

STATUS OF ELECTRONIC WASTE MANAGEMENT IN UGANDA

Key Definitions

Term	Definition
Electronic-Waste (E-Waste)	Used electronic and electrical equipment and devices which are destined for refurbishment, reuse, resale, recycling or disposal.
Electrical and Electronic Equipment (EEE)	Refers to equipment which is dependent on electric currents or electromagnetic fields in order to work properly

Hazardous components of E-waste

Substance	Component	Health/Environmental Effects
Antimony trioxide	A flame retardant, added to cathode ray tube (CRT) monitor glass, found in printed circuit boards and cables	Toxic to humans in ways similar to arsenic; fatal in large doses
Arsenic	In older cathode ray tubes and in light emitting diodes	Arsenic is a known cancer-causing substance (carcinogen). It is known to cause skin and lung cancer.
Barium	In CRT	When aquatic organisms absorb the barium compounds, barium will accumulate in their bodies.
Beryllium	Often allied with copper to improve copper's strength, conductivity and elasticity. Old motherboards, contact springs found in printed circuit boards, relays, and in the mirror mechanism of laser printers. In power supply boxes which contain silicon controlled rectifiers and x-ray lenses	Long term exposure can be carcinogenic, especially for the lungs. Extreme exposure can lead to a potentially fatal condition known as Acute Beryllium Disease

Cadmium	Circuit boards and semiconductors, rechargeable NiCd-batteries, fluorescent layer (CRT screens), printer inks and toners, photocopying-machines (printer drums)	Breathing high levels of Cd can cause lung damage and death. Long term exposure to low levels of Cd can cause elevated blood pressure and kidney damage. Cadmium is a known carcinogen.
Chlorofluorocarbon (CFC)	Cooling unit, Insulation foam	Converts to Chlorine in the atmosphere that attacks ozone molecules causing ozone layer Depletion, Inhaled in large volumes could result in respiratory distress.
Chromium	In steel as corrosion protection, Data tapes, floppy-disks, circuit boards, photocopying-machines (printer drums)	Chromium has a variety of effects depending how it enters the body. Chromium is a carcinogen if inhaled. Chromium may also cause DNA damage

Chromium VI	Data tapes, floppy disks	Shortness of breath, coughing, and wheezing
Cobalt	Component in steel for structural strength and magnetivity.	This agent is carcinogenic in experimental animals at a relatively high dose
Lead	Cathode ray tubes, solder, batteries, printed wiring boards (circuit boards), solder on components, mobile phone coatings,	Initial symptoms of exposure are lack of appetite (anorexia), muscle pain, general discomfort(malaise), and headache. Long-term exposure to lead decreases the overall performance of the nervous system. High level exposure causes brain damage and death.

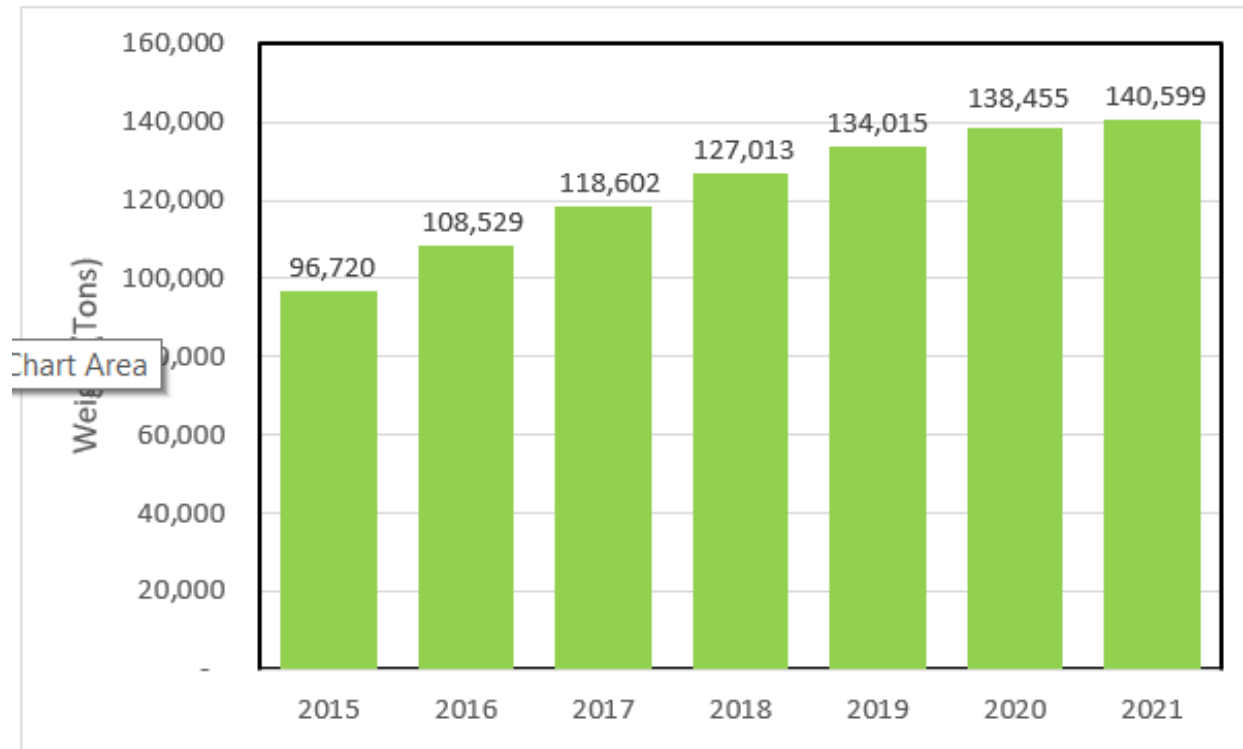
Background

- Uganda Vision 2040 states Uganda's aspiration to protect the environment and natural resources from contamination by waste
- NDP III emphasizes ICTs as a major enabler for Uganda's socioeconomic development
 - *ICT penetration has led to significant e-waste volumes*
 - *E-waste is hazardous to health and the environment*
- There is limited awareness of e-waste in Uganda
- Most e-waste handlers are informal entities, who lack requisite skills and training to handle e-waste properly

Rationale for Improved management of e-waste

- Electronic waste comprises of toxins, is not easily degradable and poses a threat to the environment and human health.
- Digital transformation is one of the key programmes identified within NDP III.
 - *It will increase ICT penetration and use of ICT in all sectors.*
 - *There are 29.1 million telephone subscriptions, representing a penetration rate of 69% (UCC, Market Performance Report 3Q21).*
 - *The penetration rate set to continue increasing in future, subsequently increasing e-waste.*
- The volume of e-waste is already significant and will continue to increase with enhanced digital migration and adoption of 4IR technologies.
 - *Necessary to enhance efforts towards proper and sustainable e-waste management to protect human life and the environment.*
- E-waste management can spur economic growth through creation of green jobs
 - *Promotes principles of a circular economy where resource efficiency is enhanced.*

E-waste generated (Tons)



- Increase by 45.4% over the period

Status of Ewaste Management

Situation	Remarks
Current Status of E-Waste Management in Uganda	<p data-bbox="601 405 2288 454">Recent surveys and studies have shown that e-waste is on the rise</p> <ul data-bbox="601 568 2321 1001" style="list-style-type: none"><li data-bbox="601 568 2321 686">• The Baseline Survey on E-Waste (2022) estimated e-waste generated from selected ICT equipment in Uganda to be 14.9 kt<li data-bbox="601 758 2040 1001">• The baseline survey also identified several challenges:<ul data-bbox="698 825 1819 1001" style="list-style-type: none"><li data-bbox="698 825 1819 872">• Weak enforcement of e-waste standards<li data-bbox="698 886 1472 933">• Insufficient e-waste facilities<li data-bbox="698 948 1849 1001">• Low awareness of e-waste and its dangers

National E-Waste Management Interventions

Framework	Status
Legal and Regulatory Framework	<ul style="list-style-type: none"><li data-bbox="588 411 2084 525">• In response to the growing e-waste threat, Uganda has developed regulatory framework instruments:<ul style="list-style-type: none"><li data-bbox="682 539 1997 586">• <i>The National E-Waste Management Policy, 2012</i><li data-bbox="682 601 2023 648">• <i>Strategy for Electronic Waste Management, 2013</i><li data-bbox="682 662 2142 709">• <i>Guidelines for E-Waste Management in Uganda, 2016</i><li data-bbox="682 723 1640 771">• <i>Draft National E-waste policy 2023</i><li data-bbox="588 853 2265 1025">• Several laws have been revised to cater for e-waste<ul style="list-style-type: none"><li data-bbox="682 915 2265 1025">• <i>National Environment Act, 2019</i> revised to include EPR and take back schemes<li data-bbox="682 1110 2346 1282">• The National Environment (Waste Management) Regulations, 2020 No 49 include specific provisions on the management of e-waste separate from hazardous waste

International Interventions

Convention	Ratification	Remark
The Basel Convention (1989)	1999	Focuses on the control of transboundary movement of hazardous wastes and their safe disposal, with the overarching objective of protecting human health and the environment against the adverse effects of these wastes
The Bamako Convention (1998)	1999	A treaty that prohibits the importation of hazardous and radioactive waste into Africa
The Stockholm Convention (2004)	2004	Seeks to eliminate or restrict the production and use of persistent organic pollutants
The Minamata Convention on Mercury (2013)	2019	The most recent global agreement that seeks to control the supply and trade of mercury, reduce its use, raise public awareness of its dangers and reduce its emission and release into the environment

Human Resources Intervention

Situation	Remarks
Awareness and Human Resource Development	<ul style="list-style-type: none"><li data-bbox="606 434 2423 544">• A large proportion of e-waste handlers are informal, and often lack skills and training on e-waste<li data-bbox="606 622 2364 853">• There are no universities or other tertiary institutions in Uganda offering programmes on e-waste management.<ul style="list-style-type: none"><li data-bbox="698 743 2364 853">• <i>Programmes on environmental science often include modules on solid waste management, with sections covering e-waste</i><li data-bbox="606 901 2397 1011">• This lack of specialised programmes and sufficient trainings has led to a skills gap and insufficient human resource base to handle e-waste. <p data-bbox="606 1079 2339 1189">Ongoing Engagement and sensitization of Tertiary Institutions to provide training programmes in e-waste management</p>

Infrastructure Interventions

Situation	Remarks
E-Waste Management Infrastructure	<ul style="list-style-type: none"><li data-bbox="596 408 2372 582">• MoICT&NG,NEMA and NEC, collaborating with other stakeholders, launched the first National E-waste collection Centre for Uganda in June 2021<ul style="list-style-type: none"><li data-bbox="690 629 2232 676">• <i>It is located at Plot 66, 6th Street Industrial Area in Kampala City</i><li data-bbox="596 751 2232 951">• The centre collects, sorts, dismantles and disposes of e-waste<ul style="list-style-type: none"><li data-bbox="690 846 2275 951">• <i>Plans to progress to refurbishment and recycling of e-waste in the long term.</i> <p data-bbox="596 1025 2326 1200">Government is in the process of establishing a recycling centre and regional e-waste collection centres to facilitate effective and sustainable e-waste collection.</p>

Financing E-waste Management

Situation	Remarks
Resource Mobilization	<ul style="list-style-type: none">• Financing of e-waste management in Uganda is generally piecemeal.• E-waste management currently funded by government MDAs who allocate some of their budgets to e-waste management activities.• There is need to mobilise financial resources for the management of e-waste.<ul style="list-style-type: none">• <i>The e-waste fund recommended in the Electronic Waste Management Policy.</i>• The Government of Uganda needs to devise sustainable strategies to ensure sufficient funding for e-waste management.<ul style="list-style-type: none">• <i>Development partners have funded some items, but should not be the only source of resources.</i>

