



REPUBLIC OF RWANDA

National e-Waste Management Policy for Rwanda

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ACRONYMS

EDPRS	Economic Development & Poverty Reduction Strategy
EEE	Electrical and Electronic Equipment
EIA	Environmental Impact Assessment
EOL	End of Life
E-waste	Electrical and Electronic Equipment Waste, also called WEEE
FONERWA	Fonds National pour l'Environnement du Rwanda
GoR	Government of Rwanda
ICT	Information and Communication Technology
ICT4D	ICT for Development
MINICOM	Ministry of Trade and Industry
MYICT	Ministry of Youth and ICT
NICI	National Information and Communication Infrastructure
NISR	National Institute of Statistics of Rwanda
PPP	Public Private Partnerships
REMA	Rwanda Environmental Management Authority
RURA	Rwanda Utility and Regulatory Authority
WEEE	Waste Electrical and Electronic Equipment, also called E-waste
WTO	World Trade Organization

FOREWORD

The demand on electrical and electronic equipment (EEE) is increasing significantly in Rwanda due to its rapid economic development. Further, the demand is enhanced by the national initiative to enhance Information and Communication Technologies (ICT) that require varieties of ICT tools such as computers and mobile phones. As such, there has been an enormous increase in ICT usage that led to high demand of the newer products.

Additionally, as people are eager for newer technologies, the period for use of these products is progressively decreasing. Consequently, older and outdated products are becoming obsolete and being discarded as E-waste in large quantities and at increasing rates worldwide. Therefore, the lack of clear framework for handling and treatment of E-waste has led to accumulated electronic and electrical waste (E-waste) in offices and warehouses. In most cases, e-waste is mixed with ordinary waste at homes and disposed of at regular dumpsites.

The E-waste policy is developed to provide comprehensive guidance for the efficient and effective management of e-waste through appropriate legal, regulatory instruments, which promote green growth and ensure a sustainable economic development for the country.

The e-waste management will therefore control end of life electronics and electrical equipment resulting industry development including ICT, thus enhancing green and healthy environment.

1. INTRODUCTION

The digital revolution has led to an explosive production and extensive use of electrical and electronic equipment (EEE) which has launched most economies to social and economic advancement in 21st century. However, this rapid growth of economies has contributed to massive generation of electrical and electronic waste commonly known as E-waste where, an estimated global quantity of e-waste generation in 2014 was around 41.8 Million Tonnes, with this amount of e-waste expected to grow to 49.8 Million Tonnes in 2018, with an annual growth rate of 4 to 5 per cent¹, with most of this heading to developing countries for reuse and disposal.

Rwanda, being no exception, has grown dependence on the use of modern technologies in all sectors of her economy, which has led to an increase in the amount of discarded EEE. The discarded EEE contains hazardous substances such as lead, mercury, arsenic, cadmium, and selenium, among others, which poses peculiar threats and risks to human health and to the environment if not properly handled and disposed.

At the same time, adequate e-waste management allows the recovery of precious metals such as gold, silver, platinum, palladium, copper and tin from disposed components, and also creates new business and job creation opportunities in the e-waste collection and management value chain, while reducing environmental burden to landfills.

As such, E-waste with such risks and/or potentials should be separated from other types of waste and either recycled or properly disposed. There is an urgent need for a clear framework for handling and disposal of the E-waste.

This policy provides comprehensive guidance for the efficient and effective management of e-waste through appropriate legal, regulatory and strategic instruments.

¹ <http://i.unu.edu/media/unu.edu/news/52624/UNU-1stGlobal-E-Waste-Monitor-2014-small.pdf>

1.1. Context

The Rwanda vision 2020 aims to achieve middle-income status with focus on promoting green economic growth through implementation of the national green growth and climate resilient strategy programs of action and EDPRS priorities. Furthermore, ICT was identified as an enabling factor for transforming the Rwanda into an information society through initiatives such as e-government, e-education, e-health, e-commerce, etc.

As Rwanda transforms into an information society with increased ICT and energy access, along with the ever-changing demand for newer technologies, this means that outdated electrical and electronic products rapidly become obsolete and are discarded in large quantities as E-waste.

1.2. E-waste Definition

E-waste encompasses all discarded and disposed Electrical and Electronic Equipment (EEE), which is defined as equipment dependent on electric currents or electromagnetic fields in order to work properly and equipment for the generation, transfer and measurement of such currents and fields.

A more detailed scope of EEE and E-waste will be articulated by relating rules and regulations under this policy and should be constantly updated.

1.3. Background

Rwanda's Vision 2020 recognizes environmental degradation and climate change as one of main barriers to realizing of medium and long-term development aspirations, thus environmental protection and its management is a priority to the country's economic development.

In addition to the above, Rwanda developed an ICT for Development (ICT4D) plan, which recognizes the importance of ICT as a key driver for socio-economic development. The plan recognize to need to develop a green economy by defining and implementing an e-waste management framework to properly handle the increasing volume of e-waste, increase the capacity for managing and handling E-waste, and develop the knowledge on appropriate e-waste treatment technologies.

1.4. Current status of e-waste in Rwanda

1.4.1 Current operations and practices

There are growing numbers of personal electrical and electronic devices in institutions, households, business facilities, etc. Furthermore, with the growth of the telecommunication sector, the number of citizens subscribing to the mobile network is steadily increasing.

Between November 2014 and January 2015, a survey was carried out to know the status of e-waste in Rwanda². The survey revealed that for the period ranging from 2010 to 2014:

- Import of ICT equipment has increased by five times.
- The annual growth in the importation of EEE to Rwanda is estimated to about 5.95%
- Rwanda has an e-waste annual generation potential of 9,417 tons of which 7,677 tons (81.52%) will be contributed by individuals, 1,143 tons (12.14%) by public institutions and 597 tons (6.34%) by private institutions.

The current lack of e-waste management framework and capacity to handle E-waste in Rwanda, has resulted into institutions and individuals storing or in some cases disposing them along with other types of waste. The solid waste contractors collect waste from different places to allocated landfills without any distinct segregation of E-waste. In some instances, valuable components of e-waste are recovered and non valuable components which are in most cases toxic for the environment are left mixed with other types of waste, causing health and environment hazards.

The public sector, one of the key contributor of the e-waste, has over years accumulated enormous amounts of e-waste while awaiting a method for its proper management and disposal.

It is also worthwhile to mention that by the time of the development of this policy, there is no treatment facility for E-waste available in the country.

1.4.2 Current Legal framework

The existing policies, legal, and regulatory framework in Rwanda do not sufficiently address e-waste management. It is currently considered as a sub-set under the hazardous waste control and management regulations.

The Environment Organic Law N° 04/2005 of 08/04/2005 determining the modalities of protection, conservation and promotion of environment in Rwanda states that collection; transport, treatment and disposal of waste should be done in an environmentally friendly manner but does not appropriately and specifically address the e-waste management.

The law N° 09/2013 of 01 March 2013 establishing RURA and the law N° 16/2013 determining the organization, functioning and responsibilities of REMA approach waste management in general way.

Because the available legislations under Rwanda Legal framework related to e-waste is broad and does not specifically address e-waste management in its entirety, there is therefore a need

² Rwanda E-Waste inventory, March 2015 by Toshikazu Mito

to have in place appropriate e-waste legal framework with an exhaustive scope, able to protect the environment and the people's health in Rwanda.

It is worth noting that Rwanda is a signatory to many agreements and conventions on environmental management. These include support for the provisions of Agenda 21 amongst other declarations and statements of principles, such as the Rio Declaration in 1992 on Environment and Development. Rwanda is also a party to the Basel Convention on the control of trans-boundary movements of hazardous wastes and their disposal, which was developed with purpose to ensure the generation of hazardous wastes and other wastes are minimized; adequate disposal facilities exist for sound environmental management of wastes; and that managers of waste minimize the risk to human health.

This policy has been developed to comply with the national and international agreements and conventions. .

1.4.3 Current institutional framework

Currently, there is not clear institutional framework in place to effectively manage e-waste within the Government of Rwanda (GoR). Most of the E-waste management activities in the private sector are done in an informal way. There is therefore and urgent need to develop a clear framework addressing the emerging problem of e-waste management in a sustainable manner.

A notable development was the establishment of the fund for Environment and Climate Change (FONERWA) by the Government of Rwanda. This fund will help mobilizing and channeling domestic and international financing to public and private environment and climate change projects. This green fund is already supporting projects that align with the country's commitment to a strong and prosperous green economy including the establishment of sustainable E-waste management system.

1.4.4 Awareness and Education

There is limited capacity and skills in e-waste management for both the public and private sector in Rwanda. The Ministry of Youth and ICT in collaboration with Ministry of Trade and Industry (MINICOM) have carried out preliminary e-waste awareness initiatives among government institutions but there is a need to extend the awareness to private sector and communities as to improve their knowledge and skills on e-waste handling and disposal to minimize the associated risks. There is also a need to enhance collaboration and partnership with local and international agencies and manufacturers to ensure knowledge and skills transfer; and training programs for trainers.

2. THE NATIONAL E-WASTE MANAGEMENT POLICY

2.1. Vision

The vision of this policy is to ensure the effective and efficient management of E-waste for a safe environment and healthy nation towards sustainable economic development.

2.2. Policy Objectives

The objectives of this Policy are as follows:

- 1) To minimize the adverse effects of E-waste on the environment and human health through appropriate legal and regulatory framework for E-waste management;
- 2) To promote investment and coordination of E-waste management to ensure sustainability of E-waste Management in Rwanda;
- 3) To increase the capacity of stakeholders to promote effective E-waste management investment, education and awareness

2.3. Guiding principle

This policy is built on the following principles:

- 1) **Life cycle thinking:** Reduce, re-use and recycle: Reduce and reuse approach can help minimize e-waste through expanding the life span of an electronics device and reusing EEE, which are still in good condition. Example: electronic devices that are disposed by some organisations can be refurbished and reused in other organizations.
- 2) **Resource recovery:** E-waste recycling involves collection and dismantling to recover valuable metals from EEE such as gold, copper, etc which can be used as input to the manufacturing of other equipment.
- 3) **Human and Environmental Harms Avoidance:** all hazardous materials in E-waste should be treated properly so environmental and health harms can be avoided.
- 4) **Job creation:** this policy will foster investment and green job creation opportunities to promote creativity and innovation especially for young entrepreneurs.
- 5) **Sustainability:** as a whole, both prevention of environmental/health harms and creation of income generation opportunities through this policy should contribute to sustainable development of Rwanda.

2.4. Priority Policy Areas

In order to implement and achieve the policy objectives mentioned above, a number of priority policy areas have been identified, as described below:

2.4.1 *Legal and Regulatory Framework*

An adequate legal framework governing E-Waste management needs to be established. In addition to the legal framework, a regulatory framework defining the licensing regime, the

responsibilities of each stakeholder in the e-waste management value chain, the inspection and compliance mechanisms as well as offences and penalties need will be required.

Furthermore, detailed technical guidelines on e-waste management will be developed. They will provide guidelines for each of the different players in the value chain as well as guidelines for the collection, treatment and disposal of e-waste.

To this end, the Government shall:

- 1) Develop the relevant Laws and regulations for E-waste management, with adequate considerations to the existing legal and regulatory instruments in place;
- 2) Develop and promote E-waste management standards, regulations and operational guidelines for the sorting at source, collection, transportation, treatment and disposal to the current rules and regulations.
- 3) Develop E-waste management strategic plan to support the above revisions of rules and regulations. The strategic plan will also focus on attracting private investments in the E-waste management business.

2.4.2 E-waste Management facilities and systems

Considering the exponential growth of e-waste in Rwanda, with no facilities and defined mechanisms for collection, treatment and disposal of e-waste in compliance with national and international standards, the Government shall:

- 1) Promote the establishment of E-waste management facilities to ensure proper collection, transportation, dismantling, disposal and recycling of E-waste;
- 2) Develop sustainable models for E-waste management such as Public Private Partnerships (PPP)

2.4.3 E-Waste Management Awareness and Education

The assessment of E-waste Management status and trends in Rwanda revealed that there is limited awareness on the risks associated with poor handling and disposal of E-waste within, the public and private sector as well as the community. Increased domestic capacity, has the potential to stimulate investment and create green jobs in the e-waste re-use and recycling industry.

In response to this need, the Government shall:

- 1) Promote the education and awareness on how to safely handle and dispose E-waste;
- 2) Encourage the procurement of environmentally friendly Electric and Electronic equipments across the Public and Private Sector as well as the community;
- 3) Support technology development and innovation in the field of E-waste management.

2.4.4 Investments in e-waste management

Investments will be required to properly handle the increasing volume of e-waste, to increase the capacity for managing and handling E-waste, and to establish e-waste management facilities that will facilitate the collection, treatment and disposal of e-waste..

To attract investments in e-waste management, the Government shall:

- 1) Adopt a comprehensive strategic plan that aims at attracting private investments in e-waste management;
- 2) Adopt innovative financial models and instruments to finance the sustainable management of E-waste.

3. INSTITUTIONAL FRAMEWORK

The E-waste policy shall be implemented in collaboration with key stakeholders' institutions, with roles and responsibilities defined below:

3.1. Ministry in charge of Information and Communications Technology (ICT)

The Ministry in charge of ICT shall:

- a) Lead the development of an E-waste policy and strategic plan for the management of E-waste.
- b) Oversee the implementation of the e-waste strategic plan in collaboration with the Ministry in charge of Trade and Industry.

3.2. Ministry in charge of Trade and Industry

The Ministry in charge of Trade and Industry shall ensure the development of sustainable E-waste management implementation models such as Public Private Partnerships (PPP) and incentives to attract investments in e-waste handling. The Ministry will also lead the process of establishing:

- a) e-waste management facilities, systems, and sustainable management framework.
- b) e-waste management financing framework such as the collection of advanced recycling fees and e-waste levy along with its operational and management procedures.

3.3. Ministry in Charge of Health

The Ministry in charge of Health will develop policies that govern health and safety standards on E-waste management.

3.4. Ministry in charge of Education

The Ministry in charge of Education will take lead in the development of curricula regarding E-waste education and awareness. The Ministry will focus on growing the required skills of local workforce for proper E-waste treatment including its recycling.

3.5. Ministry in charge of State assets

Considering the sensitivity of information stored in government assets the Ministry in charge of State assets will develop a procedure for information clean-up before decommissioning electronic equipments to e-waste management facilities.

3.6. Authority in charge of Environmental Management

The Authority in charge of Environmental Management will:

- a) Spearhead the mainstreaming of E-waste into existing Environmental policies and strategies, legal and regulatory instruments.
- b) Participate in the informative studies on e-waste such as baseline surveys, etc.
- c) Monitor the implementation of environmental programmes including e-waste management.

3.7. ICT Regulatory Authority

The ICT Regulatory Authority will enforce this policy by:

- a) Issuing regulations governing e-waste management in Rwanda.
- b) Issuing e-waste technical guidelines for handling and disposal of E-waste.
- c) Enforce the licensing regime for entities dealing with collection, transportation, dismantling, refurbishment and recycling of EEE

3.8. Authority in charge of Standards

The authority in charge of Standards will:

- a) Notify World Trade Organization (WTO) member states on electronic equipment standards set, policies and regulations developed that affect quality of imports into the country;
- b) Develop standards concerning e-waste.
- c) Develop a mechanism to audit and monitor compliance of electronic and electronic equipment with set standards.

3.9. Authority in charge of imports inspection

The authority in charge of imports inspection will enforce compliance of all imported electric and electronic equipment with set standards at the Point of Entry;

3.10. Authority in charge of customs and revenues

The authority in charge of customs and revenues will maintain statistical records of imported electric and electronic imports.

3.11. Private sector

The private sector shall operationalize the policy and strategic plan through planning and establishing the E-waste collection, transportation, treatment and recycling facilities.

The private sector shall also be responsible for the establishment, operations and financing of the whole E-waste chain..

3.12. User

Users have responsibility to return the EEE at the end of their lifetime as E-Waste to designated collection centers.