

**A legal framework for the regulation of e-waste:  
international, regional and South African perspectives.**

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## Index

<b>Afrikaanse opsomming</b>	i
<b>List of abbreviations</b>	ii
<b>1 Introduction</b>	<b>1</b>
<b>2 International law framework</b>	<b>5</b>
<b>2.1 Principles of International Law</b>	<b>6</b>
2.1.1 <i>Sustainable development</i>	8
2.1.2 <i>The precautionary approach</i>	9
2.1.3 <i>The preventive principle</i>	11
2.1.4 <i>The polluter pays principle</i>	11
2.1.5 <i>The principle of common but differentiated responsibility</i>	13
2.1.6 <i>The principle of cooperation</i>	14
<b>2.2 Custom</b>	<b>15</b>
<b>2.3 Treaty law</b>	<b>16</b>
2.3.1 <i>The Stockholm Convention on Certain Persistent Organic Pollutants</i>	16
2.3.2 <i>The Basel Convention</i>	18
<b>3 Regional Law Framework</b>	<b>24</b>
<b>3.1 The African Convention on the Conservation of Nature and Natural Resources of 1968</b>	<b>24</b>
<b>3.2 The African Charter on Human and Peoples Rights of 1981</b>	<b>25</b>
<b>3.3 The Bamako Convention of 1991</b>	<b>26</b>
<b>3.4 The Treaty Establishing the African Economic Community of 1991</b>	<b>29</b>
<b>3.5 The South African Development Community</b>	<b>30</b>

<b>4</b>	<b>National law framework</b>	<b>32</b>
<b>4.1</b>	<b><i>The Constitution of the Republic of South Africa, 1996</i></b>	<b>32</b>
<b>4.2</b>	<b><i>The Customs and Excise Act 91 of 1964</i></b>	<b>35</b>
<b>4.3</b>	<b><i>The Hazardous Substances Act 15 of 1973</i></b>	<b>35</b>
<b>4.4</b>	<b><i>The National Environmental Management Act 107 of 1998</i></b>	<b>35</b>
<b>4.5</b>	<b><i>The Department of Water Affairs and Forestry Minimum Requirements for Waste Disposal by Landfill 1998</i></b>	<b>39</b>
<b>4.6</b>	<b><i>The Disaster Management Act 57 of 2002</i></b>	<b>39</b>
<b>4.7</b>	<b><i>The National Environmental Management: Waste Act 59 of 2008</i></b>	<b>40</b>
	<b><i>4.7.1 National Waste Management Strategy of 2010</i></b>	<b>41</b>
<b>5</b>	<b>Conclusion and recommendations</b>	<b>43</b>
<b>6</b>	<b>Bibliography</b>	<b>47</b>

## **Afrikaanse Opsomming**

Wetenskaplikes het onlangs getoon dat die besoedeling, veral dié afkomstig van organiese en chemiese materiale, verantwoordelik is vir tot 40% van menslike sterftes wêreld wyd. Hierdie probleem is selfs meer kommerwekkend as gevolg van die en groei in produksie van elektroniese afval. Verskeie struikelblokke vir die behoorlike herwinning van elektroniese afval bemoedig 'n meer koste effektiewe oplossing waarvolgens hierdie afval na armer, ontwikkelende lande uitgevoer word.

Ontwikkelende lande soos byvoorbeeld die in Afrika, wat gekenmerk word deur armoede, goedkoop hande arbeid en onvoldoende wetlike regulering, is vervolgens die perfekte stortingsgrond vir die ontwikkelde wêreld. Herwinning in ontwikkelende lande verander in ongereguleerde berging van waardevolle materiale, wat tot gevolg het dat hande arbeiders gereeld blootgestel word aan ander lewensgevaarlike materiale afkomstig vanuit die samestelling van elektroniese afval. Alhoewel handel in elektroniese afval nog nie 'n bedreiging vir Suid-Afrika inhou nie, gaan ander Afrika lande soos Ghana en Nigerië gebuk onder die nadelige gevolge van oneffektiewe wetgewende beheer maatstawwe. Die oneffektiewe regulering van elektroniese afval, die invoer en die herwinning daarvan kan 'n grootskaalse toekomstige impak vir die omgewing inhou. Vervolgens verlang hierdie verhandeling 'n ondersoek na die mate waarin die internasionale, regionale en Suid-Afrikaanse regsraamwerk voorsiening maak vir die regulering van elektroniese afval.

## List of Abbreviations

AUJILP	:	American University Journal of International Law and Policy
AU	:	African Union
CLJ	:	Cambridge Law Journal
COP	:	Conference of the Parties to the Basel Convention
CJICL	:	Cordozo Journal of International and Comparative Law
DMA	:	<i>Disaster Management Act 57 of 2002</i>
E-waste	:	Electronic waste
EWASA	:	Electronic Waste Association of South Africa
EU	:	European Union
HSA	:	<i>Hazardous Substances Act 15 of 1973</i>
JSAL	:	Journal of South African Law
MPPI	:	Mobile Phone Partnership Initiative
NEMA	:	<i>National Environmental Management Act 107 of 1998</i>
NWMS	:	<i>National Waste Management Strategy of 2010</i>
OECD	:	Organisation for Economic Cooperation and Development
PIC	:	Prior informed consent
CBDR	:	Principle of common but differentiated responsibility
RoHS Directive:		Restrictions on the Use of Certain Hazardous Substances on Electrical and Electronics Equipment
SADC	:	Southern African Development Community
AEC Treaty	:	<i>Treaty Establishing the African Economic Community of 1991</i>
WEEE Directive:		Waste from Electronic Equipment

## 1 Introduction

Over the last decade scientists have estimated that pollution, especially pollution resulting from organic and chemical materials, is responsible for up to 40% of human deaths worldwide.<sup>1</sup> This problem is exacerbated by a recent increase in the generation of electronic waste (hereafter e-waste). E-waste consists of any and all electronic appliances that are discarded as a result of malfunction, exhaustion or obsolescence.<sup>2</sup>

Rapid digitalisation has resulted in a major global concern about e-waste.<sup>3</sup> The difficulties in properly disposing of e-waste are numerous and the recycling of e-waste proves to be extremely expensive,<sup>4</sup> so that developed countries<sup>5</sup> save tremendously in cost by exporting vast quantities of e-waste to poorer, developing countries.<sup>6</sup> In doing so they flout the principles *inter alia* of precaution,<sup>7</sup> prevention<sup>8</sup> and sustainable development.<sup>9</sup> Africa, a continent

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<sup>1</sup> West 2008 <http://environment.about.com>.

<sup>2</sup> There is no generally accepted definition for e-waste. For the purpose of this dissertation reference is made to the definition as provided for by the Electronic Waste Association of South Africa (hereafter EWASA) - see <http://www.ewasa.org/learnabout>. E-waste can also be defined as broken or unwanted electronic devices that have reached the end of their useful lives and have been discarded. Billinghamurst 2005 *Colorado J Int Environ Law and Policy* 400.

<sup>3</sup> In this rapidly evolving technological age, only 25% of all traded electronics can be recycled or reused, and the remaining 75% is waste which is being discarded inappropriately. For further reference in this regard see the website <http://greenhome.huddler.com>, Williams 2008 <http://www.democrats.science.house.gov>. In July 2009 the United Nations Environment Programme issued a report on *Recycling – From E-waste To Resources*, which indicates that the sale in electronic products in countries across the globe is set to drastically increase over the next 10 years, predicting that in South Africa by 2020, that e-waste from old computers will have increased by 200% to 400% from 2007 levels. Report available at [http://www.rona.unep.org/documents/publications/E-waste\\_20100222.pdf](http://www.rona.unep.org/documents/publications/E-waste_20100222.pdf).

<sup>4</sup> It is estimated that the recycling of e-waste in developed countries amounts to anything between \$ 0.40-0.50 per pound compared to \$ 0.15-0.30 per pound in developing countries. Pak 2008 *CJICL* 252.

<sup>5</sup> The criteria for describing countries as developed relate to their gross domestic product, industrialisation, their level of human development index, and other economic factors.

<sup>6</sup> Similarly, the criteria for describing countries as having a low level of development relate to their gross domestic product, their level of industrialisation, their human development index, and other economic factors. Billinghamurst 2005 *Colorado Journal of International Environmental Law and Policy* 400.

<sup>7</sup> As affirmed by Principle 15 of the *Rio Declaration on Environment and Development* 1992. This declaration was produced by the United Nations' "Conference on Environment and Development" and consists of 27 principles aimed at promoting a sustainable future.

associated with poverty, cheap labour and inadequate legal regulation, has proved to be a perfect inexpensive dumping ground for the developed world.<sup>10</sup> The recycling of such waste in these African countries frequently turns into the salvaging of valuable materials and poorer countries such as Ghana and Nigeria have suffered severely from human and environmental exposure to hazardous materials contained in e-waste.<sup>11</sup> Even though the e-waste trade is yet to pose a significant threat to South Africa, as it does to Ghana and Nigeria, some cases have been recorded of e-waste finding its way through South African ports and borders.<sup>12</sup>

No international instrument currently exists which explicitly aims to regulate the e-waste trade. However, the transboundary movement of hazardous substances contravenes at least two major international treaties, namely the *Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*<sup>13</sup> (hereafter the Basel Convention),<sup>14</sup> which came into force in 1989,

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<sup>8</sup> As affirmed by Principle 21 of the *Stockholm Convention 1972*, which stipulates that states have the responsibility to ensure that activities within their jurisdictions or control do not cause damage or harm to the environment of other states or areas beyond the limit of their national boundaries.

<sup>9</sup> As affirmed by Agenda 21 of the *Rio Declaration on Environment and Development 1992*. See the discussion in par. 2.

<sup>10</sup> Pak 2008 *CJICL* 252; Totolo 2008 <http://www.isn.ethz>.

<sup>11</sup> In these countries labourers are plagued with ill health conditions such as kidney and liver diseases, neurological damages, birth defects, and in some instances, even cancer. E-waste consists of over 1000 different substances. Very few of these substances have been tested for human toxicity. When e-waste has been filtered and discarded it is usually burnt. The open-air burning of some of these plastics substances releases various chemicals into the environment, including significant amounts of toxic materials. The recyclers with the ability to process e-waste at the lowest cost are those who suffer the most. Boon *Tansnational Law and Contemporary Problems* 732; Wirth "Hazardous Substances and Activities" 395-422; Kutz 2006 *Villanova Environ Law J* 311; Electronic Waste Association of South Africa at <http://www.e-waste.org.za>. Today it is estimated that 20 to 50 million tons of e-waste are discarded every year by developed countries worldwide, with the rate increasing annually between 3% to 5%. Pak 2008 *CJICL* 248.

<sup>12</sup> On 6 August 2009 the government of South Africa impounded a container filled with e-waste in Johannesburg. The container was shipped from Seattle and the hazardous substances it contained could have caused environmental and human harm had the container not been located. Visit <http://www.e-waste.org.za/node/427> in this regard.

<sup>13</sup> The *Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* 1989, aims to control and reduce the transboundary movement of hazardous wastes. The Convention regulates such activity with the aim of minimising waste and to assist developing countries in their waste management efforts. See the Basel Convention,



and the African Union's (hereafter the AU) *Convention on the Ban on the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa*<sup>15</sup> (hereafter the Bamako Convention) which came into force in 1991. Under the auspices of an investigation initiated by the Mobile Phone Partnership Initiative (hereafter the MPPI), Project 4.1,<sup>16</sup> e-waste was found to constitute a hazardous waste and the transboundary movement thereof could in principle be regulated by these treaties.<sup>17</sup> Even though South Africa is signatory to the Basel Convention, the regulations thereof are not enforced by all developed countries, resulting in e-waste regulation being almost impossible.<sup>18</sup>

Regionally, intergovernmental organisations such as the Southern African Development Community (hereafter SADC) and the AU also prove to be of little assistance in addressing the regulation of e-waste.<sup>19</sup> Currently, as is the case internationally, there is no single regional instrument explicitly and successfully regulating e-waste and the e-waste trade.<sup>20</sup>

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which is available at <http://www.basel.int/>; Kummer *International Management*; Hackett 1989 *AUJILP* 291-323.

<sup>14</sup> See specifically articles 4, 8 and 11 in this regard.

<sup>15</sup> *Convention on the Ban on the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa* 1991, which aims to protect member states and other developing countries from the dangers posed by hazardous wastes. It differs from the Basel Convention in a number of ways, the most important of which probably being being that it prohibits the import of hazardous waste into Africa from non-contracting parties. Visit <http://www.natural-resources.org> in this regard.

<sup>16</sup> Available at [www.basel.int/industry/mppiwp/guid-info/guiddesign.pdf](http://www.basel.int/industry/mppiwp/guid-info/guiddesign.pdf).

<sup>17</sup> See the discussion in par 2.3.2 below.

<sup>18</sup> Kutz 2006 *Villanova Environ Law J* 315. An example hereof is the Basel Convention, which identifies e-waste as a hazardous substance and accordingly prohibits the export thereof to poorer countries. This Convention has been signed and ratified by all developed nations except the United States of America. The Organisation for Economic Cooperation and Development (hereafter the OECD) whose members generally comprise of states with industrialised, market-orientated economies, is also a non-signatory to the Basel Convention. Without the signature of this organisation, which is known for promoting the interests of developing countries, e-waste management, it is commonly acknowledged, is to becoming more difficult. See Wirth "Hazardous Substances and Activities" 395-422.

<sup>19</sup> The SADC was established in 1980 and the AU in July 2002.

<sup>20</sup> Dittke 2007 [http://ewasteguide.info/Dittke\\_2007\\_eWASA](http://ewasteguide.info/Dittke_2007_eWASA). Some customary international law provisions exist, for example the maxim "*sic utere tuo ut alienum non leadas*" (to use your property in such a way as not to damage the property of others) which was adopted in the 1937 *Trail Smelter Case (TRAIL)* 128. Using this principle America successfully claimed recompense for damages from Canada as a result of transboundary contamination.

On a national level, section 24 of the *Constitution of the Republic of South Africa, 1996* (hereafter the Constitution) guarantees everyone the right to “an environment that is not harmful to their health or well-being,” a provision which is compounded in various legislations.<sup>21</sup> Recently, the *National Environmental Management: Waste Act 59 of 2008*<sup>22</sup> (hereafter Waste Act) was also promulgated.<sup>23</sup> Even though legislation exists which regulate the movement of hazardous substances,<sup>24</sup> it is vital that specific regulations should be enacted to regulate e-waste and the e-waste trade directly.<sup>25</sup>

Failure to regulate e-waste in South Africa could have major future environmental implications.<sup>26</sup> The research question therefore posed in this dissertation is: to

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Countries are obligated to use their own property in such a manner that the use will not be harmful to other countries. The transboundary movement, trade and disposal of e-waste flouts this well-established principle as it involves that a country is transporting the property of one country to another, which transportation inevitably causes harm to the other. Subsequently it is clear that international customary principles can be used as a guideline for future e-waste regulation.

<sup>21</sup> This constitutional guarantee was adopted in legislation which includes the *National Environmental Management Act 107 of 1998* and the *National Environmental Management: Waste Act 59 of 2008*.

<sup>22</sup> The *National Environmental Management: Waste Act 59 of 2008*. The purpose of this Act as indicated in its preamble is to reform legislation regarding waste management in order to protect health and the environment. Reasonable measures are provided for the prevention of pollution and ecological degradation and for securing ecologically sustainable development. The measures are indirectly applicable to e-waste regulation. The Act seeks to encourage the minimisation and prevention of waste generation, whilst promoting the re-use and recycling thereof. The disposal of waste is therefore regarded as a last resort.

<sup>23</sup> In terms of s 14 of the Waste Act the Minister may under certain circumstances declare a waste as a “priority waste”. If a waste is declared as a priority, specific regulatory activities and responsibilities can be enforced. E-waste is yet to be defined and to be labelled as hazardous and a priority waste.

<sup>24</sup> The *National Environmental Management Act 107 of 1998*; the *Hazardous Substances Act 15 of 1973*; the *Environmental Conservation Act 73 of 1989*; the *Customs and Excise Act 91 of 1964* and the *Disaster Management Act 57 of 2002*.

<sup>25</sup> The mere fact that different legislation is implemented by different levels of government could lead to incoherence and confusion as to the applicability of its distinct provisions. Dittke 2007 [http://ewasteguide.info/Dittke\\_2007\\_eWASA](http://ewasteguide.info/Dittke_2007_eWASA). For further reading see the comprehensive study in this field by Kotze *Integrated Environmental Governance* 16-18, 47, 52-60 and 101.

<sup>26</sup> The total quantity of e-waste produced in developed countries is increasing more rapidly than any other municipal waste stream. As South Africa is a water-deficit country, any groundwater pollution caused by e-waste dumping could prove catastrophic. Some authorities estimate that the problem of the e-waste trade will continue to grow through 2015 before recycling efforts will be able to catch up. See Copans 2007 [engineeringnews.co.za/article/sas-waste-management-is-technologically-sound-ndash-industry-body-2007-11-02](http://engineeringnews.co.za/article/sas-waste-management-is-technologically-sound-ndash-industry-body-2007-11-02), Pak 2008 *CJICL* 246.

what extent does the international, regional and South African law framework provide for the regulation of e-waste?

The nature of this study necessitates a critical analysis of the adequacy of the current international, regional and South African law framework regulating e-waste, and this study will be structured accordingly.<sup>27</sup>

## 2 The international law framework

The aim of the following sections is to identify and investigate the international legislative framework<sup>28</sup> applicable to the regulation of e-waste and the e-waste trade. The enquiry is limited to multilateral environmental agreements (hereafter MEAs) which attempt to control e-waste, but only those of which South Africa is a signatory. These will include the *Rio Declaration on Environment and Development* of 1992; the *Cartagena Biosafety Protocol to the Convention on Biological Diversity* of 2000; the *Stockholm Convention on Certain Persistent Organic Pollutants* of 2000; and the *Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal* of 1989. Internationally accepted principles or custom that have developed over time<sup>29</sup> and serve as a basis for international environmental law will also be discussed. These principles may prove to be a valuable guide for national e-waste regulation.

International law can be defined as a body of rules and principles binding upon states in their relations with one another.<sup>30</sup> The South African Constitution<sup>31</sup>

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<sup>27</sup> The regulation of e-waste, which encapsulates the generation, re-use and recycling of e-waste, and more specifically the trade, disposal and transboundary movement of e-waste.

<sup>28</sup> Traditionally, international law governed relations between juridical equal states, based on a process of consent via the adoption of treaties. These treaties have become obligatory through state practice, and serves as the basis for global e-waste regulation. See Kiss and Shelton *International Environmental Law* 16 - 22.

<sup>29</sup> Also referred to as international customary law.

<sup>30</sup> Dugard *International Law* 1; Brierly *The Law of Nations* 1.

<sup>31</sup> *Constitution of the Republic of South Africa*, 1996

requires courts to interpret all legislation,<sup>32</sup> including international customary law,<sup>33</sup> and to accord with international law.<sup>34</sup> According to section 231 the negotiating and signing of these agreements is the responsibility of the national executive.<sup>35</sup> Furthermore, it proclaims that international treaties will become binding on the Republic only after they have been approved by resolution in both the National Council of Provinces and the National Assembly,<sup>36</sup> and only after they have been enacted by the national legislation of the Republic.<sup>37</sup> International legislation regulating e-waste can become nationally enforceable in terms of section 231.<sup>38</sup>

## 2.1 Principles of International Law<sup>39</sup>

International law is relevant to the regulation of e-waste as a global concern.<sup>40</sup> In this regard, article 38(1) of the *Statute of the International Court of Justice*<sup>41</sup> instructs the International Court of Justice to “apply international custom, as evidence of a general practice accepted by law”.<sup>42</sup> Accordingly, principles of

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<sup>32</sup> S 233.

<sup>33</sup> S 232.

<sup>34</sup> S 39(1).

<sup>35</sup> S 231(1).

<sup>36</sup> S 231(2).

<sup>37</sup> S 231(4). The following three procedures may be contemplated for the enactment of international agreements: (a) the treaty document as a whole is included in an Act of Parliament; (b) the treaty may be included as a schedule to a statute; and (c) an Act may be given the executive power to bring a treaty into effect in municipal law by means of proclamation in the *Government Gazette*. Analogous to the provisions of the South African Constitution, the *National Environmental Management Act* 107 of 1998 has incorporated Chapter 5 to deal with the application of integrated environmental management principles whilst Chapter 6 regulates the incorporation of international environmental instruments into national law. See Kidd *Environmental Law* 45 in this regard.

<sup>38</sup> International legislation may therefore become directly applicable to e-waste regulation if such international legislation is incorporated.

<sup>39</sup> Some authors are of the opinion that the principles of international law have indeed become custom. A discussion on this topic falls outside the scope of this dissertation. For further reading see Birnie and Boyle *International Law* 9 – 31.

<sup>40</sup> Many aspects of modern international environmental law are linked to concepts such as a common concern for humanity and the common heritage of mankind. As the environment is a common concern for humanity and a common heritage of mankind, e-waste should be regulated through the global provisions and concepts of international law. See Bosselman *The Principle of Sustainability* 170; Kiss and Shelton *International Environmental Law* 16.

<sup>41</sup> *Statute of the International Court of Justice* 1945.

<sup>42</sup> Article 38(1)(b) of the *Statute of the International Court of Justice* 1945.

international environmental law provide a framework for negotiating and implementing new and existing agreements.<sup>43</sup> Internationally accepted principles can subsequently become custom and binding through the requirements provided for in article 38(1).<sup>44</sup>

Should the regulatory legal framework (such as treaties and international legislation) be deficient or contradicting, principles may play a predominant role. They may sufficiently provide a “fall-back” mechanism whereby any contradictions or deficiencies could be corrected.<sup>45</sup> The principles of international environmental law also constitute a type of *Grundnorm* upon which all existing and forthcoming environmental law can be measured and based.<sup>46</sup> These principles can therefore serve as minimum standards in the absence of regulatory measures or in the case of deficient legal frameworks regulating e-waste.

### 2.1.1 Sustainable development

The impact of sustainable development on international environmental law can specifically be observed in the separate decision of Weeramantry J in the *Case Concerning the Gabčíkovo-Nagymaros Project*,<sup>47</sup> where for the first time

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<sup>43</sup> Hunter, Salzman and Zaeke *International Environmental Law and Policy* 319.

<sup>44</sup> The statement that “principles can become custom” raises a complex issue, and the discussion thereof falls outside the ambit of this study. It is hereby not suggested here that any of the principles that will be discussed are binding international law. See Hunter, Salzman and Zaeke *International Environmental Law and Policy* 318–325; Birnie and Boyle *International Law* 16-18; Dugard *International Law* 29-33.

<sup>45</sup> Devine “International Environmental Law” 133-139, Lubbe 2007 *An analysis of the environmental law framework regulating cross-border conservation of the Maloti-Drakensberg Transfrontier Park*. Currently South Africa has no existing legal framework to specifically regulate and remediate and recognise any environmental harm caused by e-waste trade, in this regard see par 4. When existing legislation proves to be deficient, principles such as the “polluter pays”, “prevention” and “precaution” principle should, serve to fill the *lacuna* as a basis or point of departure.

<sup>46</sup> The *grundnorm* or ‘basic norm’ was developed by Hans Kelsen and consists of two main functions namely: (a) to enable any person to interpret a command, permission or authorisation as an objectively valid legal norm, and (b) to enable the scientist to interpret all valid legal norms as a non-contradictory field of meaning. The theory seeks to find a point of origin for all law from which their legitimacy is gained. See Harris *CLJ* 103 – 133.

<sup>47</sup> *Case concerning the Gabčíkovo-Nagymaros Project* ICJ Reports 1997.

reference was made to the “need to reconcile economic development with protection of the environment which is aptly expressed in the concept of sustainable development”.<sup>48</sup>

Sustainable development has dominated international activities in the field of environmental protection since the end of the 1980s,<sup>49</sup> with some academics and authors now labelling this principle as international customary law.<sup>50</sup> The *World Report of the Commission on Environment and Development*<sup>51</sup> (hereafter the World Report) was the first to define the term as “development that meets the needs of the present without compromising the ability of future generations to meet their own”.

A more recent definition was adopted at the *World Summit on Sustainable Development*,<sup>52</sup> which defines sustainable development as:

The process of progressive change in the quality of human beings, which places it as the centre and primordial subject of development, by means of economic growth with social equity and the transformation of methods of production and consumption patterns, and which is sustained in the ecological balance and vital support of the region.<sup>53</sup>

Nationally, sustainable development is defined by the *National Environmental Management Act* 107 of 1998 (hereafter the NEMA) in section 1(1)(xxix) as:

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<sup>48</sup> Scholtz 2005 *JSAL* 69 - 85.

<sup>49</sup> Kiss and Shelton *International Environmental Law* 119.

<sup>50</sup> See Van Harmelen, Van Leeuwen and De Vette 2005 [www.envirosecurity.org/.../IES\\_ESA\\_CS\\_Kalimantan\\_Legal\\_Analysis.pdf](http://www.envirosecurity.org/.../IES_ESA_CS_Kalimantan_Legal_Analysis.pdf). For further reading also see Obrecht et al *The Role of Customary Law in Sustainable Development*.

<sup>51</sup> *World Report of the Commission on Environment and Development* 1987. Critical objectives of sustainable development identified by this report include reviving growth and changing its quality, meeting essential needs for jobs, food, energy, water and sanitation, ensuring sustainable levels of population, conserving and enhancing the resource base, reorienting technology and managing risk, and merging the environment and economics in decision making.

<sup>52</sup> *World Summit on Sustainable Development* 2002.

<sup>53</sup> Available at <http://www.un.org/events/wssdl/>. This process implies respect for regional, national and local ethnic and cultural diversity, and the full participation of people in peaceful coexistence and in harmony with nature, without prejudice to and ensuring the quality of future generations.

the integration of social, economic and environmental factors into planning, implementation, and decision-making so as to ensure that development serves present and future generations

The NEMA also elaborates on the relevant factors that need to be considered when ensuring sustainable development.<sup>54</sup> Any development should be conducive to future generations.<sup>55</sup> Although the generation, trade and dumping of e-waste is a form or result of development,<sup>56</sup> the non-regulation thereof inevitably leads to “unsustainable development”. A balance has to be established between the need for economic development and the need for social and environmental protection. When the impact of the e-waste trade and the interests of future generations are considered, the non-regulation of e-waste becomes unjustifiable and the need for legislative e-waste regulation becomes even more desperate. It is therefore clear that the South African approach towards e-waste regulation should be based on the principle of ensuring that development meets the needs of the present generation without compromising the needs of the future generations.

### 2.1.2 *The precautionary principle*

The precautionary principle is incorporated in Principle 15 of the *Rio Declaration on Environment and Development*<sup>57</sup> (hereafter the Rio Declaration) and provides for instances where threats of serious or irreversible environmental damage exist. In these instances the lack of full scientific certainty shall not be used as a reason for postponing the taking of cost-effective measures to prevent environmental degradation. The implementation of an approach based on the

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<sup>54</sup> NEMA s 1(1)(xxix). Other South African legislation that has incorporated the notion of sustainable development includes the *Marine Living Resources Act* 18 of 1998 in s 2, the *Mineral and Petroleum Resources Development Act* 28 of 2002 in s 1, and the *National Water Act* 36 of 1998.

<sup>55</sup> This is especially emphasised in Principle 4 of the *Rio Declaration on Environment and Development*, which states that “in order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it”.

<sup>56</sup> Not only because the export of waste is extremely cost effective to richer countries who can now avoid expensive recycling procedures, but especially due to the fact the importation of waste enables poorer countries and communities to earn additional income.

<sup>57</sup> The Rio Declaration was, adopted at The United Nations Conference for Environment and Development, Rio de Janeiro, June 1992.

precautionary principle should commence with the taking of cost-effective measures.<sup>58</sup> Where possible, the degree of scientific uncertainty should be identified at each stage.<sup>59</sup> Environmental damage can be largely avoided if the necessary precautionary steps are taken.

It could be argued that the precautionary principle remains the most general of environmental protection measures.<sup>60</sup> This principle applies to the regulation of waste on both a global and national scale. If the principle of precaution had been followed and implemented by developing countries, e-waste would not have been the global concern that it is today.<sup>61</sup> In applying the principle of precaution, the prescribed scientific analysis would have indicated what a grave environmental impact e-waste trade<sup>62</sup> has, and the current situation (with reference to Nigeria and Ghana) could have been avoided or at least mitigated.<sup>63</sup>

At a national level, NEMA provides in section 2(4)(a)(vii) that "a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about consequences of decisions and actions".<sup>64</sup> The unforeseeable future effects of e-waste trade and dumping demand precaution. In this regard,

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<sup>58</sup> Kiss and Shelton *International Environmental Law* 115; Sands *International Environmental Law* 195.

<sup>59</sup> Kiss and Shelton *International Environmental Law* 115; Sands *International Environmental Law* 195.

<sup>60</sup> Ticker, Raffensperger and Myers <http://www.biotech.info.net/handbook.pdf>, Cole 2005 <http://www.edu.org.au/.../david%20cole%20on%20precautionary%20principle.doc>. Since every new development runs the risk of causing environmental damage, it is clear that the principle of precaution is not an absolute one. It is necessary to balance possible environmental damage against the cost of avoidance with the degree of likely risk. Kiss and Shelton *International Environmental Law* 115; Kidd *Environmental Law* 8.

<sup>61</sup> Even though the *Cartagena Biosafety Protocol to the Convention on Biological Diversity* was adopted by 130 countries including South Africa on 29 January 2000 in Montreal, e-waste trade remains unregulated and damaging. This Protocol is based on the precautionary principle. The objective of the Protocol, as stated in article 1, refers explicitly to Principle 15 of the Rio Declaration, as discussed above. See Cosbey and Burgiel *The Cartagena Protocol on Biosafety* 4; Kiss and Shelton *International Environmental Law* 116.

<sup>62</sup> Trade in e-waste leads to e-waste dumping and environmental damage.

<sup>63</sup> It is therefore paramount that a precautionary approach be followed regarding the future regulation of e-waste.

<sup>64</sup> This principle is also reflected in the *Marine Living Resources Act* 18 of 1998, where s 2(c) indicates "the need to apply precautionary approaches in respect of the management and development of marine living resources".



the regulation of e-waste must therefore be based on a cautious approach especially if as conclusive scientific research regarding environmentally sound disposal and recycling of e-waste is absent.

### 2.1.3 *The preventive principle*

The preventive principle requires each state to act reasonably within its jurisdiction and in good faith to regulate private and public activities that could possibly be harmful to any part of the environment, before such environmental harm occurs.<sup>65</sup> Even though the principle does not impose an absolute duty on states to prevent all environmental harm, it does place an obligation on each to prohibit any actions that could cause damage to the environment. These actions may very well include the e-waste trade and the dumping of e-waste in developing countries. Upon application of the preventive principle, an obligation is placed on each and every country participating in the waste trade to prevent the environmental harm and degradation caused by the e-waste trade.

In South Africa this principle has been incorporated in NEMA which provides in section 2(4)(a)(ii) "that pollution and degradation of the environment is avoided, or, where they cannot altogether be avoided, is minimised and remedied".

### 2.1.4 *The polluter pays principle*

In plain terms, the polluter pays principle seeks to impose the cost of environmental harm on the party responsible for the pollution,<sup>66</sup> namely the polluter.<sup>67</sup> The polluter pays principle was developed as an economic principle

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<sup>65</sup> This duty is expressed in Principle 17 of the Rio Declaration; Chapter 22 of *Agenda 21* of 1992, and article 14(1)(a) and (b) of the *Biodiversity Convention*.

<sup>66</sup> Kiss and Shelton *International Environmental Law* 119; Hunter, Salzman and Zaeke *International Environmental Law and Policy* 383.

<sup>67</sup> Defined by the *European Commission Council Recommendation* of November 1974 as "someone who directly or indirectly damages the environment or who creates conditions leading to such damage".

that aims to hold polluters economically liable for environmental damage.<sup>68</sup> It is also intended to encourage the rational use of scarce environmental resources and to avoid the distortion of international trade and investment.<sup>69</sup> This principle finds direct application in e-waste regulation. According to the polluter pays principle the burden of remediating the damage caused by the e-waste trade should be ascribed to the responsible developed states for the damage so caused.

The Rio Declaration has adopted this principle in rather abstract terms by stating in Principle 16 that:

National authorities should endeavour to promote internalisation 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 regard to the public interest and without distorting international trade and investment.

When interpreting Principle 16 and referring specifically to public interest, it is clear that the polluter pays principle is applicable not only at international level but also finds domestic application. In terms of Principle 16 everyone is bound by the polluter pays principle, and as a result this principle can remediate international and domestic environmental harm caused by the e-waste trade and the dumping of e-waste, in the sense that those responsible for the generation and disposal of e-waste must bear the full cost resulting from liabilities in e-waste regulation.

South African legislation has incorporated the polluter pays principle in NEMA's section 2(4)(p), which provides that:

The cost 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.

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<sup>68</sup> Kiss and Shelton *International Environmental Law* 119; Hunter, Salzman and Zaeke *International Environmental Law and Policy* 383.

<sup>69</sup> Callan and Thomas *Environmental Economics and Management Theory, Policy and Applications* 2; Kiss and Shelton *International Environmental Law* 117.

Regarding the regulation of e-waste, this principle would imply that those responsible for damage to the environment caused by the e-waste trade and dumping should remediate the effects of such dumping and pay for all costs associated with such remediation.

#### 2.1.5 *The principle of common but differentiated responsibility*

In terms of the principle of common but differentiated responsibility (hereafter CBDR), all states have the common responsibility to protect the environment and to promote sustainable development. However, because of their different social, economic, and ecological situations, countries must shoulder different responsibilities.<sup>70</sup> This principle is reiterated in the *United Nations Conference on Environment and Development*<sup>71</sup> and was subsequently included in the Rio Declaration under Principle 7.<sup>72</sup> The regulation of waste and the e-waste trade and the remediation of the environmental impact thereof are the common responsibility of each party to the e-waste trade. This responsibility is, however, differentiated to the extent of each party's role in the waste trade. Developed countries will be able to remediate the effects of the e-waste trade in their own technological capacity with respect to recycling. Developing countries on the other hand can remediate these effects by adopting and implementing the necessary legislative instruments, restricting or even prohibiting this form of waste trade as a whole.<sup>73</sup>

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<sup>70</sup> Hunter, Salzman and Zaeke *International Environmental Law and Policy* 358.

<sup>71</sup> *United Nations Conference on Environment and Development* held in Rio de Janeiro 1992.

<sup>72</sup> Principle 7 of the Rio Declaration states:

"States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command".

<sup>73</sup> The goal of e-waste regulation can in this instance be achieved by legislatively prohibiting the import of e-waste as a whole.

### 2.1.6 The principle of cooperation

The principle of cooperation between states is derived from the very essence of general international law.<sup>74</sup> International environmental protection necessitates international cooperation and is expressed in several texts. The Stockholm Declaration<sup>75</sup> states in Principle 24 that:

International matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big and small, on equal footing. Cooperation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of states.

Provision for the cooperation principle is also provided for in the Rio Declaration by Principle 5<sup>76</sup> and Principle 27.<sup>77</sup> To successfully remediate the effects of the e-waste trade, global cooperation is of cardinal importance. Parties to the waste trade should cooperate, for example by restricting the import and export of such waste and remediating the environmental damage caused.<sup>78</sup>

## 2.2 Custom

Several international customary law rules have emerged over the years. This section would not be complete if no reference were made to the principles adopted in the *Trail Smelter Case* of 1937, as these principles have since

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<sup>74</sup> Kiss and Shelton *International Environmental Law* 17.

<sup>75</sup> *Stockholm Declaration of 1972*.

<sup>76</sup> Principle 5 of the Rio Declaration states that "all states and peoples shall cooperate in the essential task of eradicating poverty as an indispensable part of sustainable development".

<sup>77</sup> Principle 27 of the Rio Declaration adds that cooperation shall be conducted in good faith and shall include further development of international law and sustainable development.

<sup>78</sup> Various programmes towards the management of the e-waste trade have already emphasised the importance of global cooperation. Such programmes include the *Basel Convention Partnership on the Environmentally Sound Management of Electrical and Electronic Wastes of the Asia Pacific Region*; International Workshops on E-waste Recycling in Latin America, Management strategies in China, and even the European Union's programmes on Waste from Electronic Equipment and the Restrictions on the Use of Certain Hazardous Substances on Electrical and Electronics Equipment.

become international customary law.<sup>79</sup> In short, a smelter was situated in Canada, and the United States of America (hereafter the USA) alleged that hazardous fumes<sup>80</sup> were carried downriver deep into the State of Washington, where they caused considerable environmental harm.<sup>81</sup>

In the process of determining the outcome<sup>82</sup> an important international customary principle or doctrine was developed, namely the principle of *sic utere tuo, et alienum non laedas*, which was a milestone in the development of general international law and state responsibility towards pollution.<sup>83</sup> *In casu* the Tribunal found Canada liable towards the USA for the damage caused, and ordered Canada to remediate the cost of the damages, stating that:<sup>84</sup>

No state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear convincing evidence.

The principle was incorporated in Principle 21 of the Stockholm Declaration and reaffirmed in numerous other binding and non-binding international instruments.<sup>85</sup> Applied to the difficulties surrounding the regulation of e-waste, developing countries must prohibit the use of their territory as a dumping ground for other

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<sup>79</sup> See United Nations Environment Programme International Decisions available at [http://www.unep.org/padalia/publications/Jud.dec.%20pre\(Int%20.pdf](http://www.unep.org/padalia/publications/Jud.dec.%20pre(Int%20.pdf)

<sup>80</sup> These hazardous fumes were in the form of sulphur dioxide.

<sup>81</sup> The duty imposed on the Tribunal in this matter was to finally decide on the following aspects: a) whether the claimed fumes from the Trail Smelter indeed caused harm from the first day of January 1932, and if so, what indemnity should be paid? b) If the damage was indeed caused by the Trail Smelter, whether it should be prohibited from causing such damage in the future, and if so, to what extent? c) What measures should be adopted and maintained by the Trail Smelter in the light of the preceding question? d) What indemnification or compensation should be paid, if any, in the light of the answers to the preceding questions? For a detailed discussion on these aspects see the United Nations Reports of International Arbitral Awards *Trail Smelter Case* vol III 1905–1982, [www.scribbr.com/doc/3847450/The-Trail-Smelter-Case-](http://www.scribbr.com/doc/3847450/The-Trail-Smelter-Case-).

<sup>82</sup> Which outcome was determined by a tribunal consisting of Charles Warren (USA), Jan Frans Hostie (Belgium) and Robert A. E. Greenshields (Canada).

<sup>83</sup> Glazewski *Environmental Law* 631.

<sup>84</sup> Glazewski *Environmental Law* 632; Kidd *Environmental Law* 48.

<sup>85</sup> For a detailed discussion on this aspect see Birnie and Boyle *International Law and the Environment* 505; Hunter, Salzman and Zaeke *International Environmental Law and Policy* 504.

developed states, and developed countries should not dump e-waste on the territory of developing (or any other) countries. When applied, this prohibition can restrict the serious injury that will be suffered as a consequence of this trade in the future.<sup>86</sup>

### 2.3 Treaty law

No single international treaty specifically regulates e-waste. The treaties discussed under this section may, however, regulate certain aspects thereof indirectly.

#### 2.3.1 *The Stockholm Convention on Certain Persistent Organic Pollutants*<sup>87</sup>

The adoption of the *Stockholm Convention on Certain Persistent Organic Pollutants* (hereafter the Stockholm Convention) was a major step towards the control of hazardous substances, which was reflected by its objective in article 1 as:

Mindful of the precautionary approach as set forth in Principle 15 of the *Rio Declaration on Environment and Development*, the objective of the Convention is to protect human health and the environment from persistent organic pollutants.

Chemicals regulated by the Stockholm Convention include those possessing toxic properties which resist decay, which bio-accumulate, and which are transported through the air and water with migratory species across international boundaries, where they accumulate in terrestrial aquatic ecosystems.<sup>88</sup> These

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<sup>86</sup> One can also argue that developed countries have used their territory in such a manner as to produce waste, which waste has damaged the territory of developing countries as a result of the waste trade. Against the backdrop of the *Trail Smelter* case, developing countries that suffer as a result of such trade should be able to hold trading developed countries liable for the damage caused by the waste trade.

<sup>87</sup> The *Stockholm Convention on Certain Persistent Organic Pollutants* of 2000 was adopted by 154 countries and the European Union on 22 May 2001.

<sup>88</sup> Kiss and Shelton *International Environmental Law* 331; Hunter, Salzman and Zaeke *International Environmental Law and Policy* 887.

chemicals create extreme health risks, especially in developing countries where rural housing and access to adequate health care is known to be problematic.

The Convention distinguishes between pollution caused by intentional production and use,<sup>89</sup> and unintentional production.<sup>90</sup> It also categorises chemicals in three different divisions and delegates responsibilities and prohibitions accordingly. Article 6 suggests “measures to reduce or eliminate releases from stockpiles and wastes” and includes the identification of stockpiles and the adoption of appropriate measures so that such wastes, including the products and articles becoming wastes, are handled, collected, transported and stored in an environmentally sound manner. Article 6 provides measures to ensure that such waste is finally disposed of in such a way that the hazardous content is destroyed or irreversibly transformed in order to prevent environmental danger. E-waste stockpiles can and should therefore be identified and regulated under article 6 of the Stockholm Convention.

Principle 1 of the Stockholm Convention provides that everyone has the right to freedom, equality and adequate conditions of life. It also provides for these privileges to thrive in an environment of such quality as permits a life of dignity and well-being. In order to provide for these entitlements the Stockholm Convention has identified 12 persistent organic pollutants, with the primary focus on reducing and eliminating these pollutants.<sup>91</sup> The Stockholm Convention

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<sup>89</sup> Article 3 and 4 of the Stockholm Convention.

<sup>90</sup> Article 5 of the Stockholm Convention.

<sup>91</sup> These pollutants are aldrin (an insecticide primarily used on soil and crop pests), chlordane (an insecticide used on crop, grains, maize, potatoes, sugarcane etc, and to combat termites and other invertebrates and even birds), DDT (which was used during World War II to control mosquitoes and combat malaria), Dieldrin (an insecticide used against agricultural pests), Endrin (an insecticide used against pests on corn, cotton and rice) Heptachlor (an insecticide used to combat soil and crop pests such as termites etc.), Mirex (an insecticide used in the United States against fire ants, yellow jacket wasps etc.) Toxaphene (an insecticide used to protect cotton, cereal grains, fruits, nuts and vegetables), Polychlorinated biphenyls (also known as PCBs first manufactured in 1929 and used as heat exchange fluids and insulating mediums in electrical capacitors, transformers, hydraulic and heat transfer systems. PCBs, are very toxic to aquatic organisms and fish, and cause reproductive failure and immune suppression in a variety of other wildlife species), Hexachlorobenzene (manufactured in 1945 as a seed treatment),

attempted to restrict the use of these chemicals in the manufacturing of electronic equipment and to prohibit the use thereof in food-processing equipment. The Convention also provided that the disposal of such equipment to be dealt with in an environmentally sound manner, and that a report was to be issued to the Conference by the parties every five years indicating the progress that had been achieved in eliminating these compounds.<sup>92</sup>

Although most harmful components to e-waste have not been categorised as persistent organic pollutants by this Convention, the global ban imposed on certain substances could be extended to include these electronic components.<sup>93</sup> The importance of this categorisation becomes especially relevant as studies have shown that e-waste is an important source and cause for the emission of certain persistent organic pollutants.<sup>94</sup> Therefore, although e-waste is not an organic pollutant regulated by the Stockholm Convention, studies have shown that the dumping of e-waste result in the release of organic pollutants (that is regulated by the Stockholm Convention) into the environment.<sup>95</sup>

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Dioxins (such as polychlorinated dibenzo-p-dioxins, which exist purely as a by-product of commercial industrial production) and Furans (Like dioxins, they are by-products of commercial industrial production). The use of Polychlorinated biphenyls in the manufacturing of electrical implements was halted by most countries in the early 1970s. See the discussion of the World Bank and CIDA on *Persistent Organic Pollutants and the Stockholm Convention* available at <http://www.siteresources.worldbank.org/.../PersistentOrganicPollutantsAResourceGuide2001.pdf>.

<sup>92</sup> See the discussion of the World Bank and CIDA on *Persistent Organic Pollutants and the Stockholm Convention* available at <http://www.siteresources.worldbank.org/.../PersistentOrganicPollutantsAResourceGuide2001.pdf>.

<sup>93</sup> Article 8(1) of the Stockholm Convention enables parties to make proposals for the listing of a chemical in one of the Annexes. Hazardous chemicals in e-waste can be incorporated into the Stockholm Convention by this ability.

<sup>94</sup> Through leakage, evaporation, leaching and runoff of e-waste, toxic traces of PCBs and organochlorine pesticides have seriously contaminated environments and food in certain parts of China. This contamination resulted from the dumping of e-waste. Zhou *et al Environmental Geochemistry and Health* 341.

<sup>95</sup> These organic pollutant include phthalates, polybrominated diphenyl ethers and triphenyl phosphate, see Zhou *et al Environmental Geochemistry and Health* 341.



The global regulation of the e-waste trade could be regulated if e-waste were to be categorised under this Convention.<sup>96</sup> The Convention has the ability to ensure that wastes are finally disposed of in such a way that the hazardous content is destroyed or irreversibly transformed in order to prevent environmental danger, and to implement the use of suitable alternative products that are harmless to the environment. Information exchange between countries can also be encouraged by means of this Convention and public awareness can be promoted as to the harmful effects of the e-waste trade.<sup>97</sup>

### 2.3.2 *The Basel Convention*<sup>98</sup>

The Basel Convention was adopted on 22 March 1989 by 116 states and came into force in 1992.<sup>99</sup> This Convention, to which South Africa is a participant,<sup>100</sup> has evolved in response to international outrage over the common practice of shipping hazardous substances from developed countries to developing countries, and accordingly established the first international, binding instrument to address the international waste trade.<sup>101</sup> The Basel Convention aims to protect developing import states from the hazard of unregulated transboundary

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<sup>96</sup> As South Africa is amongst the 152 signatories to the Stockholm Convention, the categorisation of e-waste under this convention becomes a very real solution. See <http://www.pops.int/documents/signature/signstatus.htm>.

<sup>97</sup> See the discussion by the World Bank and CIDA on *Persistent Organic Pollutants and the Stockholm Convention* available at <http://www.siteresources.worldbank.org/.../PersistentOrganicPollutantsAResourceGuide2001.pdf>.

<sup>98</sup> *Basel Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal* of 1989.

<sup>99</sup> Wirth 2007 "Hazardous Substances and Activities" 395-422; Kiss and Shelton *International Environmental Law* 336; Birne and Boyle *International Law and the Environment* 333; Hunter, Salzman and Zaeke *International Environmental Law and Policy* 862.

<sup>100</sup> See par 1.

<sup>101</sup> The Convention aims to manage trade in both hazardous and domestic waste, and also establishes a limited ban applicable to non-party states. States which have adopted the Basel Convention are obligated to reduce or even completely ban all their exports of hazardous wastes, and to handle their waste problems within their own national borders. See Wirth "Hazardous Substances and Activities" 395-422; Kutz *Villanova Environmental Law Journal* 315; Billingham *Colorado Journal of International Environmental Law and Policy* 407 in this regard.

movement in hazardous waste by establishing a regime of prior informed consent, a sound disposal requirement, and liability for environmental harm.<sup>102</sup>

Some of the important provisions on hazardous waste management as provided by the Basel Convention include<sup>103</sup> that a signatory state cannot ship hazardous waste to another state that has not also ratified the Convention, or to a signatory state that has banned the import of such waste;<sup>104</sup> and before an exporting state can initiate the shipment of hazardous waste, it is obliged to acquire written consent from the importing country.<sup>105</sup> Other provisions include that: no signatory state may ship hazardous waste to another signatory state if such an importing country is not able to dispose of the imported waste in an environmentally sound manner;<sup>106</sup> if the importing state is unable to dispose of imported hazardous waste in an environmentally sound manner, the exporting state is obliged under the Basel Convention to either take back the exported hazardous waste,<sup>107</sup> or to find another way of environmentally sound disposal; illegal trafficking in hazardous substances or waste is a criminal offence;<sup>108</sup> and shipments of

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<sup>102</sup> Other similar efforts include the United Nations Environment Programme Guidelines on Banned or Severely Restricted Chemicals 1987, and the Rotterdam Convention on Prior Informed Consent for Certain Hazardous Chemicals and Pesticides in International Trade 1998. See Francioni *Environment* 21; Birne and Boyle *International Law and the Environment* 336 – 341 in this regard.

<sup>103</sup> As provided by Kiss and Shelton *International Environmental Law* 328; Kummer *International Management* 47; Hunter, Salzman and Zaeke *International Environmental Law and Policy* 863 – 871.

<sup>104</sup> The Basel Convention grants every country the right to refuse acceptance of hazardous substances.

<sup>105</sup> This regulatory approach is known as "prior informed consent" (hereafter PIC) as provided for by article 4(1)(a) of the Basel Convention. In terms of PIC every signatory state may choose to ban the importation of hazardous substances by enacting legislation and/or regulation to that effect. In 2004 the PIC regime was incorporated into a Convention. In 1995, a document named the Basel Ban, banned the shipments of hazardous waste between OECD and non-OECD states.

<sup>106</sup> This obligation is in line with the Convention's goal of keeping hazardous waste at home. See in this regard article 4(2)(g) of the Basel Convention.

<sup>107</sup> Where hazardous waste has not been legally imported articles 8 and 9 of the Basel Convention provide that the exporting country will accept the return of such hazardous waste.

<sup>108</sup> Article 4(2) of the Convention. An extensive definition of the illegal waste trade is provided by article 9 of the Convention and includes a violation of informed consent provisions, consent obtained through falsification, fraud or misinterpretation, and the deliberate disposal in violation of the terms of the Convention, which practices often occur with respect to the e-waste trade. The Basel Convention itself, however, fails to provide for any

hazardous waste should be in conformity with the generally accepted international rules and standards, implying that shipments of hazardous substances therefore have to be adequately packaged, labelled and transported.<sup>109</sup> Finally the Basel Convention makes provision for international cooperation involving bilateral agreements in promoting shared goals, the training of technicians, the transfer of technology and the exchange of information;<sup>110</sup> and that signature states are obliged to generate less hazardous substances and to dispose thereof as close to the source as possible.<sup>111</sup>

The Basel Convention is the first universal, binding instrument regulating both hazardous and domestic waste in the international waste trade.<sup>112</sup> The challenges surrounding e-waste were discussed for the first time in December 2002 at the sixth meeting of the Conference of the Parties to the Basel Convention<sup>113</sup> (hereafter the COP), where effective partnership establishment with relevant stakeholders to support sound management activities for priority waste streams such as e-waste was discussed. In November 2006 at the eighth meeting of the COP<sup>114</sup> more key issues surrounding e-waste were addressed, such as strengthening the Convention, governments' inability to protect their citizens from the risk posed by e-waste, the need for a strategic waste management implementation plan,<sup>115</sup> and the need to inform developing

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criminal sanctions or penalties where the transport of hazardous waste was in violation of the Convention.

<sup>109</sup> Article 4(7)(b) of the Basel Convention.

<sup>110</sup> Articles 10 and 14(1) of the Basel Convention.

<sup>111</sup> The principle of proximity of disposal in terms of article 4(2)(a) of the Basel Convention, which contains a pledge by all parties to minimise the generation of hazardous and other wastes, taking into account the social, technological and economic aspects. In addition, under article 4(2)(b) all signature parties must ensure that adequate disposal facilities are available within their borders, and under article 4(2)(d) must prevent pollution from hazardous waste and minimise the transboundary shipment thereof.

<sup>112</sup> Wirth "Hazardous Substances and Activities" 395-422; Hunter, Salzman and Zaeke *International Environmental Law and Policy* 862.

<sup>113</sup> Held from 9 – 13 December 2002. Text available at <http://www.basel.int/meetings/cop/cop6/english/3e.pdf>.

<sup>114</sup> Held from 27 November 2007 to 1 December 2006. Text available at <http://www.basel.int/meetings/cop/cop8/docs/16e.pdf>.

<sup>115</sup> It was suggested that governments needed to set strict standards for so-called "donations" of e-waste.

countries on the dangers surrounding this particular waste trade.<sup>116</sup> During the COP 8 it was decided that the Basel Convention should be strengthened to allow regional coordinating centres to fulfil their intended role as instruments for international cooperation, and it was urged that parties should increase financial support for e-waste management, develop a take-back system,<sup>117</sup> combat the illegal trafficking of e-waste, and initiate an e-waste working group.<sup>118</sup>

Since COP 9, many initiatives for the management of the e-waste trade have seen the light, especially those of Asia-Pacific, South-America and Indonesia.<sup>119</sup> In terms of the Basel Convention, the transboundary movement of waste must conform to the provisions of the Convention, in the sense that such shipments are permissible only if they present the best solution from an environmental perspective, if the principles of environmentally sound management are observed, and if they take place in conformity with the regulatory system established by the Convention.<sup>120</sup>

The Basel Convention, however, places a restriction on the shipment of "hazardous waste" and not on "goods".<sup>121</sup> E-waste is generally labelled as electronic goods or goods destined for recycling or reuse.<sup>122</sup> The question that therefore needs to be addressed is whether e-waste is "hazardous" and subsequently whether e-waste is "waste" as defined under the Basel Convention. In this instance it is submitted that virtually all non-dismantled e-waste material will qualify as a listed material under the Annexes to the Basel Convention, which

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<sup>116</sup> As a member of the Basel Convention, South Africa also attended the COP 8.

<sup>117</sup> A system which compels the producers of electronic appliances and components to collect and recover their discarded products. E-waste will be collected separately from the main waste stream to enable producers of such waste to recycle and reuse such waste in a sustainable manner.

<sup>118</sup> Text available at [www.basel.int/meetings/cop/cop8/docs/16e.pdf](http://www.basel.int/meetings/cop/cop8/docs/16e.pdf).

<sup>119</sup> See the Basel Convention Bulletin available at [http://cop9.basel.int/Basel\\_Bulletin-COP9.pdf](http://cop9.basel.int/Basel_Bulletin-COP9.pdf).

<sup>120</sup> Kummer *International Management* 48.

<sup>121</sup> Article 4(9)(b) of the Basel Convention.

<sup>122</sup> Boon *Transnational Law and Contemporary Problems* 750. Additionally, it is submitted that currently there is no international treaty that administers the international shipment of used electronic goods for the purpose of recycling.

includes, *inter alia*, components of e-waste such as lead, cadmium, mercury, chromium, barium and beryllium. E-waste will, however, be regulated by the Basel Convention only if it can be considered a "waste".

An investigation was lodged in 2009<sup>123</sup> by the MPPI, Project 4.1.<sup>124</sup> The project concluded that material destined for recycling and disposal is clearly a waste as defined by the Basel Convention. Furthermore it was established that the consignment of electronic goods as being destined for "re-use" rather than "waste", had to be supplemented with necessary proof confirming that such material was indeed fully functional,<sup>125</sup> the reason being that non-functional electronic goods are in some instances disguised as functional electronic goods but are indeed discarded as e-waste.

The Basel Convention is an international legislative and enforceable instrument which, when interpreted under the investigations of the MPPI, could regulate the transboundary movement of e-waste as a hazardous waste. The international regulation of e-waste could provide considerable national solutions. Despite all of these efforts, the United States is yet to ratify the Basel Convention. The effect thereof is that the United States, as the single largest producer of e-waste, still engages in hazardous waste trade with developing and the least developed countries.<sup>126</sup> Recently, on 15 April 2010, the Basel Action Network announced the official launch of a global e-waste recycler certification programme known as the e-Steward Standard. This programme will attempt to regulate e-waste under the auspices of the Basel Convention.<sup>127</sup>

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<sup>123</sup> March 25, 2009.

<sup>124</sup> Available at [www.basel.int/industry/mppiwp/guid-info/guiddesign.pdf](http://www.basel.int/industry/mppiwp/guid-info/guiddesign.pdf).

<sup>125</sup> See the MPPI report available at [www.basel.int/industry/mppiwp/guid-info/guiddesign.pdf](http://www.basel.int/industry/mppiwp/guid-info/guiddesign.pdf), the report issued by the Basel Action Network available at [http://www.ban.org/Library/African\\_Policy\\_on\\_UEEE\\_Importation.pdf](http://www.ban.org/Library/African_Policy_on_UEEE_Importation.pdf), Luther 2009 <http://www.fas.org/sgp/crs/misc/R40850.pdf>. According to this study, e-waste can indeed be classified as under "hazardous waste" as it is a "solid waste" that exhibits toxic characteristics, as provided for under the American Resource and Recovery Act 42.

<sup>126</sup> Billingham 2005 *Colorado J Int Environ Law Pol* 408, Kutz Villanova *Environmental Law Journal* 315, and Boon 2006 *Tansnational Law and Contemporary Problems* 750.

<sup>127</sup> See [http://www.ban.org/ban\\_news/2010/100415\\_major\\_corporations\\_step\\_up.html](http://www.ban.org/ban_news/2010/100415_major_corporations_step_up.html). The policy framework on the *Strategic Approach to International Chemical Management* is also

### 3 Regional Law Framework

The aim of this section is to identify and discuss the most relevant regional legislation within Africa and the SADC that might be most relevant to e-waste regulation.<sup>128</sup> As the e-waste trade has proven to have a severe impact on poorer African countries,<sup>129</sup> the manner in which these regional instruments deal (or fail to deal) with waste regulation will serve as the focus of this discussion.

#### 3.1 *The African Convention on the Conservation of Nature and Natural Resources of 1968*<sup>130</sup>

The *African Convention on the Conservation of Nature and Natural Resources of 1968* (hereafter the African Convention) encourages parties to “adopt the measures necessary to ensure conservation, utilisation and development of soil, water, fauna and flora for present and future welfare of mankind, from an economic, nutritional, scientific, educational, cultural and aesthetic point of view” and in essence proclaims global environmental conservation as a primary concern of all Africans.<sup>131</sup>

With respect to hazardous waste, article XIII of the Convention obliges member states to prevent environmental harm from processes and activities affecting the

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currently considering the possibility of amending the Basel Convention in order for it to take cognisance of the current situation surrounding the e-waste trade and the inevitable result of developing countries not being able to safely recycle such waste. For further reading see [www.saicm.org/.../ICCM2%20INF36%20ewaste%20background.pdf](http://www.saicm.org/.../ICCM2%20INF36%20ewaste%20background.pdf).

<sup>128</sup> Instruments that will be discussed include: The *Bamako Convention on the Ban of the Import of Hazardous Waste into Africa and the Control of their Transboundary Movement within Africa* of 1991; The *Treaty Establishing the African Economic Community* of 1991; the *African Charter on Human and Peoples Rights* of 1981; the *African Convention on the Conservation of Nature and Natural Resources* of 1968; and the *South African Development Community* of 1980.

<sup>129</sup> Countries such as Nigeria and Ghana and even China.

<sup>130</sup> The *African Convention on the Conservation of Nature and Natural Resources* was adopted by the African Union on 11 July 2002. Although this Convention was revised in 2003, the revised edition has not yet come into force, since only four of the required fifteen countries have ratified the 2003 Convention. The 1968 version will accordingly be discussed. South Africa is a party to this Convention. Text available at [http://www.africa-union.org/.../Convention\\_Nature%20&%20Natural\\_Resources.pdf](http://www.africa-union.org/.../Convention_Nature%20&%20Natural_Resources.pdf).

<sup>131</sup> Article II of the Convention; Kiss and Shelton *International Environmental Law* 199.

environment and natural resources.<sup>132</sup> Due to its environmentally damaging consequences, the import of hazardous waste is included, which import unfortunately excludes e-waste.<sup>133</sup> Article XIII allows for parties to adopt specific national standards by making specific provisions for regulatory environmental quality. With respect to the transboundary movement of hazardous waste, article XIII(g) obliges parties to take concerted action, with reference to the instruments provided for by the Basel- and Bamako Conventions. Finally, the African Convention addresses enforcement by establishing a COP which develops and adopts rules, procedures and institutional mechanisms to promote and enhance compliance with this Convention.<sup>134</sup>

### **3.2 *The African Charter on Human and People's Rights of 1981***<sup>135</sup>

The *African Charter of Human and Peoples Rights* of 1981 (hereafter the African Charter), which was adopted under the auspices of the AU, can be said to take an innovative approach to environmental protection, as it is the first human rights treaty to expressly recognise that all people have the right to a generally satisfactory environment favourable to their development.<sup>136</sup>

The right to a satisfactory environment as declared in this provision can be used as a very powerful mechanism to indirectly ensure that e-waste is regulated in the correct manner.<sup>137</sup> Transboundary contamination by the e-waste trade and the general non-regulation thereof would be in direct contravention of one's right

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<sup>132</sup> These processes and activities can and should include the importation of e-waste, as these activities have a definitely detrimental effect on the environment and natural resources.

<sup>133</sup> E-waste is not defined as "hazardous waste" under this Convention although it is a "solid waste" that exhibits toxic characteristics, and although material destined for recycling and disposal is clearly waste. See par 2.3.2 above.

<sup>134</sup> Article XXVI of the Convention. Under the auspices of this Convention, South Africa is therefore obligated to protect the environment and prevent processes and activities that can lead to environmental harm.

<sup>135</sup> Text available at: [www.diplomacy.edu/africancharter/](http://www.diplomacy.edu/africancharter/).

<sup>136</sup> Article 24 of the African Charter, Kiss and Shelton *International Environmental Law* 82 in this regard.

<sup>137</sup> S 24 of the South African Constitution also stipulates that everyone has the right to a good and clean environment. See also the discussion in par. 4 below.

to a satisfactory environment.<sup>138</sup> However, authors indicate that irrespective of the success of the African Charter with regard to other important matters, the AU has not maintained environmental protection as a priority.<sup>139</sup> Furthermore, the new *African Union Constitutive Act* of 2001 has failed to mention or even to provide for the protection of the environment.<sup>140</sup> Economic development seems to be its sole objective and the e-waste trade remains unregulated, despite the right to a satisfactory environment.

### 3.3 *The Bamako Convention of 1991*<sup>141</sup>

The Organisation for African Unity<sup>142</sup> signed the Bamako Convention in 1991<sup>143</sup> following the strong criticism of the Basel Convention by African countries, who stated that it merely regulates the transboundary movement of hazardous waste but fails to prohibit the import of these wastes into Africa.<sup>144</sup> The Bamako Convention, which has now been ratified by more than 20 African countries, is based on two principles: human and health implications; and environmentally

<sup>138</sup> One's right to a satisfactory environment can be enforced by approaching the African Commission on Human and Peoples' Rights and the African Court on Human and Peoples' Rights, a regional judicial body established in 1998 to ensure the protection of fundamental rights as established under the African Charter.

<sup>139</sup> Kiss and Shelton *International Environmental Law* 82.

<sup>140</sup> See the objective located in article 3 of the *African Union Constitutive Act* 2002 available at [http://sломanson.tjssl.edu/3.5\\_AfricanU.pdf](http://sломanson.tjssl.edu/3.5_AfricanU.pdf).

<sup>141</sup> Text available at [www.iss.co.za/AF/RegOrg/unity\\_to\\_union/.../Bamako\\_Convention.pdf](http://www.iss.co.za/AF/RegOrg/unity_to_union/.../Bamako_Convention.pdf). The *Bamako Convention on the Ban of the Import of Hazardous Waste into Africa and the Control of their Transboundary Movement within Africa*, 1991. The sole purpose of this Convention was to raise awareness of the "risk of damage to human health and the environment caused by transboundary movements of hazardous waste. Parties to the Bamako Convention include Egypt; the Central African Republic; Guinea; Ivory Coast; Lesotho; Libya; Mali; Mauritius; Senegal; Rwanda; Somalia; Swaziland; Tanzania; Zimbabwe etc. South Africa is not a party to the Bamako Convention.

<sup>142</sup> The Organisation for African Unity was established by 33 independent African countries in 1963 with one of its aims being to promote international cooperation regarding public health measures. This organisation was disbanded in 2002 and replaced by the AU. For further reading see Viljoen *International Human Rights Law in Africa* 163-172.

<sup>143</sup> The Bamako Convention was signed at the Pan-African Conference on Environment and Sustainable Development in Bamako (Mali) 1991.

<sup>144</sup> African countries felt that their needs had not been adequately taken into account by the Basel Convention. The first relevant AU Council Ministers resolution was adopted in 1988, and declared the import of hazardous and toxic wastes into Africa as "a crime against Africa and the African people". See Kummer *International Management* 99; Totolo 2008 <http://www.isn.ethz>; Van der Linde *Comparative and International Law Journal of South Africa* 107-108.



sound and efficient management.<sup>145</sup> In accordance with these two principles, African states have the sovereign right and obligation to ban the transportation of hazardous waste into and across their territory, and hazardous wastes should be disposed of in the country where they were generated.

When compared to the Basel Convention, the Bamako Convention imposes more stringent conditions and obligations upon those who import hazardous waste, and requires the establishment of national institutions that are fully devoted to the implementation of law.<sup>146</sup> It also extends the ban on the import of hazardous waste to include a bigger array of artificially created radioactive wastes.<sup>147</sup>

With respect to the definition of hazardous waste, the Bamako Convention adopts the same system as that provided by the Basel Convention in the form of listing hazardous wastes in various annexes. However, where a certain kind of waste is excluded from Annex I (which was adopted from the Basel Convention), wastes having one of the characteristics mentioned in Annex II, are also considered hazardous. Additional wastes may be defined and incorporated into the Bamako Convention under article 3. The Bamako Convention also adds to its own definition of hazardous waste by including radioactive substances.<sup>148</sup>

Article 4, being the most prominent provision to the Bamako Convention, specifically prohibits the import, for any reason, of all nuclear and hazardous substances arising from non-contracting parties.<sup>149</sup> Not only does article 4

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<sup>145</sup> Kiss and Shelton *International Environmental Law* 338; Kummer *International Management* 100.

<sup>146</sup> Totolo 2008 <http://www.isn.ethz>; Hunter, Salzman and Zaeke *International Environmental Law and Policy* 879; Kummer *International Management* 102.

<sup>147</sup> Totolo 2008 <http://www.isn.ethz>; Hunter, Salzman and Zaeke *International Environmental Law and Policy* 879; Kummer *International Management* 102.

<sup>148</sup> Text available at [www.iss.co.za/AF/RegOrg/unity\\_to\\_union/.../Bamako\\_Convention.pdf](http://www.iss.co.za/AF/RegOrg/unity_to_union/.../Bamako_Convention.pdf).

<sup>149</sup> Since only members of the Organisation for African Unity are allowed to sign and ratify the Bamako Convention (see article 21 and 22 of the Convention), the import of any hazardous waste generated outside the continent is strictly prohibited. However, members of the AU who have not signed the Bamako are also excluded by this provision.

enshrine the precautionary principle, but by incorporating the phrase “for any reason” the Convention emphasises the intention not to differentiate between goods destined for recycling and non-recyclable goods.<sup>150</sup> In this regard, articles 8 and 9 support article 4 by providing for the illegality of hazardous waste import, and for a duty to re-import waste should such imports be labelled as hazardous.<sup>151</sup> Other relevant provisions of the Bamako Convention which might be applicable to waste regulation include a provision for intra-African cooperation,<sup>152</sup> the exchange of information,<sup>153</sup> and a provision regulating liability.<sup>154</sup>

The Bamako Convention should be able to regulate e-waste, as e-waste by definition might constitute a “hazardous waste”.<sup>155</sup> The components of e-waste are indeed considered hazardous and material destined for recycling or disposal is considered to be “waste”.<sup>156</sup> Various international critics have stated that irrespective of the more stringent regulations of the Bamako Convention, when compared to the Basel Convention, the Bamako Convention has failed to produce the expected results. The Bamako Convention fails to recognise the

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<sup>150</sup> Kummer *International Management* 101.

<sup>151</sup> Article 9(e) of the Bamako Convention describes the “illegal” transfer of waste as including the movement of hazardous waste that “results in the deliberate disposal of hazardous wastes in contravention of this Convention and of general principles of international law”.

<sup>152</sup> Article 10 of the Bamako Convention, which obligates parties to cooperate with regards to the environmentally sound management of hazardous wastes. Accordingly, parties should cooperate to regulate e-waste.

<sup>153</sup> Article 13 of the Bamako Convention, which obliges parties to exchange information regarding the transboundary movement of hazardous waste which includes information on the quantity, category, characteristics, origin and disposal thereof. Should e-waste be defined as “hazardous”, parties to the Bamako Convention would be obligated to monitor e-waste movement in terms of article 13.

<sup>154</sup> Article 12 of the Bamako Convention, that obliges the Conference of the Parties to set up an *ad hoc* expert organ to prepare a draft Protocol, setting out appropriate rules and procedures in the field of liability and compensation for damages resulting from the transboundary movement of hazardous waste.

<sup>155</sup> As e-waste may be defined as a “hazardous waste” under this Convention as it is a “solid waste” that exhibits toxic characteristics. See par 2.3.2 above.

<sup>156</sup> Basel Action Network Report available at [http://www.ban.org/Library/African\\_Policy\\_on\\_UEEE\\_Importation.pdf](http://www.ban.org/Library/African_Policy_on_UEEE_Importation.pdf).

movement of e-waste between African countries as the importation of "hazardous waste".<sup>157</sup>

### **3.4 The Treaty Establishing the African Economic Community of 1991<sup>158</sup>**

In conformity with the Bamako Convention, the *Treaty Establishing the African Economic Community* of 1991 (hereafter the AEC Treaty) declares that member states shall individually and collectively undertake to take every appropriate step to ban the importation and dumping of waste, and to cooperate with regard to the transportation, management and processing of such wastes in Africa.<sup>159</sup> In terms of article 35(1)(f) of the AEC Treaty, every state has the obligation to impose restrictions or prohibitions expressly applicable to hazardous waste and the management thereof within its territory. Even though the AEC Treaty was established to promote economic, social and cultural welfare, it thus also provides for the regulation of hazardous waste. Regarding e-waste, it can be argued that member states, including South Africa, are obliged individually and collectively to take appropriate steps towards the regulation of e-waste and the prohibition of the transboundary movement of e-waste.<sup>160</sup>

### **3.5 The South African Development Community<sup>161</sup>**

The SADC was established as a sub-regional organisation to promote cooperation among member states for their mutual benefit, to improve their collective self reliance, to improve living standards and to protect natural

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<sup>157</sup> Hunter, Salzman and Zaeke *International Environmental Law and Policy* 878; Totolo 2008 <http://www.isn.ethz>; Dikte 2007 <http://www.ewasa.org/learnabout/legal> and Ajunwa 2007 [http://www.humanrightsadvocates.org/.../HRC\\_Ajunwa\\_Illicit%20Transfer%20Dumping.doc](http://www.humanrightsadvocates.org/.../HRC_Ajunwa_Illicit%20Transfer%20Dumping.doc)

<sup>158</sup> Text available at [http://www.africa-union.org/root/au/Documents/.../AEC\\_Treaty\\_1991.pdf](http://www.africa-union.org/root/au/Documents/.../AEC_Treaty_1991.pdf), The AEC Treaty was ratified by South Africa in November 2000.

<sup>159</sup> Article 59 of the AEC Treaty; Kiss and Shelton *International Environmental Law* 82, 338.

<sup>160</sup> See n155, par 2.3.2 and 3.3 above. E-waste is currently not considered a hazardous waste by this Convention.

<sup>161</sup> The SADC member parties are Angola, Botswana, the DRC, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. The SADC website is available at <http://www.sadc.int/>.

resources in the region.<sup>162</sup> Regarding hazardous waste,<sup>163</sup> article 23 of the SADC *Protocol on Health* of 2004<sup>164</sup> states the following:

States Parties shall collaborate, co-operate and assist each other in a cross-sectoral approach in addressing regional environmental health issues and other concerns, including toxic waste, waste management, port health services, pollution of air, land and water, and the degradation of natural resources.

The principle of cooperation was adopted also by article 8.5 of the SADC *Protocol on Transport, Communications and Meteorology* of 1998, where members are obliged to cooperatively protect the marine environment by preventing and remediating toxic waste and land-based spoil, and by upgrading pollution prevention capacities.<sup>165</sup> Regarding e-waste regulation, SADC members have an obligation to cooperatively regulate e-waste and to remediate the effects thereof, as the disposal of e-waste is clearly an environmental health and waste management issue.

The SADC *Protocol on Trade* of 2000 enables SADC members to lift financial and non-financial trade barriers between member states.<sup>166</sup> This provision may prove problematic in respect of the effectiveness of restrictions regarding the trade in e-waste.<sup>167</sup> The trade in e-waste should especially be restricted.

An Environment and Sustainable Development Programme was established by the SADC to ensure the equitable and sustainable use of the environment and land-based resources for the benefit of present and future generations.<sup>168</sup> Included amongst the focus areas of this programme is the promotion of

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<sup>162</sup> See <http://www.sadc.int/> in this regard.

<sup>163</sup> Hazardous waste includes e-waste, as seen in the 2009 MPPI report available at: [www.basel.int/industry/mppiwp/guid-info/guiddesign.pdf](http://www.basel.int/industry/mppiwp/guid-info/guiddesign.pdf).

<sup>164</sup> *Protocol on Health* available at: [www.unctadxi.org/.../SADC/.../SADC%20Regional/SADCHEALTHPROTOCOL.pdf](http://www.unctadxi.org/.../SADC/.../SADC%20Regional/SADCHEALTHPROTOCOL.pdf)

<sup>165</sup> *Protocol on Transport, Communications and Meteorology* available at: [www.crasa.org/docs/sadc-tcm.pdf](http://www.crasa.org/docs/sadc-tcm.pdf)

<sup>166</sup> *Protocol on Trade* available at [www.namibweb.com/sadctp.pdf](http://www.namibweb.com/sadctp.pdf)

<sup>167</sup> Article 9 of the SADC *Protocol on Trade* states that existing trade restrictions such as those relating to the conservation of exhaustible natural resources and the environment are not nullified.

<sup>168</sup> See <http://www.sadc.int/fanr/environment/index.php> in this regard.

environmental mainstreaming and the regular assessment, monitoring and reporting on environmental conditions and trends in the SADC region.<sup>169</sup> An incentive is provided for in terms of article 23, which enables the regular assessment of progress in this regard. This incentive should promote cooperation between member states arguably in the matter of the regulation of e-waste.<sup>170</sup>

Even though the SADC has made provision for the cooperative protection of the environment and the remediation of toxic waste and land based spoil, and for the regular assessment of environmental conditions (thus attempting to ensure a sustainable future), specific provisions with the sole purpose of regulating e-waste are yet to see the light of day.<sup>171</sup> The alternative to drafting such provisions is to recognise e-waste as hazardous or toxic. This may prove an adequate solution.

#### 4 National law framework

Although various other countries have managed to regulate e-waste by means of legislation, the South African legal framework does not have any legislation

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<sup>169</sup> See <http://www.sadc.int/fanr/environment/index.php> in this regard.

<sup>170</sup> This cooperation is also provided for in article 21(3)(e) of the *Declaration and Treaty of SADC*, which calls on all members to collaborate in the sphere of environmental matters.

<sup>171</sup> At the forefront of the legislative regulation of the disposal of e-waste, the European Union (hereafter the EU) has set a global example. In 2003 the EU approved of two directives dealing with the scope and urgency of e-waste dumping. Waste from Electronic Equipment (hereafter the WEEE Directive) and the Restrictions on the Use of Certain Hazardous Substances on Electrical and Electronics Equipment (hereafter the RoHS Directive), both of which deal with rehabilitating the effects of the waste legacy while preventing future e-waste dumping. The WEEE Directive shifts the obligation of e-waste management onto the producers of the waste instead of the government, the RoHS Directive goes even further by derogating responsibility for the implementation of its requirements to the manufactures of electronic equipment within the EU, and those importing electronic equipment into the EU, and banning the use of certain harmful metals in electronic equipment, including lead, cadmium, mercury, chromium, hexavalent etc. The twin aims of these directives are to prevent e-waste, to encourage the re-use, recovery and recycling thereof, and to harmonise international regulations concerning end-of-life electrical and electronic appliances. While these effective mechanisms could provide the SADC and the AU with a well-established and plausible framework upon which to develop and enact applicable legislation regulating e-waste, their provisions are not further discussed for the purpose of this study.

dedicated specifically to addressing the regulation of e-waste.<sup>172</sup> In this section, the enquiry will be limited to national legislation covering issues such as the environment, health and safety, hazardous substances, and trade which might have a bearing on the regulation of e-waste and which might hence be applicable.<sup>173</sup>

#### **4.1 The Constitution of the Republic of South Africa, 1996<sup>174</sup>**

With regard to environmental protection as a fundamental right, section 24 of the Constitution states the following:

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.

Thus, in terms of section 24, individuals have the right to environmental protection, and the South African government has a duty to protect the environment for present and future generations. Section 24 places an obligation on the state to adopt “reasonable legislative and other measures” to achieve the above constitutional goals.<sup>175</sup> Trade in, dumping of, and the general non-regulation of e-waste has proven to be harmful to the environment, and the

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<sup>172</sup> See the introduction, par 1 above. The EU (with regards to their WEEE Directive and RoHS Directive) and Switzerland (with regards to their Ordinance on the Return, the Taking Back and the Disposal of Electrical and Electronic Equipment, 1998) and Indonesia serve as examples. For further reading see Dittke 2007 [http://ewasteguide.info/Dittke\\_2007\\_eWASA](http://ewasteguide.info/Dittke_2007_eWASA).

<sup>173</sup> The legislation discussed will include: *Constitution of the Republic of South Africa* 1996; *Customs and Excise Act* 91 of 1964; *Hazardous Substances Act* 15 of 1973; *National Environmental Management Act* 107 of 1998; *Department of Water Affairs and Forestry Minimum Requirements for Waste Disposal by Landfill* 1998; *National Environmental Management: Waste Act* 59 of 2008, and the *National Waste Management Strategy* 2010.

<sup>174</sup> Text available at [www.info.gov.za](http://www.info.gov.za).

<sup>175</sup> In *Director: Mineral Development, Gauteng Region, and Another v Save the Vaal Environment and Others* 1999 (2) SA 709 (SCA) par 20 it was emphasised that environmental protection needs to be accorded the appropriate recognition and respect in the administrative processes of the state.

legislative and executive bodies of the South African government therefore have a constitutional obligation to prevent pollution and ecological degradation and to regulate e-waste, as non-regulation infringes on section 24.<sup>176</sup>

Section 39(1) of the Constitution stipulates that the interpreter of the Bill of Rights (including the environmental right provision in section 24) must consider international environmental law. When considering the regulation of e-waste, the Constitution obliges the interpreter to take into account the contents of international environmental law as discussed above.<sup>177</sup> Section 231 of the Constitution furthermore enables the incorporation of international agreements into South African law.<sup>178</sup> South Africa law regulating e-waste accordingly has to comply with international law.

Section 231 ensures that the negotiating and signing of these agreements are the responsibility of the national executive<sup>179</sup> and proclaims that international conventions will become binding on the Republic only after they have been approved by resolution in both the National Council of Provinces and the National Assembly.<sup>180</sup> For an international agreement to become law, it also needs to be enacted by the national legislation of the Republic.<sup>181</sup> Provided that they are not inconsistent with the Constitution or an Act of Parliament, the above principles of customary international environmental law are automatically incorporated into South African law.<sup>182</sup> The South African Constitution is therefore fully receptive to the incorporation of international environmental law, a fact which may prove helpful with respect to e-waste regulation.

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<sup>176</sup> The failure to regulate the disposal of e-waste is therefore unconstitutional.

<sup>177</sup> See s 2.

<sup>178</sup> These international agreements include the Basel agreement; the Stockholm Convention, the Rio Declaration and the Cartagena Biosafety Protocol as discussed above at par 2.

<sup>179</sup> S 231(1).

<sup>180</sup> S 231(2).

<sup>181</sup> S 231(4). Three procedures for the enactment of international agreements are the following: (a) the treaty document as a whole may be included in an Act of Parliament; (b) the treaty may be included as a schedule to a statute; and (c) an Act may be given the executive power to bring a treaty into effect in municipal law by means of proclamation in the Government Gazette. See Kidd *Environmental Law* 45 in this regard.

<sup>182</sup> S 232.

International customary law is incorporated into South African law in terms of section 232 of the Constitution.<sup>183</sup> The principles of polluter-pays, prevention, precaution, sustainable development, cooperation and common but differentiated responsibility therefore have a significant influence on domestic legislation and should be taken into account when regulating e-waste.<sup>184</sup>

For the state to legally regulate e-waste, this regulation has to be accompanied by the necessary tools enabling the state to comply with its constitutional obligation. In this regard Yacoob J submitted the following:<sup>185</sup>

The State is required to take reasonable legislative and other measures. Legislative measures by themselves are not likely to constitute constitutional compliance. Mere legislation is not enough. The State is obliged to achieve the intended result, and the legislative measures will invariably have to be supported by appropriate, well-directed policies and programmes implemented by the Executive. These policies and programmes must be reasonable both in their conception and implementation. The formulation of a programme is only the first stage in meeting the State's obligations. The programme must also be reasonably implemented. An otherwise reasonable programme that is not implemented reasonably will not constitute compliance with the State's obligations.

In the context of socio-economic rights, it follows from Yacoob J's explanation that the constitutional obligation on the State requires the establishment of innovative and comprehensive e-waste measures in terms not only of law, but also of policies and programmes.

#### **4.2 *The Customs and Excise Act 91 of 1964***

Section 15(1)(a)(iii) of the *Customs and Excise Act 91 of 1964* provides for control surrounding the importation of prohibited waste products and states that:

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<sup>183</sup> Provided that it is not inconsistent with the South African Constitution or an Act of Parliament.

<sup>184</sup> Even though these principles have been incorporated into NEMA, NEMA makes no specific reference to e-waste. The application of these principles to the regulation of e-waste is therefore distorted.

<sup>185</sup> *Government of South Africa and Others v Grootboom and Others* 2001 (1) SA 46 (CC) par [42].



- (1) A person entering or leaving the Republic shall, in such manner as the Commissioner<sup>186</sup> may determine, unreservedly declare:
  - (a) at the time of such entering of all goods upon his person or in his possession which he brought with him into the Republic which
  - (iii) are prohibited, restricted or controlled by any law and shall furnish an officer with full particulars thereof, answer fully and truthfully all questions put to him by such officer and, if required by such officer to do so, produce and open such goods for inspection by the said officer, and shall pay the duty assessed by such officer, if any, to the Controller.

For this section to have direct effect on e-waste import into the Republic, e-waste has to be declared prohibited or restricted, or it has to be controlled by specific, promulgated legislation. Currently this is not the case, and e-waste is therefore not regulated by this act.<sup>187</sup>

#### **4.3 The Hazardous Substances Act 15 of 1973**

The *Hazardous Substances Act 15 of 1973* (hereafter the HSA) provides for the “prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such products and substances which may cause injury to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitising or flammable nature...” and for the “control of certain electronic products, to provide for the division of such substances into groups in relation to degree of danger...”<sup>188</sup>

E-waste is any and all electronic products that are discarded as a result of malfunction, exhaustion or obsolescence.<sup>189</sup> The HSA defines an electronic product as any manufactured product or article which is intended for use as a component which, when in operation:

Emits (or in the absence of effective shielding or other controls would emit) electronic product radiation; or would, as a result of the failure or breakdown of any built-in safety measure or shielding, pose an electrical, mechanical, chemical, biological, ergonomic or other hazard, or cause excessive temperature, excessive pressure or ignition of flammable material, which may cause injury, ill health or death to human beings.

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<sup>186</sup> The Commissioner of the South African Revenue Service.

<sup>187</sup> In terms of s 15 of the *Customs and Excise Act 91 of 1964*.

<sup>188</sup> See Long Title of HSA.

<sup>189</sup> See s 1 of HSA.

The HSA divides hazardous substances into four groups. Of relevance to e-waste would be Group III, which is concerned with electronic products and substances. Detailed requirements on handling, selling, using, operating, applying and installing are imposed through Regulations and Notices.<sup>190</sup> Regarding the import and export of hazardous substances, Group IV substances require a special written permission to be obtained under section 3A(2). In terms of section 19(1)(a) of the Act, failure to obtain such authority can result in a penalty or even 10 years imprisonment. Group IV substances, however, only include radio-active materials and the HSA therefore does not regulate e-waste expressly.<sup>191</sup> The HSA does regulate the importation of certain electronic products.<sup>192</sup> Non-functional electronic goods are in some instances disguised as functional electronic products but are indeed discarded as e-waste.<sup>193</sup> The HSA could be adapted to include non-functional electronic products in order to assist in the regulation of e-waste.

#### **4.4 The National Environmental Management Act 107 of 1998<sup>194</sup>**

The NEMA not only gives effect to section 24 of the Constitution and the National Environmental Management Policy of South Africa,<sup>195</sup> but also serves as the Republic's contemporary environmental framework legislation.<sup>196</sup> NEMA contains a number of instruments to promote and give effect to the environmental

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<sup>190</sup> Of specific importance would be SANS 10228 on The Identification and Classification of Dangerous Substances and Goods. See Dittke 2007 [http://ewasteguide.info/Dittke\\_2007\\_eWASA](http://ewasteguide.info/Dittke_2007_eWASA).

<sup>191</sup> See the Department of Minerals and Energy's *National Nuclear Disaster Management Plan* of 2005 available at [www.dme.gov.za/pdfs/energy/nuclear\\_disaster\\_oct05.pdf](http://www.dme.gov.za/pdfs/energy/nuclear_disaster_oct05.pdf).

<sup>192</sup> See the discussion above.

<sup>193</sup> See par 2.3.2.

<sup>194</sup> NEMA Amendment Act as amended by the *National Environmental Laws Amendment Act* 14 of 2009. Text available at: [http://www.us-cdn.creamermedia.co.za/assets/articles/.../20690\\_not\\_328.pdf](http://www.us-cdn.creamermedia.co.za/assets/articles/.../20690_not_328.pdf) and <http://www.environment.co.za/environmental-laws-and-legislation-in-south-africa/nema-south-africa-national-environmental-management-act-legislation-and-environmental-acts.html>.

<sup>195</sup> The text of the National Environmental Management Policy of South Africa, 1997 is available at <http://www.environment.gov.za/Poileg/WhitePapers/EnvMgmt.htm>.

<sup>196</sup> See Van der Linde 2002 "National Environmental Management Act" 193 – 220; Glazewski *Environmental Law* 567; Kidd *Environmental Law* 136.

management principles “polluter pays”, the “precautionary principle”, the “preventive principle” and the principle of “cooperative governance”.<sup>197</sup> Although NEMA is an instrument of general applicability that does not deal with the management of any specific waste, it does provide certain provisions which might be applicable to e-waste regulation. In this instance section 2(4)(a)(iv) of NEMA deals with the concept of sustainable development<sup>198</sup> and states, *inter alia*, that waste should be avoided. Where waste such as e-waste cannot altogether be avoided it must be minimised and re-used or recycled where possible, or otherwise disposed of in a responsible manner.

Moreover section 28 of NEMA provides for a duty of care and remediation of environmental damage. In terms of section 28(1) this duty vests in an owner, or a person in control, or a person who has the right to use the premises or land where an activity takes place, or where a situation exists that may, has or will adversely impact the environment. Such a person should take reasonable measures to prevent pollution from occurring, continuing or recurring.<sup>199</sup> If a person fails to take these reasonable measures as specified by section 28(3) of NEMA, section 28(12) allows a person affected thereby to apply to a court for an order directing the Director-General of the Department of Environmental Affairs or the head of the Provincial Environmental Department to take the necessary steps to ensure that the “polluter pays” and that the environment is remediated.<sup>200</sup> In conjunction with section 28, section 34 of NEMA imposes a liability on the directors of a company in the case of environmental damage caused by pollution. Should e-waste be dumped, sections 28 and 34 oblige the

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<sup>197</sup> S 2 of NEMA endorses these important principles. The principles of precaution, prevention and polluter pays can prove to be valuable aids in the regulation of e-waste. See the discussion on the principles of international law at par 2 above.

<sup>198</sup> See the discussion on sustainable development above, at par 2.

<sup>199</sup> These measures include (a) investigating, evaluating and/or assessing the impact on the environment; (b) informing and educating employees of the risk of their work, and how to perform to avoid pollution or degradation; (c) ceasing, modifying and/or controlling any act or process that causes the pollution; (d) containing or preventing the movement of pollutants; (e) eliminating the source of the pollution; and (f) remediating the effects of pollution. See s 28(3) (a)-(f).

<sup>200</sup> S 28(4) empowers the Director-General to investigate, evaluate and assess environmental damage and to take reasonable measures to remediate such damage.

polluter and/or owner of polluted land or the directors of a polluting company to remediate any environmental damage, and they enable the Minister to enforce such a duty. Should one fail to prevent, minimise or remediate the damage caused, the duty can be enforced by a court order. Further neglect will constitute contempt of court, and may lead to criminal liability.<sup>201</sup>

Other applicable regulations include section 31 of NEMA, which provides protection to “whistle-blowers”,<sup>202</sup> and the incorporation of the “Environmental Management Inspectorate” under the amendments to Chapter 7 of NEMA.<sup>203</sup> Chapter 6 echoes the values of the Constitution and manages the incorporation of international environmental instruments into national law.<sup>204</sup>

#### ***4.5 The Department of Water Affairs and Forestry's Minimum Requirements for Waste Disposal by Landfill 1998***

During 1998 the Department of Water Affairs and Forestry published detailed Minimum Requirements regarding waste disposal by landfill, the handling, classification and disposal of hazardous waste, and water monitoring at waste management facilities. With regard to certain components of e-waste, such as cadmium, lead and mercury, SANS 10228 requires for it to be disposed of at an

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<sup>201</sup> See the latest amendment to NEMA 15 of 2009, available at <http://www.environment.co.za/environmental-laws-and-legislation-in-south-africa/nema-south-africa-national-environmental-management-act-legislation-and-environmental-acts.html>.

<sup>202</sup> S 31(4) of NEMA provides for the protection of any person who makes a disclosure in the reasonable belief that he or she is providing evidence relating to an environmental risk. Should a person provide such evidence NEMA provides such a person with protection against harassment, discipline, dismissal and even criminal and civil charges.

<sup>203</sup> The Environmental Management Inspectorate has the responsibility of policing environmental offences such as pollution, the operation of illegal landfill sights, illegal dumping of hazardous waste etc. For further reading see [http://www.enviropaedia.com/topic/default.php?topic\\_id=127](http://www.enviropaedia.com/topic/default.php?topic_id=127).

<sup>204</sup> This dualistic approach ensures a firm and stable basis for legislative environmental protection. According to s 25 the minister can make recommendations to Parliament on the incorporation of international treaties pertaining to environmental matters into South African law. This ability might prove helpful for environmental protection, especially where no regulation has been promulgated regulating specific environmental hazards, as is the case with e-waste dumping.

authorised landfill.<sup>205</sup> Even though the minimum requirements are not enforceable, they may form the basis for more site-specific regulation.<sup>206</sup> Dikte<sup>207</sup> indicates that current practice with respect to waste disposal by landfill differs, due to a lack of awareness, a lack of control at landfill sites, and possibly unwillingness to meet the requirements on the part of the authorities as well as the public.

#### **4.6 The Disaster Management Act 57 of 2002**

The *Disaster Management Act 57 of 2002* (hereafter the DMA) provides for a coherent national framework aimed at integrating risk reduction measures into all development initiatives in order to avoid human, economic, environmental and property damage or loss.<sup>208</sup> A “disaster” is defined by the DMA as:

...a progressive or sudden, widespread or localised natural or human-caused occurrence which causes or threatens to cause death, injury or disease; damage to property, infrastructure or the environment; disruption of the life of a community; and is of the magnitude that exceeds the ability of those affected by the disaster to cope with its effects using only their own resources.

Although the DMA does not deal with the regulation of e-waste, should damage occur as a result of e-waste dumping, such damage could be remediated by the provisions of the DMA. These measures include provisions for intergovernmental, national, provincial and municipal disaster management centres, information forums, plans, strategies, mitigation and prevention. Should a person not adhere to requests by a management centre, such a person can be convicted of an offence and be held liable for a fine and/or six months’ imprisonment, as provided for in terms of section 60 of the Act.

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<sup>205</sup> Authorisation for waste disposal by landfill is controlled by licenses, permits, permit exemptions and directions in terms of NEMA, the *National Water Act 36 Of 1998* and the *National Environmental Management: Waste Act 59 of 2008*.

<sup>206</sup> See [www.dwaf.gov.za/.../RequirementsWasteDisposalLandfillSep05Part10.pdf](http://www.dwaf.gov.za/.../RequirementsWasteDisposalLandfillSep05Part10.pdf).

<sup>207</sup> Dittke 2007 [http://ewasteguide.info/Dittke\\_2007\\_eWASA](http://ewasteguide.info/Dittke_2007_eWASA).

<sup>208</sup> Preamble to the *Disaster Management Act 57 of 2002*.

#### 4.7 *The National Environmental Management: Waste Act 59 of 2008*

The Waste Act entered into force on 1 July 2009 and regulates the consumption of natural resources, waste generation and disposal, recycling, the prevention of pollution, the promotion of waste services, achieving an integral waste-management reporting and planning system, and remedying land degradation.<sup>209</sup> Even though it does not make specific reference to e-waste, it does contain a number of provisions that could directly relate to e-waste regulation.

In terms of section 14(1), the Minister<sup>210</sup> may by notice in the *Gazette* declare waste as a “priority waste” if the Minister on reasonable grounds believes that such waste is hazardous to health, well-being or the environment as a result of its quality or composition. The consequence of this waste’s being declared as a “priority waste”, is that no person may import, manufacture, possess, sell, or export such waste<sup>211</sup> unless that waste complies with the waste management measures contemplated in section 14(5) of the Waste Act;<sup>212</sup> an industrial waste management plan; or any other requirements in terms of the Waste Act.<sup>213</sup>

Due to the severe impact of e-waste dumping, e-waste should be classified as a priority waste in South Africa’s waste stream. As indicated above, material destined for recycling or disposal is considered “waste”.<sup>214</sup> E-waste also constitutes a “solid waste” that exhibits toxic characteristics.<sup>215</sup> As a result of the quality and composition of e-waste, it has proven to be hazardous to health, well-

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<sup>209</sup> Mabudafhasi 2007 <http://www.engineeringnews.co.za/article/a-sustainable-approach-to-waste-management-2007-04-13>.

<sup>210</sup> The Minister of Environmental Affairs and Tourism.

<sup>211</sup> See s 15 of the Act.

<sup>212</sup> According to s 14(5) these measures may include a responsibility on identified individuals to prepare an industry waste management plan in terms of s 28 in respect of the declared priority waste, a prohibition on the generation of the priority waste, measures for the management of the priority waste, measures for the minimisation, storage, re-use, recycling, and recovering, treatment and disposal of priority waste, requirements for registration and the monitoring of, and reporting on, priority waste, and finally any other measure the Minister may see fit to introduce.

<sup>213</sup> S 14 of the Act.

<sup>214</sup> See the discussion in par 2.3.2.

<sup>215</sup> See the discussion in par 2.3.2 and par 3.3 above.

being and the environment. It is clear that should the Minister declare e-waste as a “priority waste” under section 14, the Waste Act could equally regulate the transboundary movement and dumping of e-waste. Even though the Waste Act also makes provision for the reduction, re-use, recycling and recovery of waste,<sup>216</sup> waste management activities,<sup>217</sup> the storage, the collection and transportation of waste,<sup>218</sup> the treatment, processing and disposal of waste<sup>219</sup> and the drafting of industry waste management plans,<sup>220</sup> it would improve the effectiveness of environmental management if the Minister would contemplate declaring e-waste to be a “priority waste” in terms of section 14.

#### 4.7.1 *The National Waste Management Strategy of 2010*

The first draft of the *National Waste Management Strategy* (hereafter the NWMS) was issued for public comment during March 2010. The NWMS is a legislative requirement of the Waste Act and seeks to improve waste regulation in South Africa.<sup>221</sup> Even though the strategy is not necessarily enforceable, it does serve as an indication of what future policies and regulations may look like.

The new NWMS aims to regulate general, commercial and industrial waste streams which include healthcare waste, waste from agriculture and hazardous waste. In terms of the Waste Act the NWMS “binds all organs of state in all spheres of government, and all persons if and to the extent applicable”.<sup>222</sup> The Waste Act also obliges organs of state to give full effect to the NWMS when

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<sup>216</sup> See part 3 of the Act, which includes provisions for extended producer responsibility.  
<sup>217</sup> See part 4 of the Act, which includes provisions for the consequences of listing waste management activities.  
<sup>218</sup> See part 5 of the Act.  
<sup>219</sup> See part 6 of the Act.  
<sup>220</sup> See part 7 of the Act.  
<sup>221</sup> The NWMS is incorporated in terms of s 6 of the Waste Act, in terms of which the Minister is obliged to establish, within 2 years since the Waste Act took effect (thus 2008), a waste management strategy for the achievement of the goals of the Waste Act. The text is available at [www.sawic.org.za/documents/572.pdf](http://www.sawic.org.za/documents/572.pdf).  
<sup>222</sup> See s 6(3)(a) of the Waste Act.

exercising a power or performing a duty in terms of the Waste Act or any of the applicable waste legislation.<sup>223</sup>

The NWMS is the first state publication to recognise e-waste as a waste stream that includes hazardous components.<sup>224</sup> The NWMS will attempt to regulate e-waste through an “Industry Waste Management Plan”<sup>225</sup> and “Waste Classification Management System”<sup>226</sup> in terms of which thirteen types of e-waste will be recognised and regulated.<sup>227</sup> The importation of e-waste will be regulated by the Industry Waste Management Plan, predominantly enabling waste levies to be charged on importers and producers of electronic waste or equipment.<sup>228</sup> Other strategies under the NWMS include a legal requirement for consumers to utilise take-back facilities, which will be enforced by the Department of Environmental Affairs; the development of standards for the storage, treatment and disposal of e-waste;<sup>229</sup> a Strategic Approach to International Management of Chemicals;<sup>230</sup> and compulsory EWASA membership under the Industry Waste Management Plan.<sup>231</sup> Whether or not this strategy will efficiently regulate e-waste remains to be seen.

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<sup>223</sup> See s 6(4) of the Waste Act. According to s 8(1) and 10(5) the MEC and appointed waste management officers must also ensure that the NWMS is implemented within their jurisdictional areas.

<sup>224</sup> The NWMS also indicates that e-waste is relatively new to the hazardous waste category and that there is therefore currently a lack of formal regulatory instruments. See the text on NWMS available [www.sawic.org.za/documents/572.pdf](http://www.sawic.org.za/documents/572.pdf), p19.

<sup>225</sup> The Industry Waste Management plan will provide for mandatory take-back facilities at retailers and for a process of formalising informal recycling facilities.

<sup>226</sup> This system will require certain waste (depending on the environmental risk posed by such waste) and waste management activities to be licensed and to adhere to specific set standards.

<sup>227</sup> Currently there are seven recognised sub categories of e-waste in terms of the Industry Waste Management Plan. The Industry Waste Management Plan, regulating thirteen categories of e-waste is scheduled to be prepared within the next two years.

<sup>228</sup> Producers and importers are to be levied by an established s 21 company. See the text on NWMS p 56.

<sup>229</sup> In terms of s 7(1)(c) of the Waste Act.

<sup>230</sup> This system will be incorporated to consider the possibility of amending the Basel Convention to enable the regulation of the export of used electronic goods to developing states that do not have the technological capability to safely process and recycle such waste.

<sup>231</sup> EWASA currently manages a voluntary e-waste take-back initiative which is supported by several large manufacturers. EWASA will in future establish a section 21 company that will



## 5 Conclusion and recommendations

The recent increase in the production of electronic products has resulted in major global concerns being raised about the regulation of e-waste. The generation of e-waste has put tremendous pressure on developing countries which serve as an inexpensive dumping ground, especially as e-waste generation is increasing more rapidly than most other waste streams.<sup>232</sup> This dissertation has asked to what extent the international, regional and South African law frameworks provide for the regulation of e-waste.<sup>233</sup> The international, regional and national law frameworks relevant to South Africa and to hazardous waste regulation were investigated in the course of attempting to answer this question.

As laid down in by the Constitution, South African courts are required to interpret all legislation, including international custom, and to accord with international law. International principles play a predominant role in such interpretation, since not only do they constitute a type of a *Grundnorm* upon which future regulations can be based, but they also give impetus should current domestic regulations be insufficient. Customary principles such as sustainable development, precaution, prevention, the polluter pays, CBDR, cooperation and *sic utere tuo et alienum non laedas*<sup>234</sup> have been incorporated into South African environmental legislation such as NEMA and the Waste Act.<sup>235</sup> South African environmental legislation is therefore, as a matter of principle, opens to e-waste regulation, but fails to recognise e-waste specifically.

International instruments such as the Stockholm and Basel Conventions were established to regulate certain hazardous substances internationally. The Stockholm Convention identified twelve persistent organic pollutants and

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regulate the recycling of e-waste. Membership of EWASA could become compulsory for all importing manufacturers. For further reading visit <http://www.ewasa.org/learnabout>.

<sup>232</sup> See par 1.

<sup>233</sup> This regulation which includes the generation, re-use and re-cycling, but more specifically disposal, trade and the transboundary movement of e-waste.

<sup>234</sup> See the discussion on the *Trail Smelter Case* of 1937, par 2.2.

<sup>235</sup> See par 4.

primarily focuses on eliminating these pollutants by restricting their use in the manufacturing of electronic equipment. It has the ability to ensure that wastes are finally disposed of in such a manner that the hazardous content is destroyed or irreversibly transformed in order to prevent environmental danger, and to implement the use of suitable alternative products that are harmless to the environment. Unfortunately most hazardous components of e-waste have not been categorised by this Convention.<sup>236</sup>

The Basel Convention was incorporated specifically to oblige signatory states to reduce or even completely ban all of their exports of hazardous wastes, and to handle their waste problems within their own national borders. Perhaps it is because the Basel Convention represents a radical solution to international hazardous waste management that it has not been ratified by some of the largest global producers of e-waste. Consequently, any regulatory measures adopted for e-waste by the Basel Convention have little effect, as states continue to engage in the e-waste trade, which trade constitutes the root of the dilemma, resulting in national e-waste regulation becoming more problematic. The international law framework does not explicitly make provision for the regulation of e-waste. It does, however, provide impetus for domestic e-waste regulation.

Regional initiatives for hazardous waste regulation have seen the establishment of the African Convention, the African Charter, the Bamako Convention, the AEC Treaty and the SADC protocols. Due to the environmentally damaging consequences of the importation of hazardous waste, its regulation has been incorporated into the African Convention, which unfortunately fails to recognise e-waste as hazardous, and therefore fails to regulate e-waste.<sup>237</sup> The African Charter established mechanisms whereby individuals can enforce their right to a satisfactory environment. Under the Bamako Convention, signatory states have an obligation to ban the transportation of hazardous waste into and across their

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<sup>236</sup> See par 2.3.1.

<sup>237</sup> See par 2.3.2 above.

territory. Even though the Bamako Convention has incorporated more stringent regulations in relation to the Basel Convention, South Africa is not a signatory. The Bamako Convention and therefore the SADC, fail to recognise the hazardous nature of e-waste.<sup>238</sup> These regional mechanisms remain relevant to South Africa as part of Africa and SADC. Accordingly there is a duty on South Africa to ensure that national regulatory instruments comply with regional laws.

As can be derived from the South African Constitution, the non-regulation of waste is an infringement of section 24 and the government should heed its duty to adopt reasonable legislative and other measures to regulate e-waste insofar as its disposal could impact on those rights and interests protected by section 24. Nationally the South African law framework has adopted various waste regulating instruments including the *Customs and Excise Act 91 of 1964*, the HSA, NEMA, and the *Department of Water Affairs and Forestry Minimum Requirements for Waste Disposal by Landfill 1998*. The most specific instrument relating to national waste regulation, the Waste Act, is directed at minimising the consumption of natural resources, waste generation and disposal, recycling, the prevention of pollution, the promotion of waste services, achieving an integral waste-management reporting and planning system, and remedying land degradation. In accordance with section 14(5) of the Waste Act, the Minister can declare e-waste as “priority waste”, thus enabling the Waste Act to regulate e-waste. The consequence of this waste’s being declared as a “priority waste”, would be that no person would be able to import, manufacture, possess, sell, or export such waste unless that waste complied with the waste management measures contemplated in section 14(5) of the Waste Act; an industrial waste management plan; or any other requirements in terms of the Waste Act.<sup>239</sup> Currently e-waste is not recognised and therefore not regulated by the Waste Act.

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<sup>238</sup> See par 3.

<sup>239</sup> See par 4.7.

In accordance with section 6 of the Waste Act, the first draft of the NWMS was issued for public commentary during March 2010. The NWMS intends to incorporate an Industry Waste Management Plan, a Strategic Approach to the International Management of Chemicals, and a Waste Classification Management System which will regulate thirteen different types of e-waste, the importation thereof, take-back mechanisms, the development of standards for storage, treatment and disposal, and compulsory EWASA membership.<sup>240</sup> The degree of enforceability of the NWMS, and therefore the effectiveness thereof, remain to be seen.

This study concludes that there are currently existing legislative instruments on international, regional and national level that may be able to sufficiently regulate e-waste. It is recommended, however, that these existing instruments should be amended to explicitly recognise e-waste as hazardous or specifically to incorporate and provide for measures dealing with e-waste, as the effect of non-regulation has proven to be catastrophic in various countries.<sup>241</sup>

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<sup>240</sup> See par 4.8 above.

<sup>241</sup> See par 1.

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