in landfills was effectively zero, whereas the cost to recycle or reduce waste was positive. It takes time and effort to separate recyclable goods and to transport them to a recycling depot. Another similarity is that most households paid for their waste disposal through property taxes and the cost per household was the same regardless of how much or what they deposited. There was also the issue of the time and effort involved to find recycling facilities.[114]

The solution to the waste crisis in the USA was to impose the cost of waste disposal on consumers and households. This was done by charging households either for the weight or the volume of waste while providing a free curbside collection of recyclable and compostable waste. This type of system has various different ways of working and is referred to either as unit-based pricing, variable rate pricing or "pay-as-you-throw".[115]

Ultimately, the aim is to confront consumers with the full benefit and costs of their choices. It may take some time but eventually consumers would take into account the various costs and benefits and would alter their behaviour and separate waste and change their demands for products and packaging. These market signals would then

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[113] Menell, 'An Economic Assessment of Market-Based Approaches to Regulating the Municipal Solid Waste Stream' (September 2004). UC Berkeley Public Law Research Paper No. 588541 at 4
[114] Menell at 3
[115] Menell at 4

be taken into account by product and packaging manufacturers who would have incentives to change.[116]

Eventually one would be able to achieve an efficient market where consumers would be responding to real costs such as the availability and costs of raw material, the salvage value for recycled material, landfill and incineration fees, and collection fees. As these values changed, so too would consumer behaviour.[117]

While variable rates alone may have only a minor impact, a combination of unit fees, curbside service, and mandatory recycling would be an effective way of ensuring maximum participation.[118]

The economic viability of recycling is largely dependant in the consistent availability of homogenous supply of waste. The role of households in diverting waste from landfills by separating it is critical because separating waste after collection is costly.[119] If waste is separated for recycling and reaches recycling operations then often the cost of reprocessing those materials is less than the cost to manufacture raw materials.[120]

In South America, recycling of ferrous materials, paper and plastic is well-established. Wholesalers collect the material from informal collectors and from firms and then sell it onto recycling companies. Collection happens mostly at the curbside and at dumping sites. Municipal programs that support cooperatives of collectors have become common in major Brazilian cities and this has led to improved efficiency for collection and better health conditions.[121]

Similarly to South Africa, Chilean regulations stipulate that municipalities are responsible for waste collection and disposal and a national ministry is responsible for enforcing compliance with technical norms for the management and operation of landfills. Many municipalities choose to contract the collection and transportation of solid waste to private companies. The cost of domestic solid waste removal is recovered partly through a flat fee collected by the municipality. As is the case in

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[116] Menell at 10
[117] Menell at 11
[118] Reschovsky and Stone at 13:1.
[119] Menell at 6
[120] Menell at 6
[121] Huber et al at 28

South Africa, the construction of a landfill is subject to EIA in order to obtain authorisation.[122]

The only viable option for waste disposal in Chile is through landfills but there are two major problems in this regard. Firstly, existing landfills are at full capacity and secondly, there are a number of illegal dumping sites that do not comply with minimum health regulations. New landfill sites are planned for construction north and south of Santiago in order to address to disposal problem. However, these have been strongly opposed by the neighbouring communities because of the external costs that will be borne by those closer to the sites. The costs include depreciating property values, health and sanitary risks as well as the inconvenience and nuisance of smell and flies. [123]

A reduction in the generation of domestic solid waste is the most desirable solution and a number of MBIs could be used to achieve this. Two of these are set out as follows:[124]

1. The implementation of a variable fee for waste collection and disposal that will be determined by volume or by weight. This will serve as an incentive for the reduction of waste generation. This measure would involve collecting data at the household level and improving controls over illegal dumping. Administrative costs should be compared to the benefits of correcting the existing price distortions resulting from the flat fees.

2. Creation of a compensation mechanism for the municipalities that bear the internal environmental and social costs of housing the landfills. These municipalities are in fact subsidising waste disposal for all the other municipalities that make use of the landfill. A direct tool would be to charge all the other municipalities an extra fee for disposing their waste at the landfill and this in turn would lead to higher household rates for those homes.[125]

The controversial issue of locating landfill sites due to their negative externalities is something that is very relevant for South Africa. The reduction of generation is waste is similarly an important goal. The issue of creating some kind of compensation

[122] Huber et al at 52 - 53
[123] Huber et al at 51
[124] Huber et al at 53
[125] Huber et al at 53

mechanism for municipalities in which landfills are placed is an especially interesting option and one that should be welcomed in the South African situation where landfills sites are generally located in poorer areas and as a result affect poorer communities that bear the burden of having to put up with them. If the municipalities could generate income from compensation received for having to host them, this income could be used for other pollution control measures within their boundaries.

MARKET FRICTION / MARKET CREATION / FINAL DEMAND INTERVENTION

There is a range of ways to categorise MBIs and different sources vary widely in the way they group of MBIs. There is a large degree overlap between the categories depending on which aspect of the MBI one focuses on. Market friction, also referred to as market creation or final demand intervention refers to a category of MBIs that are designed to induce behavioural changes in consumers as a result of making existing private markets work better. Responses to market friction are not as certain as other MBIs and tend to only show results over the longer term.[126] A further downside to many of these types of interventions is that they often require some type of subsidy.[127]

Examples of market friction tools include reducing market barriers, education programmes and awareness building relating to recycling and reuse, eco-labelling, legislation requiring disclosure of information from manufacturers relating to their waste generation and blacklisting of polluters, tradable permits, user charges, subsidies and deposit-refund systems.

Two types of MBIs that fall into this category and that are relevant for domestic waste management are discussed below. These are deposit-refund systems and eco-labelling.

5.5.4 Deposit Refund Systems

A deposit-refund system refers to the practice whereby a deposit is paid upon purchase of a product and when it is presented for recycling a refund can be redeemed by the consumer. The aim is to create an incentive for consumers to return certain goods for recyling or proper disposal. This system doesn't directly reduce waste but it is a means of increasing recycling and decreasing litter or waste that is ultimately sent to landfills.

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[126] Whitten et al at 4
[127] Huber et al at 16

Deposit-refund systems have been identified as being most suited to products that are easy to identify and to handle, are recyclable, require careful disposal (such as batteries) and where cooperation between producers, retailers and consumers is feasible.[128]

Internationally, deposit-refund systems have been successfully applied to a much wider variety of products than in South Africa. Products such as batteries, reusable chemical containers, and car parts have all been involved in deposit-refund schemes in other countries.[129]

Beverage container deposit-refund systems are one of the most common examples of this. The effectiveness, including cost effectiveness of beverage container deposit–refund systems has had limited analysis. A few studies have indicated that "social desirability depends critically on the value of the time it takes consumers to return empty containers and the willingness to pay for reduced litter."[130] Deposit-refund systems may result in a net welfare loss rather than a gain because it requires consumers to separate containers and deliver the to redemption centres.[131]

A deposit-refund system only applies to a small part of the waste stream and imposes costs on households, retail business, beverage manufacturers and distributors to administrate the return and payment for empty containers. The costs involved in deposit-refund systems comprise of storage, transportation and time costs for the consumer and the costs that shops or redemption centres incur in order to have staff to administer refunds to consumers.[132] Deposit-refund systems are criticised for being expensive in terms of administrative and compliance costs and it seems that in other countries the number of private sector programmes have begun to declined. [133]

Another criticism of deposit-refund systems is that policies aimed at achieving the polluter pays principle, such as waste-end fees, cause the cost of legal disposal to

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[128] Draft Policy Paper at 77
[129] Draft Policy Paper at 77
[130] Stavins at 11 (Porter 1978)
[131] Stavins at 11
[132] Menell at 9
[133] Draft Policy Paper at 77

increase. Accordingly, these types of policies may result in the unintended consequence of creating an incentive for illegal disposal.[134]

The solution to this is a deposit-refund system whereby an upfront charge or deposit is combined with a refund that becomes payable when the good is returned for recycling or proper disposal.[135] It is widely recognized that this type of deposit-refund system is most appropriate when both the incidence and consequences of improper disposal is great.[136] This system will reduce illegal disposal and increase recycling rather than lead to a general reduction and production of waste.

One way of reducing the costs is the reverse vending machines that are in some areas of the USA. The vending machines can be found at shopping centres and recycling centres. These machines allow consumers to return goods and then provide the consumer the relevant refund. The machines are able to identify a range of products by scanning bar codes and are able to sort the material. These machines count for 30% of redemptions in the USA.[137] The viability of the machines in South Africa would have to be assessed taking into account the establishment costs and other factors such as crime.

Most countries have voluntary deposit-refund systems for returnable glass bottles as a result of the influence of the beverage and beer packaging systems. In both Brazil and Venezuela have increasing refund payment for aluminium cans as a result of their high value-added from recycling and their increasing use.[138]

Voluntary deposit-refund systems can be seen as easy solutions MBIs because there are low legal, institutional and political barriers for this instrument and they can count on private participation and public support. Any kind of compulsory system for consumers and companies will probably be more difficult because of legal and political barriers and because the resultant need for monitoring would be a constraint. There is however an example of a compulsory system in Mexico where car batteries are part of a compulsory deposit-refund scheme. A new battery can only be sold through the

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[134] Stavins at 10
[135] Stavins at 11
[136] Bohm, Russel and Macauley, Bowes and Palmer cited in Stavins at 11
[137] Menell at9
[138] Huber et al at 28

return of an old one. As yet, there are no assessments of the results of this programme.[139]

5.5.5 Eco-Labelling

Eco-labelling refers to a practice whereby a particular environmental standard is determined and then companies who meet the standard can then can label or advertise their products as complying with the standard. Eco-labelling is powerful tool to encourage change because those who meet the standard and qualify for the labelling, gain an immediate advantage in the market place. Consumers around the world are becoming more environmentally aware and are interested in making a contribution where they can.

The provision of accurate information on products, relating to recyclability or cost of disposal allows consumers to choose between products. The population may well be willing to pay slightly more for recyclable products or may be less inclined to buy products with high costs of disposal. If this information is not available then there is no means for it to result in higher prices or for it to influence consumer behaviour.[140]

Eco-labelling has been used in Australia with success for the Banrock Station wines. The marketing campaign hinges on the fact that the properties are managed in an environmentally responsible manner and that a portion of each sale is returned to various wetland conservation projects around the world. The marketing campaign has been deemed a huge success with sales reaching targets well ahead of projected forecasts.[141]

With regard to waste management in the South African context, eco-labelling could be used in the same way that aerosol products are labelled CFC free or tuna that is dolphin friendly. A new standard for minimum packaging, recyclable packaging or minimised waste creation in the production process could be developed. Products that are then compliant with the standards for environmentally sound packaging could be labelled and marketed as such.

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[139] Huber et al at29
[140] Huber et al at 53
[141] Whitten et al at 14

A nationwide advertising initiative would make people aware of this standard. In order for eco-labelling to be successful, consumers must be responsive to marketing and advertising campaigns that illustrate that the product is linked to an environmental outcome that is positive. This would usually require some kind of accreditation or achievement of a generally accepted standard. Taking the Australian example, it could also work by having a reputable Waste Management Authority or Organisation permit the use of their logo for those products that meet certain requirements.

When promoting eco-labelling both the demand side and supply side should be encouraged. Demand side is to encourage the public to purchase goods with green labels or to prefer to buy goods from companies that comply to certain standards. On the supply side companies and producers should be encouraged to comply with international environmental standards and the government could provide assistance in the compliance process.

5.6 Potential value of MBIs

MBIs can be used to encourage environmentally-beneficial behaviour because they take advantage of the price mechanism to more accurately reflect externalized environmental costs of production and/or consumption of common goods and thereby correct related market failures.[142] In this way, MBIs "attempt to align private costs with social costs to reduce externalities"[143]

MBIs are often touted for their cost effectiveness[144] because in theory they create a framework for pollution cleanup to be realised at the lowest overall cost to society, by 'providing incentives for the greatest reductions in pollution by those firms that can achieve those reductions most cheaply.'[145]

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[142] Kidd at 29

[143] Panayotou, T 'Economic Instruments for Environmental Management and Sustainable Development' (1994) Paper prepared for the United Nations Environment Programme, *Environmental Economics Series* Paper No. 16

[144]Winstanley, T 'South African Laws and Policies which Influence the Adoption of Clean Technology' (1998) 5 *The South African Journal of Environmental Law and Policy* 269- 297 at 294, Shuwen, J at 619, United Nations 'Integrating Environmental Considerations into Economic Policy Making Processes' *Economic and Social Commission for Asia and the Pacific (ESCAP)* http://www.unescap.org/DRPAD/VC/reception/reception.htm, Faruqee, R 'Using Economic Policy to Improve Environmental Protection in Pakistan, Policy Working Paper 1757, The Huber et al at 8, Stavins at 31, Whitten et al at 2, Breger et al at 474-5, Faruqee at 8, Bowles et al at 209, Ackerman and Stewart at 171

[145] Stavins at 2

However, MBIs costs effectiveness is debated, and some sources say that MBIs are not necessarily less expensive than command and control tools, but because they take advantage of powerful cost-benefit motivations they have the ability to produce better results from business and individuals.[146]

In contrast to command and control regulation, MBIs provide incentives for companies to find cheap and more effective technologies thereby encouraging technological innovation.[147] For this reason, MBIs or incentive based regulations have been described as creating an opportunity rather than creating an obligation.[148] This is because it makes use of the profit motive as a tool. While command and control measures tend to use legislative or administrative regulations to determine the quality and quantity of technologies used by companies, MBIs improve environmental outcomes by using the market to alter prices and achieve their goals. As a result, from an economic perspective, MBIs are seen to be more efficient.[149]

The role of government is supposed to be much smaller because it establishes the framework of economic incentives and then "gets out the way".[150] "A strong market-based instrument decentralizes decision-making to a degree that the polluter or resource user has a maximum amount of flexibility to select the option that minimizes the social cost of achieving a particular level of environmental quality".[151]

Furthermore, it is generally assumed that MBIs are more efficient at achieving desired outcomes than command and control measures because a regulatory body has limited capacity and information, and is therefore less likely than an eager entrepreneur to identify regulatory investments.[152] Regulatory bodies are not focussed on profit maximisation and are less driven than profit-hungry entrepreneurs. Leaving the initiative in the hands of business instead of regulatory bodies thereby results in greater efficiency.

There is also a political and economic advantage that stems from the innovation that is encouraged by MBIs. The reduced costs that result can shrink the perceived mutual

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[146] Huber et al, at v and 1
[147] www.unescap.org/DRPAD/VC/orientation/M5_3.htm, Breger et al at 476, Malloy at 539-542
[148] Malloy at 531
[149] Draft Policy Paper at 44
[150] Malloy, T at 535
[151] Huber et al at 11
[152] Malloy at 537

exclusivity of environmental quality on the one hand and economic impact on the other.[153] In this way MBIs can smooth the way for improving environmental standards while also allowing for continued economic development. Furthermore, MBIs can be used as a method of generating revenue for government.[154]

MBIs encourage firms to undertake pollution control efforts that are in their own interests and also collectively meet policy goals.[155] When MBIs are used, "responses to changes in technology or economic conditions are spontaneous and decentralised. This relieves the regulator of a large administrative burden and gives firms the freedom to react to changes in an economically rational manner."[156]

MBIs have proven to be popular and have created a lot of debate and drive for change, however, they have by no means replaced the conventional command and control approach to environmental regulation. Further where MBIs have been used, they have not always performed as expected for a number of reasons.[157]

MBIs have important theoretical advantages over command and control, but in practice domestic conditions have a huge degree of influence over their success. Issues such as corruption and weak environmental protection agencies are both considered factors that recommend the use of MBI's over command and control. However, one cannot say that in general MBIs should be used over and above command and control because there is a wide variety of MBIs and attention needs to be paid to each one to determine whether the conditions for successful implementation are present.[158]

5.7 Potential Weakness of MBIs

The World Bank has published a Discussion Paper that examines MBIs and command and control measures in 11 countries in Latin America and the Caribbean. The importance of local authorities and the role that they play in the implementation of MBIs is stressed and ultimately it is found that MBIs are heavily reliant on institutional

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[153] Malloy at 541
[154] United Nations 'Integrating Environmental Considerations into Economic Policy Making Processes' *Economic and Social Commission for Asia and the Pacific (ESCAP)* http://www.unescap.org/DRPAD/VC/reception/reception.htm
[155] Stavins at 1
[156] Shuwen at 635
[157] Stavins at 40
[158] Shuwen at 619

capacity.[159] These lessons and recommendations are extremely relevant for South Africa.

The World Bank Discussion Paper debunks the myth that MBIs can somehow be a miracle cure or ready substitute for command and control regulatory measures that are outdated or inefficient. The reality is that, similarly to command and control measures, MBIs too require 'strong institutions, adequate legislation and effective monitoring and enforcement.'[160]

In Latin America and the Caribbean MBIs have been widely used to raised revenue while other objectives such as environmental benefits, or reducing the costs associated with regulations have not been the subject of focus nor attained.[161] Further factors contributing to the limited success of MBIs has been poor public awareness and also a degree of uncertainty. The resultant weak participation serves as a major hindrance to the speedy rolling out of complex MBIs.[162]

One of the main functions that MBIs serve is to collect revenue, but this on its own is not enough to ensure good environmental management. It is critical that the revenue is then 'channelled to local authorities so that they can build the institutional capacity required to effectively implement MBIs.'[163]

It is often emphasized that in fact MBIs are not independent from the institutions that they effect. Weak sanctions and a lack of enforcement will result in limited success for MBIs. In order for MBIs to be effective they require regulatory measures, monitoring and enforcement.[164] In contrast, technology standards appear to be easier to enforce because they only require the observation of the installation of the required technology rather than requiring continuous monitoring or measurement.

Jamaica, Barbados, Mexico and Chile are all contemplating introducing waste-volume and landfill-tipping fees. Experience from Venezuela shows that waste-volume and

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[159] Huber et al
[160] Huber et al at 1
[161] Huber et al at 1
[162] Huber et al at 1
[163] Huber et al at vii,
[164] Draft Policy Paper at 44, Stavins at 42

landfill-tipping fees require strong institutional capacity to monitor waste volumes coming from households and firms and to restrict illegal dumping.[165]

An important warning for MBI use is that 'the scope of MBIs must match countries institutional capacity to implement them.' This is especially relevant advice for South Africa and even more so considering that it is local authorities who are ultimately the bodies upon whom responsibility for implementation falls.

South African local authorities are well known for their lack of capacity and resources and in the last few years the issue of poor service delivery has received a lot of media attention. The main challenge for local authorities is the extra-institutional burden that results from MBIs where additional administration efforts are necessary to deal with design and institutional changes that result from the application of MBIs.[166]

Even though the Latin American countries surveyed had measures in place for MBIs such as legislation that provided for the use of economic incentives and established environmental institutions, various factors falling within the broad category of institutional weakness, such as insufficient funding, inexperience, unclear jurisdiction and a lack of political will, all imposed constraints on the effective implementation of MBIs.[167]

MBIs have been seen as a failure in Central and Eastern Europe, where not enough attention was given to the institutional and social constraints.[168] China too has been warned against wasting resources to implement sophisticated MBIs that are too advanced for it's current conditions and has been advised that would be better to focus on fine tuning systems that are already in place rather than implementing from scratch a resource intensive policy such a permit trading.[169]

One of the reasons for the mixed performance of MBIs that is unrelated to their design is the ability of companies to make use of them. Companies may not have the skills base needed to make the most of the flexibility provided by MBIs because they have been focused on technological compliance within a prescriptive regulatory setting. As a

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[165] Huber et al at 28
[166] Huber et al at1
[167] Huber et al at1
[168] Bell, R 'Are Market-Based Instruments the Right Choice for Countries in Transition?' *Resources,* Winter 2002, Issue 146 at 10 - 14
[169] Shuwen, at 619

result they may simply not be well-equipped internally to make decisions that take advantage of the opportunities offered by MBIs. Due to the fact that MBIs are relatively new and are limited to a small area of application there is some uncertainty within firms whether or not MBIs will be a lasting tool in the regulatory framework. Accordingly, companies may not allocate resources to take advantage of MBIs and continue to have experience in making use of command and control regulations to minimise costs and risk, rather than making strategic decisions allowed by MBIs.[170]

5.8 Conclusion

It is widely accepted that MBIs and regulatory tools are not mutually exclusive and can be integrated and should be used in combination with one another.[171] While some authorities believe that MBIs are weaker for being 'bolted onto' existing legislation, others have found that MBIs are an 'important means to introduce added efficiency to existing command and control mechanisms.'[172]

Gradualism and flexibility appear to be the two of the most important factors for the successful implementation of MBIs. Furthermore, information-sharing and information-building were identified as being necessary to remove legal and political barriers and to encourage intra and inter-governmental integration and public participation.[173] These are very relevant lessons for South Africa to take heed of.

In general, developing countries have a poorer track record when it comes to regulatory enforcement and because MBIs were seen to be less expensive and require less enforcement they were seen as a miracle cure. Over time certain lessons have been learnt and studies have shown that there are certain conditions that are necessary for MBIs to be successfully used in developing countries. These conditions will be looked at in more detail in Chapter 6 below which will also examine to what extent these factors and others exist in South Africa in order for MBIs to be effectively implemented in the regulatory regime dealing with domestic solid waste management.

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[170] Whitten et al, at 5, Stavins at 42-3, Malloy at 538
[171] Pirozzi, E at 338, ECAO http://www.unescap.org
[172] Huber et al at vii
[173] Huber et al at v

CHAPTER 6 APPLICATION OF MBI FOR DOMESTIC WASTE MANAGEMENT IN SOUTH AFRICA

6.1 Introduction

It has been seen from the above Chapters that there are various strengths and weaknesses of MBIs as well as certain factors that are deemed to be prerequisites for their success. This Chapter will look at the application of deposit-refund systems, product tax, disposal tax, differential charging and eco-labelling which are all potential tools for the domestic waste management regulatory regime in South Africa. Taking into consideration the opportunities and constraints, potential areas for reform will be identified and discussed.

6.2 Current role of MBIs in South Africa

Currently there are very few MBIs being used to achieve environmental outcomes in the waste management sector. There are various deposit refund systems in place for beverage containers and glass and the plastic bag regulations are the only product tax in force. As discussed in Chapter 3 above, the plastic bag regulations are in place to raise funds for recycling rather than to change behaviour.[174] However there is a certain amount of controversy around this because it is claimed that to date the fund has not been effective in achieving its goals of promoting the recycling of plastic waste.

Buyisa-e-Bag is only just starting up and it is involved in the collection, reuse and recycling of plastic bags. It is also involved in collecting litter from environmentally sensitive areas. The company also aims to create job opportunities in the buy-back centre business initiatives.

Currently, recycling is barely sustainable in South Africa and there are few immediate benefits or incentives for people to recycle. A system that relies on scavengers to collect recyclable waste and Good Samaritans to collect and drop off their recyclables does not create a big enough market. There is a need for the development of financing mechanisms for waste management at local government level and this is where MBIs

[174] Draft Policy Paper at 38

have an important role to play. There is also the challenge is to create markets for recyclables.

There have been a few a few pilot projects run by municipalities calling for domestic waste separation and recycling but these have been voluntary and not enforced in any way or encourage through the use of MBIs.

Local Authorities should require people to separate their waste and also charge people a market related price. Not only does it take time to change people's attitude and behaviour regarding waste but it also requires an upfront investment into educating the public and creating awareness.

DEAT is implementing a large project under a joint sponsorship by the Governments of South Africa and Denmark to identify and test different approaches and methods on how to roll out the National Waste Management Strategy. To this effect a number of pilot projects are currently being implemented in different provinces. In Mpumalanga Province it has been decided to implement a pilot project to test the potential for increased recycling. The pilot project is called the Mbombela Recycling Initiative.

Throughout 2005, extensive consultations were carried out between the Mbombela Local Municipality and the National Waste Management Strategy Implementation (NWMSI) Project, on how to increase recycling of municipal waste. The consultations initially revolved around on how the performance of the drop-off centre could be improved. It has been concluded that the Mbombela Recycling Initiative failed to meet both recycling targets and poverty alleviation targets.

A feasibility study was undertaken to clarify if and under what circumstances the Drop-off Centre could become a viable economic entity to be used by the Mbombela Local Municipality to minimize waste and to increase recycling. The report highlights problems and illustrates that training, funding, commitment from the local municipality are essential to the success and viability of the project.

In November 2006, in the suburbs of Lonehill and Magalissieg in Johannesburg an initiative between Pikitup, the city waste utility, and Mama She Recyclers began. The aim of the programme was to reduce the amount of waste that ended up in the city's landfill sites.

These are examples of voluntary initiatives started by industry in conjunction with the local municipality. Many of the difficulties such as participation could possibly be overcome through the use of MBIs. These initiatives also highlight the need for education and awareness. MBIs have the potential to create a greater incentive for households to participate. Once people realise that they can save money or even make money by returning goods for recycling or by sorting their waste, then they are much more likely to participate.

6.3 Potential problems for MBIs in South Africa:

The Action Plan for Waste Minimisation and Recycling.[175] sets out a problem analysis that identifies problem areas that the government, industry and civil society need to address in order to implement measures to promote waste minimisation and recycling. Included in this analysis is the problem that the government appears to have a focus on command and control strategies and also recognises that there is inadequate regulatory pressure. Further, it points out that there may well be the potential for conflicts between existing licences and permits for industrial activity and any new initiatives for waste minimisation and recycling.

A number of factors can determine the potential economic and environmental effectiveness of legislation that aims to achieve waste minimization. The success of legislation can be influenced by geographical considerations such as population density where the amount of land available for waste disposal determines the incentive for people to implement waste minimization measures. Further, waste minimization measures may not be practical or viable in rural areas where there is not the requisite infrastructure. [176]

Socio-economic factors such as behavioural culture whereby consumers support the concept, also impacts on the success of waste minimization initiatives. Another socio-economic consideration is the impact that regulatory approaches may have on poorer

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[175] Department of Environmental Affairs and Tourism 'Action Plan for Waste Minimisation and Recycling' *National Waste Management Strategies and Action Plans South Africa* at 15 www.environment.gov.za/proj/wastemgmt/recycling/index.html

[176] National Waste Management Strategy Implementation Project South Africa, The Regulation of Waste Minimisation in South Africa – An Assessment of the Need and Options for Law Reform, 3 April 2006

section of society where additional costs are imposed. This is especially the case where the product in question is a subsistence product.[177].

Factors specific to developing countries often have implications for the choice of pollution control policies. These factors relate to the fact that in developing countries capital is scarcer and labour is cheaper, less attention is paid to the operation and maintenance of equipment, market distortions such as subsidies and state monopolies are more prevalent, institutions are weaker[178] and revenue needs of local government are more pressing.

There are four criteria that have been identified as necessary conditions for the use of MBIs in developing countries. These criteria are an adequate knowledge base including knowledge of the costs and benefits of different policy instruments and the institutional and technological constraints'[179], a strong legal structure, competitive markets in order to ensure the effective creation of new markets and adequate administrative capacity to 'design, administer, monitor and enforce the policies'.[180]

All of these issues will have an impact on the implementation of MBIs and they should be given consideration when assessing what instruments should be used for the improving domestic waste management.

Effective implementation is likely to be determined by six main challenges which are discussed below under the following headings: Fragmentation; Institutional Sustainability and Administrative Capacity; Simplicity and Flexibility, Public Perception; Lack of Political Will; and Financial Capacity.

Fragmentation

Lack of co-ordination is a major problem for MBIs.[181] Multiple administrative jurisdictions give rise to a potential overlap or conflict of jurisdiction which can result in

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[177] Hottenworth, S et al, 'Transfer of national experiences with waste prevention and minimisation to a trans-regional or international level' (July 2004), *Study prepared for UNEP*, Chapter 3

[178] United Nations 'Integrating Environmental Considerations into Economic Policy Making Processes' *Economic and Social Commission for Asia and the Pacific (ESCAP)* http://www.unescap.org/DRPAD/VC/reception/reception.htm

[179] Ibid

[180] Ibid

[181] Peart and Wilson at 264 and 266

a lack of accountability and undermines management efforts.[182] A common criticism of South African environmental legislation is that it is fragmented and this leads to problems of comprehension and enforcement.[183] There are various types of fragmentation, for example, institutional fragmentation and legislative fragmentation, horizontal and vertical fragmentation all of which are major challenges for sustainable environmental governance.[184]

China serves as a good example to South Africa for MBI use because it is also known to have difficulties that arise from its fragmented nature of state authority.[185] It is important to examine the institutional framework and the dynamics between central and local government in order to understand potential problems that may weaken the effectiveness of MBIs.

Part of the problem of fragmentation in South Africa is that natural resources are regulated sectorally so different departments administer different laws that are actually interrelated. This creates artificial divisions with a large amount of overlap between responsibilities that prevent integrated environmental management. "Also, within each province, there is little consistency as to Departmental responsibilities regarding the environment. This complex arrangement of institutions at national, provincial and local levels makes co-ordination and integration of environmental programs difficult."[186] Legal fragmentation creates problems for educating the private and public sectors with regard to their responsibilities and also makes policing and enforcement more difficult.

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[182] Huber, R et al, at 8, Fuggle and Rabie at 101

[183] Kotze, 'Improving Unsustainable Environmental Governance in South Africa: The Case for Holistic Governance' (2006) 1 *Potchefstroom Electronic Law Journal* 1 – 44, Witbooi at 35, Hanks, J 'Achieving Industrial Sustainable Development in South Africa: What Role for "Self-Regulatory" and "Co-Regulatory" instruments?' (1998) 5 *South African Journal of Environmental Law and Policy* 298 – 354, Kidd, M *Environmental Law, a South African Guide* 1997, Juta 168-169

[184] Kotze at 22

> "South Africa is a developing country which faces many challenges. Notably, one of the most profound challenges is the manner in which the current generation addresses environmental concerns. The obligation to conserve the environment for the benefit of present and future generations is largely encapsulated within the parameters of 'governance'. Governance in this context requires a concerted effort of unqualified political buy-in by government and all interested and affected parties to reform the current fragmented environmental governance regime. The ultimate objective of reforms should be the achievement of sustainable benefits in an intra- and inter-generational sense."

[185] Shuwen at 620

[186] National State of the Environment, DEAT, October 1999

Furthermore, policies relating to environmental pollution, depletion of resources and degradation are made and executed by development oriented bodies, yet the actual problems are addressed by conservation bodies who are not involved in the formulation of policy and decision making.[187]

While the provisions in the Constitution[188], the Intergovernmental Framework Act, 13 of 2005, NEMA[189] and various other pieces of legislation provide for co-operative governance, in practice it is very difficult to achieve. Despite these provisions tensions and conflict between various departments, for example the Department of Minerals and Energy and DEAT, over EIAs are apparent.

The WM Bill has numerous provisions for co-operation between the various levels of government. For example, Part 3 deals with Integrated Waste Management Plans. In Part 3, Section 12 sets out provisions relating to the content of integrated waste management plans and provides that they must

> "(b) within the domain of the relevant national department, province or municipality, set out how that relevant national department, province or municipality intends –
>
> (vi) to identify measures that are required and that will be implemented to support municipalities to give effect to the objects of this Act."

Another example is Section 13(h) which provides for reporting on why municipalities may not be implementing the integrated waste management plans.

Section 14 of the WM Bill deals with the general powers and duties of the Minister and the department. In terms of how the national department responsibilities to promote co-operation and coordination, section 14(3) provides that "[t]he department must- (e) support the other spheres of government in discharging responsibilities in terms of this Act."

Section 15 outlines the general powers and duties of MECs and provincial departments. With regard to cop-operation between different levels of government it provides in section 15(3) that '[t]he provincial department responsible for waste management must, aside from any delegation from the MEC – (e) support municipalities in the province in ensuring that waste management services are provided within the municipality in a manner which priorities the recover, re0use, or

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[187] Fuggle and Rabie at 101
[188] Sections 40 and 41
[189] Chapters 3 and 4

recycling of waste and provides for the treatment and safe disposal of waste as a last resort'. Section 17 provides for cooperative government and requires the different authorities to co-operate and co-ordinate their activities through mechanisms provided for in NEMA.

It remains to be seen whether or not all of these provisions will be able to overcome the challenges resulting from fragmentation. If one looks at the lack of success in overcoming this problem to date in spite of the great lengths the Constitution and NEMA go to deal with it, there is little evidence to suggest that the WM Bill will be any more successful in surmounting the problems posed by fragmentation.

Institutional Sustainability and Administrative Capacity

Recently, the concept of "institutional sustainability" has become part of the discourse around sustainable development.[190] Institutional sustainability refers to the idea that in order for environmentally, economically and socially sustainable development to occur, the institutions that support these goals need to be sustainable themselves. Three conditions have been identified as increasing the chances of achieving long term institutional sustainability. These are flexibility in institutional structures and mandates, adequate financing, including long term-self financing, and phasing development focusing initially on areas that are likely to be successful.[191]

This concept of institutional sustainability is important for South Africa when considering which MBIs may be successful. Reforming existing measures and introducing MBIs requires significant resources and as a result the implementation of MBIs can be administratively cumbersome.[192] It is essential that in order for MBIs to be successfully implemented there is sufficient guidance, training and research. There is also the need for sufficient staff capacity to enforce legal compliance.

Institutional capacity is a major consideration to take into account when considering the appropriateness or effectiveness of MBIs. "The scope of MBI's must match countries' institutional capacity to implement them." [193] Adequate implementation, monitoring and enforcement all require for and MBI to be successful. Institutional capacity will also

[190] Huber et al at 22
[191] Huber et al at 22
[192] Ackerman and Stewart at 177
[193] Huber et al at vii

determine the flexibility of MBIs and the manner and rate at which MBIs will be responsive to challenges.

In Latin America, where there is on-going institutional changes, it has been recommended that MBI approaches are introduced through slower and more flexible reforms.[194] This recommendation is directly relevant in the South African context, where institutional capacity is a problem that both national and local government departments face.[195] Many government departments are already understaffed and have inadequate budgets.[196] There is a great need for more financial resources to be allocated to the responsible departments if the policy and legislative goals are to be achieved.

These various institutional factors have a large influence on the successful implementation of environmental management. Most of these factors are true regardless of whether one is dealing with command and controls or MBIs. However, if one is specifically evaluating the likelihood of success of MBIs it is important for government to asses these factors and take them into consideration.

Contrary to the generally accepted belief that strong institutions are necessary for successful MBIs, China has been identified as a prime candidate for a market based environmental regulatory approach because it suffers from bureaucratic corruption and relatively weak environmental protection agencies.[197]

Public Perception

Every country has social and cultural factors that influence society's relationship with the environment. In South Africa, in addition to general cultural factors, the unique political history of apartheid influences and continues to play a huge role in society's relationship with the environment. In South Africa there is the perception that waste management, or rather environmental issues generally, are the concerns for the privileged. While those who are struggling to make ends meet, and do not have their basic needs satisfied, cannot afford to indulge in such concerns. This perception needs to be corrected. If people become aware of the link between poverty and environmental degradation and the fact that the burden of environmental degradation is

[194] Huber et al a vii
[195] Peart and Wilson at 262
[196] Winstanley at 293
[197] Shuwen at 619

felt more by the poor, then it is more likely that people will embrace environmental initiatives and actively participate in them.

A further problem for South Africa is the general perception that waste minimisation and recycling initiatives have a cost factor and they are not viewed as an opportunity for savings or benefits. This perception of communities and businesses will have to be changed if effective participation in MBIs to be achieved.

The White Paper discusses the promulgation of environmental education at all levels of the education system way of effectively raising environmental consciousness. South Africa needs higher level of awareness from individuals and within institutions. This awareness is on the rise and various information campaigns in the national newspapers explaining the ideas of reduce, re-use and recycle. For example in Cape Town there is the '2Wise2Waste' pilot project which involves raising awareness and changing behaviour with regards to minimization waste and recycling, effecting more efficient electricity and water utilization. It also involves the phased in implementation of green procurement systems. Interventions will be measured and monitored to quantify improvements and will be used to promote and roll out similar programmes with other departments.

Lack of Political Will

A lack of political will to prioritise environmental issues is connected to the false debate between development versus environmental protection. This point is illustrated by reference to the debates that surrounded the COEGA development in Port Elizabeth, which "explicitly reflect[s] the perception of environmental issues as entirely secondary luxuries, peripheral to the key social and economic challenges facing South Africa". The policy consideration of the ANC "remain fixed on the outdated paradigm that views environmental concerns as a check to development rather that an integral part of it."[198] [199]

This attitude can be seen from the proliferation of utterances by politicians about the negative effects of EIAs and environmental concerns. For example, Minister of

[198] Le Quesne 'The Divorce of Environmental and Economic Policy under the First ANC Government, 1994-1999' (2000) 7 *South African Journal of Environmental Law and Policy* 1 – 20 at 18

[199] South Africa is not the only country that suffers from this problem nor is it a recent phenomenon. With reference to Mexico in 1995 a journalist wrote 'You cannot worry more about the monarch butterfly than people who don't have enough to eat' in Pirozzi at 348

Housing Lindiwe Sisulu sparked outrage when she told the construction industry that housing delivery would no longer be "held hostage by butterfly eggs". More recently Thabo Mbeki's gave a speech relating to EIAs that attacked green laws, saying that they were causing development delays that had contributed to "a quite considerable slowing down of economic activity."[200] Statements such as these have led to concerns regarding the threat of top down intervention to cut legal red tape perceived to be frustrating economic growth.

South Africa's biggest challenge is the same as that which most developing countries are facing and that is to "enhance growth while at the same time finding cost-effective ways to reduce negative environmental impacts".[201] Policy makers need to find a way to achieve an appropriate balance between sustainable economic development and environmental preservation. The myth that development and environmental concerns are mutually exclusive needs to be debunked and it must be appreciated that they can go hand in hand.

The last 10 years has seen a myriad of legislative reform that impacts on the sustainable development in South Africa. All of this legislation mentions sustainable development, conservation and economic development.

Financial Capacity

Another example of the challenges facing the realisation of the goals for waste management is the financial constraints on government departments both at a national and local authority level.

Lack of priority for environmental policy is reflected in government funding for DEAT. In 1998 DEAT was one of the least funded government departments.[202] Similarly provincial budget allocations for the environment are low.

Economic concerns often seem to hold more weight than environmental conservation and appear to be given more emphasis in policies and legislation. Planning, implementation and decision-making generally falls within administrative process and

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[200] Macleod, F 'Mbeki joins assault on green laws' 07 August 2006 *Mail and Guardian* and Ridl, J 'An ill wind runs through the laws of the land' 26 August 2007*Sunday Tribune* Edition 1 http://www.mg.co.za/articlePage.aspx?articleid=280008&area=/insight/insight__national/a

[201] Huber et al at v

[202] Peart R and Wilson J, Environmental Policy –Making in the New South Africa, (1998) 5 *SAJELP* 239 – 241 at 241

the danger is that the administrative process is under pressure. As a result, the balancing of various factors is not given the attention it deserves. Further, the pressure from various social, economic and environmental factors is not necessarily proportional to their real long-term importance. It is usually parties with economic interest that appeal decisions and put pressure on decision makers and the result is that the burden of compromise more often than not, falls on the environment. If too much focus is given to economic growth and development then sustainability will fall by the wayside. The concept of sustainable development is dependent on there being natural resources to exploit in the first place.

Environmental crime is often the result of economic incentives and usually results from the exploitation of valuable resources for direct financial gain. Another economic incentive for committing an environmental crime is to avoid financial expense. For example, illegally dumping waste rather than going through the costly process of proper waste management.

6.4 Potential application: most viable and how to implement

There is very little in the way of MBIs included in our current domestic waste management regulatory regime. There is a general lack of legislation that deals comprehensively with waste management. Accordingly the opportunities for reform and the potential scope for the introduction of MBIS that will improve domestic waste management is extensive.

In assessing the feasibility of MBIs South Africa's particular limitations must be considered. Only after this is done can it be determined whether or not MBIs offer significantly more than traditional command and control regulation.

The Draft Policy Paper states that environmentally-related taxes should conform to the generally accepted principles of good taxation such as efficiency, equity, certainty, simplicity and cost minimisation.[203] The Draft Policy Paper goes further to identify eight criteria against which environmentally related taxes should be assessed. While these criteria are set out for the purposes of evaluating taxes, the same principles can be used for evaluating MBIs. Many of these evaluation criteria overlap with criteria identified elsewhere, such as efficiency, institutional constraints, community

[203] Draft Policy Paper at vii

acceptance and flexibility[204] and with issues already discussed above. These eight criteria are briefly set out below, after which they will be applied to the five MBIs that have been identified as potentially applicable to South Africa's domestic waste management regulatory regime.

Environmental effectiveness

There should be a clear environmental objective and the tax must target that objective. There should be a direct link between the environmental issue and the instrument. To ensure that the tax is effective the number of exemptions should be kept to a minimum.[205]

Tax Revenue

When evaluating an MBI it is important to take into consideration the level of tax revenue and the way in which it is used. Certain taxes will be capable of raising significant amounts of revenue, particularly where the demand for the good or service being taxed is price inelastic.[206]

Community acceptance / Support for the tax

This has already been discussed above in some detail as one of the main challenges that influences effective implementation. With every tax reform, there are likely to be winners and losers. These stakeholders need to be clearly identified and should be engaged in the assessment process.[207]

Fortunately, under South African legislation consultation processes are a large part of our legislative process. Despite this, industry and interested stakeholders will often say that the consultation process is flawed because while they are afforded the chance to make comments, these comments are not always taken heed of and it is felt that legislation is just pushed through because it has often been delayed for so long already.

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[204] United Nations 'Integrating Environmental Considerations into Economic Policy Making Processes' *Economic and Social Commission for Asia and the Pacific (ESCAP)* http://www.unescap.org/DRPAD/VC/reception/reception.htm
[205] Draft Policy Paper at 59
[206] Ibid at 59
[207] Ibid at 60

Simplicity is also a benefit because it encourages participation. Simplicity in the form of transparent formulae, is essential because it is then an instrument is more difficult to contest or manipulate.[208] Anything too complicated creates uncertainty and also increases administrative costs, both for participants and for government.

Legislative aspects

Legislative aspects such as necessary amendments to legislation also need to be considered. Environmentally-related tax measures will need to be compatible with an international obligations such as World Trade Organisation rules and possibly with on-going tax harmonisation efforts within the Southern African region.[209]

One of the warnings issued by Stavins is that where MBIs are 'bolted onto' existing legislation their potential to create cost advantages over already existing instruments may be limited.[210] On the other hand, allowing MBIs to evolve by making use of regulatory platforms that are already in place and existing institutions, could in some instances be the most effective way of introducing them.

Technical and administrative issues

Technical and administrative issues can influence whether or not a tax instrument would be appropriate and are thus important factors to consider when assessing MBIs. Ideally, the tax base or targeted area should be as close as possible to the environmental objective. Where the environmental objective is clear, the tax rate should be set according to the level of the externality. However, if this cannot be done, the tax rate must be sufficient to achieve the environmental objective. Other important considerations include the possibilities of tax avoidance, tax evasion, compliance and collection costs.[211]

Competitiveness effects

The impact of MBIs on domestic industries and other aspects of the economy such as employment and inflation are of critical importance. For the most part in the waste management sector, MBIs are likely to have a positive impact on job creation.

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[208] Stavins at 41
[209] Draft Policy Paper at 60
[210] Stavins
[211] Draft Policy Paper at 61

However, where impacts on competitiveness or other aspects are considered unacceptable, mitigation measures may need to be considered.[212]

Distributional Impacts - Equity

An understanding of the way in which MBIs can impact on different income groups is important. For every MBI the burden on different income groups and the anticipated distribution of environmental benefits needs to be assessed. Where there are likely to be adverse impacts on income distribution, mitigation or compensation measures may need to be considered. In some cases, these types of measures can be built into the MBI itself or may be necessary to compensate certain groups in other ways.[213]

Adjoining policy areas

Another important considerations is the extent to which MBIs can assist in meeting other government policy objectives. From an environmental point of view, it is important therefore that any MBI is aligned with other regulatory or voluntary approaches. The extent to which MBIs can be designed to contribute to policy goals such as job-creation, poverty alleviation and the expansion of basic services is significant.[214]

There is a great scope for this type of contribution in the waste management sector. Materials collection, waste separation, reprocessing, education initiatives will result in job creation and recycling can be a successful income generating activity. It is important to take into consideration the current waste operators and to ensure that any new initiatives do not undermine them.

The Draft Policy Paper identifies four broad categories of MBIs that should be considered for waste management. These four categories are product tax, deposit refund system, disposal taxes and differential tariffs for waste disposal.[215] Each of these categories will be examined in light of the evaluation criteria discussed above.

PRODUCT TAX

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[212] Draft Policy Paper at 62
[213] Draft Policy Paper at 63
[214] Draft Policy Paper at 64
[215] Draft Policy Paper at 75-78

As mentioned in Chapter 3 above, the only environmental product tax currently being levied in South Africa is on plastic shopping bags. This was not intended as a means of reducing consumption but was introduced to collect revenue.[216]

The Draft Policy Paper recognizes that there is the potential to expand the use of this MBI to other goods such as packaging, tyres, batteries, electronic equipment and white goods, fluorescent tubes, and paper and card. The environmental externalities in respect to these products arise from their disposal rather than from their use.[217]

Product taxes discourage the consumption and production of certain products. They can take the form of advanced disposal fees and can raise revenue to finance recycling, reuse and product disposal. Product taxes are a prime example of how environmentally-related taxes and charges can be used to improve waste management practices by minimising production and encouraging recycling and re-use.[218]

Some of the problems with introducing product taxes are that they can contribute to the proliferation of tax instruments and complicated funding mechanisms. It can also be difficult to target the source of externality when using product taxes.[219]

A major consideration to take into account when considering this type of MBI is the impact that it may have on various sectors of the population. If the tax is on subsistence products then it may have an inequitable impact on the poor.

DISPOSAL TAXES

Disposal taxes function as MBIs by making particular disposal methods or the disposal of particular products more expensive, thereby encouraging other more desirable outcomes such as avoidance, minimisation and recycling, higher up in the waste disposal hierarchy. Disposal taxes can be used to discourage specified waste streams and to penalise certain forms of waste disposal over others. To this extent they have a high level of environmental effectiveness. Computers would be a prime candidate for a disposal fee or a fee on purchasing that goes towards proper disposal.

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[216] Draft Policy Paper at 77
[217] Draft Policy Paper at 76
[218] Draft Policy Paper n 5 at 75-78
[219] Draft Policy Paper at 71

Disposal taxes have proven popular in Europe and are used by many countries as part of a tax shifting exercise. While disposal taxes encourage an overall reduction in the levels of waste, one of the weaknesses is the perverse incentive of tax avoidance which leads to illegal dumping or disposal, and results in higher costs for compliance and enforcement. [220] For example, the City of Johannesburg spends about R70 million per year cleaning up illegal dumping.[221] Accordingly, the successful introduction of disposal taxes would require the development of regulatory and enforcement institutions to ensure the regulation of landfills and the prevention of illegal disposal.[222] The income generated from disposal taxes could be used to improve waste disposal facilities.

The Draft Policy Paper suggests that rather than imposing disposal taxes, it may be preferable to ensure that more waste is rather disposed of through formal channels and that adequate collection and disposal systems are available.

Furthermore, disposal taxes for specified types of domestic waste is a new concept in South Africa and in terms of community acceptance it may run into problems. People are not used to having to pay for disposing of things like electronic goods or computers. Bearing in mind South Africa's problem with illegal disposal, this may be a more risky MBI to introduce. Possibly once awareness relating to waste issues and the principle of the polluter pays become more accepted then disposal taxes could be introduced successfully.

DEPOSIT-REFUND SYSTEMS

There are a variety of deposit-refund systems currently operating in South Africa, particularly in regard to glass and plastic beverage containers. Internationally, deposit refund systems have been applied to a much wider variety of products successfully such as batteries, electronic products, reusable chemical containers, and car parts.[223] Although part of the problem with this MBI is that it can only be applied to certain products.

Although they do not provide incentives for waste avoidance or minimisation, deposit-refund systems hold potential to encourage the removal of many recyclable products

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[220] Draft Policy Paper at 77
[221] www.wastehub.net
[222] Draft Policy Paper at 71
[223] Draft Policy Paper at 77

from the disposal stream to be returned at relevant points. Deposit-refund systems have a clear objective in terms of removing certain products from the waste stream and it directly targets that objective, making it environmentally effective. In terms of exemptions, deposit-refund systems are voluntary so one cannot expect a 100% return rate, although the rate of the deposit will have a direct impact on the return rate.

As discussed in Chapter 5 deposit-refund systems are criticised for being expensive in terms of administrative and compliance costs and the number of private sector programmes have begun to decline in some countries.[224] The recommendation from the Draft Policy Paper is to take administrative and compliance costs into account any potential impacts on other waste management services when considering the implementation of deposit-refund systems. [225]

It is unlikely that deposit-refund systems would have any problem with community acceptance. South African citizens are familiar with this type of system and it works well with beverage bottles.

DIFFERENTIAL TARIFFS / VARIABLE RATE PRICING

The costs involved in waste collection services, treatment and disposal can be used to influence consumer's behaviour. Differential charging or a pay-as-you -throw system is seen as being the best way to encourage waste minimisation and to increase the separation of waste for recycling and composting.

In South Africa, local authorities finance and charge for municipal solid waste services in a variety of different ways but do not make use of differential charging based on the volume or nature of waste collected. In some instances waste removal is funded only from property taxes while in others costs are recovered through user-charges. Many municipalities have a combination of these two. User charges are based on a variety of things including income, plot size, frequency of collection or per container.

Various policy options include the curbside pick up of recyclable materials and variable rate disposal charges or unit pricing. This could make use of variable container size, bag, tag or sticker charges, hybrid systems or weight based systems.[226] Any new

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[224] Draft Policy Paper at 77
[225] Draft Policy Paper at 77
[226] Menell at 11

initiative in this regard should be assessed bearing in mind cost recovery, current financing arrangements and the right of municipalities to determine their own tariff structures.[227]

There are various factors which will impact on the costs of running a variable rate pricing system for MSW. These are waste removal markets, technology, demographic, socioeconomic and geographic and climatic variables and the state of recycling markets.[228] One would need to take these factors into consideration in the South African context to determine how cost effective variable rate pricing would be for MSW.

Some of the practical concerns relating to unit pricing include the fact that rates are difficult to set, revenues are hard to predict, illegal dumping could occur, and administrative costs may be high. The system can also encourage overstuffing of garbage receptacles, illegal burning and dumping, and contamination of recycling receptacles with non-recyclable material.[229] The effectiveness of variable rate policies can be undermined by even a small amount of illegal disposal because the social costs of illegal disposal are high.[230]

The transaction costs that result from each of these policies and include billing, administrative, and retail systems costs, consumer costs and enforcement costs. Other considerations such as illegal disposal and facilitating recycling markets also need to be taken into account.

Some of the potential problems are that variable fees may be difficult to implement in low-income households where they could have a regressive impact. It could also lead to illegal disposal and therefore introduce a need for more visible enforcement.[231] Furthermore, common receptacles in multi-unit housing complexes preclude application of variable rates and politicians may be unwilling to risk unpopularity.[232]

Another possible problem for disposal charges relates to the cross-subsidisation of local government activities through the use of disposal charges. In many instances these charges are used as principal sources of revenue which may result in a lack of

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[227] Draft Policy Paper t 78
[228] Menell at 11
[229]Reschovsky and Stone at 13:1.
[230] Menell at 16
[231] Draft Policy Paper at 71
[232]Reschovsky and Stone at 13:1.

enthusiasm and commitment from local government to achieve a change in behaviour towards waste minimization.[233]

Legislative aspects regarding variable rate pricing could be complicated because local authority by-laws would have to be redrafted or amended. To get local authorities to buy into big changes that would require more significant administrative roles from them, may prove to be difficult.

When considering environmental effectiveness and adjoining policy areas it is significant to note that recycling can have a negative impact on the environment.[234] This is also recognised in the WM Bill, which provides in section 30 that 'every person who undertakes a recovery, reuse or recycle activity, must, before undertaking that activity, ensure that the recovery, re-use or recycling of the waste-

(a) uses less natural resources than disposal; and

(b) to the extent possible, is less armful to the environment that disposal.'

Variable rate pricing for domestic waste is the MBI with the biggest scope to create significant changes to the way people consider waste and can make a huge contribution to achieving the goals of reducing, reusing and recycling waste. Administratively it may be challenging but South Africa has the advantage of being able to learn from other countries such as the USA, Japan, the United Kingdom and Germany, that have successfully implemented differential tariffs for waste services.

ECO-LABELLING

Eco-labelling would be a relatively simple MBI to implement. The technical and administrative issues would not be dealt with at a local authority level and would be less burdensome than other instruments. While certain standards would need to be determined and the support of manufacturers would need to be obtained neither of these would be difficult to achieve. Generally industry is supportive of these types of initiatives which have the potential to be used as a marketing tool.

Community acceptance would not pose a problem either. Consumers are becoming more and more aware of environmental issues and are often willing to participate in

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[233]Department of Environmental Affairs and Tourism 'Framework Starter Document for Waste Recycling Legal Framework Document for Recycling' (May 2000) *National Waste Management Strategy – Implementation Programme*

[234] Menell at 17

doing their part. If however, those products with eco-labelling became too expensive and there were no other alternatives for purchasing similar products without eco-labelling, then it is likely that consumers may not be as accepting.

In terms of environmental effectiveness, eco-labelling is slightly more removed from its environmental objective than other MBIs might be. This is because in order to be effective and to have an impact it relies on consumers making certain choices and responding to the eco-labelling. Prices, trends and advertising along with a host of other influences all impact on demand so eco-labelling is just one factor amongst many. It can therefore be difficult to predict its success.

This type of instrument has been used in South Africa before in the form of certification schemes such as ISO 14001 and the Proudly South African initiative, so South African consumers are familiar with these types of initiatives. Eco-labelling is an MBI that has the potential to make a difference in the domestic waste management regulatory regime.

CHAPTER 7 CONCLUSIONS

It has been stated that 'environmental policies typically combine the identification of a goal with some means to achieve that goal.'[235] In practice these two components are both closely linked with the political process. Unfortunately in South Africa at present there appears to be a dichotomy between the two different goals of environmental protection and economic development. International pressure to be 'green' may eventually balance the internal pressure to develop and deliver economic reform and will hopefully result in a more holistic approach that incorporates an understanding and appreciation of the concept of sustainable development.

There are many problems and challenges relating to waste management in South Africa that are inadequately addressed in the current regulatory regime. Recent policy documents indicate a shift in policy and are recognising are more balanced approach to waste management that is more proactive and not simply reactive. The most recent of these is the WM Bill which is leading towards a general change in the legal framework dealing with waste.

MBIs are an important part of this shifting policy framework and have a fundamental role to play in order to kick start the necessary momentum needed to effect change and address the problems South Africa is facing as a result of poor waste management.

Traditional command and control regulation and MBIs are 'not mutually exclusive and can be integrated into a comprehensive plan for the remediation, handling, disposal and transport' of solid waste.[236] This is likely to be the case in South Africa where the future will combine both types of regulation. It is important that the existing system should not be abandoned but should be built on.[237]

The international debates surrounding MBIs indicate that they are not an instant solution and their success is dependant on certain conditions. As a developing country the challenge of effectively implementing MBIs is more difficult. As long as these challenges are recognized and understood then there is a huge scope for MBIs to

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[235] Stavins at 1
[236] Pirozzi at 338, Schemmel at 149
[237] Ackerman & Stewart at 178 and at 191

make a significant impact to turn around the way domestic waste has been dealt with in South Africa.

The danger is that in areas where there is not experience with MBIs or where there are not the skills to tailor their application, they will be a whole complete transfer of instrument designs without a rigorous assessment of their suitability to a specific environment. Too much too soon is a mistake. Transition periods and public participation both contribute to the success of MBIs[238] These strategies are currently employed in most new legislation and for example can be seen in the recent tyre regulations promulgated in terms of the ECA.

It is important to remember that theory doesn't always work out exactly in practice. A number of important factors need to be considered and MBIs cannot just be transported and applied without due regard to the local context. Issues such as aligning MBIs with policy, removing perverse incentives and making sure that instruments are not too prescriptive or require time and application of thought. There is debate regarding whether the costs involved in establishing MBI's are justified in order to achieve the benefits they provide.[239]

MBIs have an important role to play in solving some of the problems for domestic waste management in South Africa. Product taxes, deposit-refund systems, variable rate pricing and eco-labelling have been identified as being suitable specifically for waste management. Together with public education and legislative mandates, MBIs can achieve the reduction of waste produced, lead to less waste to landfills, curb illegal disposal and can encourage increased recycling.

Waste management has to content with the double edged sword of being dealt with at local authority level. This is good in one respect because strong regional institutions have been identified as one the essential criteria for MBI[240] but by the same token it is a potential downfall for MBIs because in South Africa many local authorities are barely coping with their current responsibilities and do not have the necessary capacity to implement changes or new administrative systems.

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[238] Schemmel at 150
[239] Whitten at 1
[240] Ackerman & Stewart at 193, Huber et al

The Legislature needs to pass regulations dealing with all the issues provided for in the WM Bill. Bearing in mind the warnings and lessons, the most appropriate MBIs should be used. The government should draft a Standard By-law for waste management that is then available for local authorities and municipalities to amend and adopt. Institutional strengthening especially through human resource development and by financial support at the local authority level should be a high priority.

In all likelihood, MBIs will become more sophisticated in the future and more widely used to deal with environmental issues both domestically and in the international arena. Both government and industry in South Africa should actively participate in the design and implementation of MBIs and make use of them to their best advantage.

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