

# **ADDRESSING E-WASTE FROM THE ELECTRICAL AND ELECTRONIC SECTOR: AN ANALYSIS OF EXTANT LAW AND REGULATION**

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## **1. Introduction**

Electrical and Electronic Equipment (“EEE”) has become increasingly popular in Nigeria in the wake of burgeoning technological advancements. The proliferation of EEE has soared, positively impacting human lives even in the most remote areas. Thereby, enhancing connectivity and convenience globally. Nigeria is not alone in this, as countries such as Italy, Russia, Brazil, France, the United Kingdom, Germany, China, and Japan are reputed in this regard. While the surge in technological consumption has enhanced the capacity of computers, concurrently, it has also led to a decrease in the product’s lifespan. This has resulted in a significant increase in the annual global generation of waste electrical and electronic equipment (e-waste). It is indubitable that the emergence of EEE has revolutionised the way humans live and interact, enhancing connectivity and making life a lot simpler. However, it is not without its problems. These EEE imported into Nigeria are more often than not second-hand, end-of-life, used, obsolete, and have a very short lifespan. They pack up and become e-waste after a short period of use. This has led to an increase in the annual generation of e-waste in the country, ultimately creating a big environmental challenge, especially with no clear e-waste recycling and management policies in the country.

E-waste in Nigeria is mainly disposed of by dumping in dumpsites, dismantling, and open burning, which releases toxic and hazardous substances like neurotoxins, E-brominated flame retardants (BFRs), chlorine, and mercury into the atmosphere, endangering the environment and human

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health. E-waste has many toxic and hazardous elements and materials that are sources of environmental pollution and contamination of groundwater, surface water, air, and soil. The risk from e-waste affects the entire ecosystem, and it is a major environmental health risk to wildlife and humans.<sup>2</sup> Consequently, the implementation of effective policies and a stringent legal framework to properly address this challenge of e-waste to safeguard the environment and mitigate health risks is pertinent. It is against this backdrop that this article discusses the existing laws and regulations that govern electronic waste in Nigeria.

## 2. What is E-waste?

Electronic waste (e-waste) is a blanket term used to describe all types of obsolete, outdated, end-of-life, or discarded EEE, such as household appliances and office information technology communications equipment. It includes anything with plugs, cords, and electronic components like televisions, computers, mobile phones, air conditioners, and children's toys. By section 57 of the National Environmental (Electrical/Electronic Sector) Regulations 2022, e-waste means “waste electrical electronic or electronic equipment including old, end-of-life (EoL) or discarded electrical or electronic appliances using electricity”. The United Nations defines e-waste as any discarded product with a battery or plug and features toxic and hazardous substances such as mercury, that can pose a severe risk to human and environmental health.<sup>3</sup> E-waste has also been described as electrical or electronic equipment that is waste, including all components, subassemblies and consumables that are part of the equipment at the time the equipment becomes waste.<sup>4</sup>

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<sup>2</sup> C Terada, *Recycling Electronic Waste in Nigeria: Putting Environmental and Human Rights at Risk*. Journal of Human Right. Vol. 10 (2012) 154.

<sup>3</sup> The Growing Environmental Risks of E-waste <https://www.genevaenvironmentnetwork.org/resources/updates/the-growing-environmental-risks-of-e-waste/> accessed on 5<sup>th</sup> January, 2024.

<sup>4</sup> Electronic Waste (E-Waste) [https://www.undrr.org/understanding-disaster-risk/terminology/hips/tl0041#:~:text=Electrical%20and%20electronic%20waste%2C%20or,waste%20\(UNEP%2C%202019\)](https://www.undrr.org/understanding-disaster-risk/terminology/hips/tl0041#:~:text=Electrical%20and%20electronic%20waste%2C%20or,waste%20(UNEP%2C%202019).). Accessed on 5<sup>th</sup> January, 2024.

### **3. E-Waste in Nigeria: Growth, Indecorous Disposal**

While Nigeria does not manufacture EEE, e-waste continues to grow exponentially as Used Electrical and Electronic Equipment (“UEEE”) are imported from developed countries in a bid to meet citizens’ desire for enhanced connectivity and the global demand for technology, despite the ban placed on such importation by the government. Being Africa’s most populous nation, Nigeria is a major recipient of EU. These UEEE imported into the country eventually pack up after a short while and are indecorously discarded, disposed of with solid waste, dumped in landfills, burned in open places, crudely recycled, or left on the streets, in homes, offices, and warehouses exposing Nigerians to various life-threatening risks and environmental hazards. E-waste is known to contain harmful substances that are harmful to the environment, animals, and humans.

### **4. Extant Legal Framework for E-Waste Management in Nigeria**

The success of environmental protection in Nigeria and other countries of the world depends to a large measure on the existing legal framework and administrative effectiveness of agencies in charge of strategy formulation and enforcement of environmental laws in Nigeria. Life is dependent on the environment and so, the maintenance of a healthy environment can no longer be left to chance. When air and water become contaminated and dangerous to health, one must investigate, determine safe levels of contamination and enforce regulations to protect the citizens.<sup>5</sup> Despite increasing efforts of the government and Non-Governmental Organizations to prevent abuse of the environment and to promote the recycling of E-Waste and other hazardous products in the environment; the amount of environmental degradation caused by poor e-waste management in Nigeria appears likely to continue growing.<sup>6</sup> To ensure that the environment is safe for habitation and protected against hazards, the Federal Government of Nigeria came up with some legal

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<sup>5</sup> U.D Ikoni, *An Introduction to Nigerian Environmental Law* (Malthouse Publisher, 2011) 2.

<sup>6</sup> C. T Moller, *Environmental Science: An Introduction* (Wadsworth Publishers, 1984) 22

frameworks. These legal frameworks include the NESREA Act 2007 and the National Environmental (Electrical/Electronic Sector) Regulations 2022.

#### **5. National Environmental Standard and Regulations Enforcement Agency Act 2007**

The sole responsibility of the National Environmental Standard and Regulations Enforcement Agency under the NESREA Act 2007 is to ensure the protection and development of the environment, biodiversity conservation and sustainable development of Nigeria's natural resources in general and environmental technology.<sup>7</sup> This objective enables the National Environmental Standard and Regulations Enforcement Agency to come up with modalities for ensuring environmental awareness and compliance in Nigeria. This is achieved through effective enforcement mechanisms as championed by the National Environmental Standard and Regulations Enforcement Agency. Some of the techniques and mechanisms used in ensuring environmental awareness and compliance. These techniques and mechanisms include; effective enforcement mechanisms, Public Participation in Environmental Protection and Management, Environmental education, cooperation and Partnership with other inter-government Agencies, Non-Governmental Organizations and relevant agencies that are directly or indirectly involved in activities related to the protection of the environment in Nigeria.

The NESREA Act of 2007 provides for an impressive array of enforcement mechanisms. They include the issuance of permits, licenses, certificates for environmental compliance, inspections, searches, seizures, arrests, sealing, notice of violation, notice of revocation of permit, revocation order, recourse to courts for civil penalties for violation, injunctive relief to require compliance, criminal sanctions for violations, citizen's suits to enforce the statutes in the absence of effective government enforcement, public Participation Environmental Education among others. The NESREA must enforce, and ensure compliance with laws, guidelines, policies and standards on environmental matters,<sup>8</sup> and the agency has the power to

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<sup>7</sup> Section 2 of NESREA Act 2007.

<sup>8</sup> Section 7(a) of NESREA Act 2007.

prohibit processes and use of equipment or technology that undermine the environment.<sup>9</sup> Even though the NESREA Act did not expressly provide for E-Waste, this provision of the Act in sections 7(a) and 8(d) above has widened the powers of the National Environmental Standard and Regulations Enforcement Agency to include the control and management of waste electrical and electronic equipment that poses menace to healthy environment as such e-waste can be classified as a hazardous substance under the Act.<sup>10</sup> The Agency under section 34 of the NESREA Act is empowered to make regulations. It is in reliance on the power conferred on it by the Act, that the Agency enacted the National Environmental (Electrical/Electronic Sector) Regulations 2022 which made elaborate provisions for the management of waste electrical and electronic equipment in Nigeria and measures of preserving the environment against abuse.

#### **6. National Environmental (Electrical/Electronic Sector) Regulations 2022**

The Regulations made elaborate provisions for the importation, exportation, and distribution of Electrical and Electronic Equipment and the safe disposal of E-Waste in Nigeria. The objective of the Regulations 2022 is to provide cardinal measures to prevent and minimize pollution from operations and ancillary activities of the electrical and electronic sectors to the environment.<sup>11</sup> In preserving the environment against degradation, the Regulations 2022 provide for the need to reduce, repair, reuse, recover and recycle Electrical and Electronic Equipment in Nigeria.<sup>12</sup> To prevent Nigeria from being a dumping ground for unfunctional and toxic waste electrical and electronic equipment, the Regulations 2022 mandates that new Electrical and Electronic Equipment imported into the country must possess essential features such as; (a) it must be functional, (b) it must have date of manufacture legibly written on it, (c) the Electrical and Electronic Equipment must have a warranty, and (d) it must have a pin and serial number written on it.<sup>13</sup> To stamp out the negative aftermaths of E-Waste in the Nigerian environment, the Regulations 2022 in

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<sup>9</sup> Section 8(d) of NESREA Act 2007.

<sup>10</sup> Section 37 of NESREA Act 2007

<sup>11</sup> Section 1 of the National Environment (Electrical / Electronic Sector) Regulations 2022.

<sup>12</sup> See Section 2(3) of the Regulations 2022.

<sup>13</sup> See Section 3 of the Regulations 2022.

section 9 provides for best practices in handling E-Waste. These best practices among others include that damaged and disused electrical and electronic equipment should be processed for recovery under the Extended Producer Responsibility Program of the government and such E-Waste has to be properly labelled and stored separately from the general waste.

Any person who imports, exports, manufactures, distributes or trades in any brand of Electrical and Electronic Equipment in Nigeria must subscribe to the Extended Producer's Responsibility.<sup>14</sup> The hallmark of the proactive measure is to guarantee proper recycling of E-Waste and preserve the environment against degradation. In storing E-Waste, the Regulations 2022 laid down procedures that must be adopted. These procedures are as follows:

- (a) The E-Waste must not be stored longer than 6 months on site.
- (b) It must not be disposed of in a trash receptacle, a dump site or a landfill.
- (c) It must not be burnt openly so as not to trigger air pollution.
- (d) It must be transported to the recycling centre.<sup>15</sup>

All these procedures are to ensure environmental sanity and to guarantee a healthy environment fit for habitation in Nigeria. To this effect, the Regulations 2022 ensures that the person who deals with E-Waste applies appropriate personal protective equipment.<sup>16</sup> The provisions of Regulations 2022 when effectively and efficiently implemented would preserve the environment against the menace of e-waste and ensure the existence of a healthy environment.

## **7. Strategies To Mitigate Nigeria's E-Waste Dilemma**

The emergence of Electrical and Electronic Equipment in the socio-economic life of every citizen and inhabitant of Nigeria has immensely impacted the life of every citizen and inhabitant of the country by

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<sup>14</sup> Section 12 of the Regulations 2022.

<sup>15</sup> See Section 26(3) of the National Environment (Electrical / Electronic Sector) Regulations 2022.

<sup>16</sup> Section 29 of the National Environment (Electrical / Electronic Sector) Regulations 2022.

making life easy and more convenient due to the Electrical and Electronic Equipment's efficiency and time-saving in the application. However, as impactful as the use of EEE has been to Nigeria, its use has increased the influx of e-waste into the country as a quest for new models of electrical and electronic equipment as time goes on, has made the older models of electrical and electronic equipment obsolete and a threat to the safety of human beings and the environment.<sup>17</sup> Under the law, the NESREA Act 2007 being the extant law on the protection of the environment in Nigeria against hazards, does not make specific provisions in the Act for e-waste. However, the Regulations 2022 makes specific provisions for the management and control of e-waste in Nigeria to guarantee healthy life and environment in Nigeria.

The Regulations 2022 provide for the control measures that must be put in place to prevent the abuse of the environment by waste electrical and electronic equipment which are imported into Nigeria, exported or distributed within the country. If there is improper e-waste disposal, section 30 of the Regulations 2022 mandates citizens to report such to the National Environmental Standard and Regulations Enforcement Agency for proper sanction. Open burning of e-waste is highly prohibited under the Regulations and it provides for things that constitute offences and the punishment thereafter in the management and control of e-waste.<sup>18</sup> All these are the preventive measures and adequate strategies the Regulations 2022 put in place to prevent the abuse of the environment by waste electrical and electronic equipment. The problem has always been on the full implementation of the provisions of the Regulations 2022 on e-waste and its management. Due to poor implementation of those beautiful provisions of the Regulations 2022, it seems more theoretical than practical and the menace of environmental pollution by e-waste is increasing by the day.

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<sup>17</sup> A.E.A Okposin, *Curbing E-Waste Menace Assessing the Regulatory Framework*, Colonel Odumegwu Ojukwu Journal of Commercial and Property Law. (2019) 2(1) 1.

<sup>18</sup> Sections 53 and 54 of the Regulations 2022.

In addition, since the components of waste electrical and electronic equipment do not easily decay and it is very difficult and costly to dispose of, we suggest that the major strategy to mitigate the e-waste dilemma in Nigeria is through effective and efficient recycling of waste electrical and electronic equipment. Recycling when effectively done just as provided in the Regulations 2022 will help to curtail indiscriminate disposal of e-waste and keep human beings and the environment safe against hazard.

## **8. Conclusion**

Addressing the e-waste challenge in the country's electrical and electronic sector is a complex issue that requires a holistic approach. This approach includes; the effective and efficient enforcement of the provisions of e-waste regulations to guarantee proper e-waste management, sensitizing and raising public awareness on the harmful effects of indecorous disposal and recycling of e-waste. This sensitisation should be done in both English and pidgin English, as well as in vernacular, to ensure a wider reach and proper understanding by all classes of citizens. In addition, the current extant law for the protection of the environment against degradation should be revamped as it does not make specific provisions for e-waste management in Nigeria. The latter will bring Nigeria's environmental protection procedures in alignment with global best practices.