National Policy on Electrical and Electronic Waste Management in Sri Lanka

Sri Lanka

2023

Ministry of Environment

List of Abbreviations

CEA – Central Environmental Authority

MOE – Ministry of Environment

Contents

1. Policy Name:

National Policy on Electrical and Electronic Waste Management in Sri Lanka

2. Effective Date

To be decided upon the approval of the Cabinet of Ministers. The policy shall be applicable from the date of notification unless extended further with necessary amendments and approval processes.

3. Introduction

i) Background

Waste electrical and electronic equipment, widely known as Electronic Waste (e-waste) or Waste Electrical and Electronic Equipment (WEEE) is one of the fastest growing waste streams in the world. According to the UN's Global E-waste Monitor - GEM (2020), 53.6 million metric tons (Mt) of electronic waste was generated in 2019, up 21 percent just in five years. The report also predicts that global e-waste discarded products with a battery or plug will reach 74 Mt by 2030. The rapid advances of electrical and electronic technology have created a rapid pace of electrical and electronic equipment becoming quite ubiquitous as well as subjected to technological obsolescence. Therefore,-handling, and safe disposal of waste of these items without causing problems to human health and environment needs conducive policies and innovative strategic approaches at local, national, regional, and global levels.

Electrical and electronic equipment contains a complex mixture of material some of which are hazardous. These devices once discarded by the user can cause major environmental and health problems if not properly managed. At the same time, these devices and its components can be reused in multiple ways and recycled expanding its lifetime through responsible production and consumption. This immensely helps to minimize resource extraction and final disposal requirements, and maximize environmental, economic, and social benefits. According to GEM (2020), only 17.4 percent of the waste generated in 2019 has been collected and recycled. That means that gold, silver, copper, platinum, and other high-value recoverable materials conservatively valued at US$57 billion - a sum greater than the Gross Domestic Product (GDP) of most countries were mostly dumped or burned rather than being collected for treatment and reuse. There are multiple global initiatives taken place and emerging to lead environmentally sound management of e-waste using circular economy principles.

In the Sri Lankan context, most of the electrical and electronic equipment and its parts are imported. Therefore, there is a tendency of infiltration of low-cost inferior versions and secondhand products and related units with very short life spans making use of the fact of

need versus ability to pay. It is necessary to promote sustainable purchasing systems by enforcing minimum standards applicable for the quality of e-products to prevent and minimize the generation of e-waste in the country. This is especially true for mobile phones and other consumable items such as computers and household equipment, and toys.

In Sri Lanka, generation of e-waste has been estimated as 22,000 MT and it is predicted to increase to 25,000 MT in 2025/30. It is necessary to establish a dynamic, efficient, and effective e-waste management system in the country with proper collection systems to optimize reuse, recycle and recovery systems in line with the circular economy principles. Systematic collection and operating systems of e-waste covering the entire lifecycle of electrical and electronic equipment needs responsible behavioral changes of all the users in the country.

ii) Justification of the need of an e-waste management policy

E-waste is one of the nine specific solid waste streams identified in the "National Policy of Waste Management" approved by the Cabinet of Ministers in 2019 that requires the development of a comprehensive sectoral policy for its effective implementation. Legally binding Extended Producer Responsibility (EPR) systems with knowledge management and skills development can optimise the lifecycle management and resource recovery of all the e-waste generated in the country with private-public participation and international cooperation. The circular economy can offer immediate solutions by extending product lifecycles and recovering functional and material value from e-waste. It is based on three principles driven by design: eliminate waste and pollution, circulate products and materials (at their highest value), and regenerate nature.

It is necessary to honour and comply with the provisions of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and other related conventions ratified by the country in managing e-waste. E-waste management with circular economy principles assists in tackling other global challenges such as climate change and biodiversity loss and promotes sustainable production and consumption.

iii) Purpose and Context

This policy is developed to fulfil all these aspects. It includes: **Applicability and Scope, Policy Goals, Policy Objectives, Guiding Principles, Policy Statements and Policy Implementation Strategies.**

The National Policy of Waste Management approved by the Cabinet of Ministers in 2019 and requires to develop a comprehensive sectoral policy for its effective implementation. In compliance with the Cabinet decision Ministry of Environment formulated this policy in consultation with the experts and stakeholders. The main purpose of this policy is to guide the policy makers, regulators, importers, distributor, private sector partners,

collectors, manufactures, repairers, disposal agencies etc. in managing e-waste to minimize environmental issues arise in the country at national, provincial and local level. It takes an anticipatory and forward-looking approach towards addressing e-waste management challenges face by the country. The Electrical and electronic equipment contains a complex mixture of materials including hazardous. Therefore, those devices once discarded by the user haphazardly, can cause major environmental and health problems if not properly managed. This policy will provide a guidance for establishing EPR system in the country, while opening numerous opportunities for the general public and private sector. The National Policy on Electrical and Electronic Waste Management in Sri Lanka contributes directly or indirectly to the Sustainable Development Goals and directly comply with the Basel Convention that Sri Lanka has become a party in 1992.

iv) Rationale

Vision:
Managing e-waste sustainably for a healthy life and a cleaner environment for all.

Mission:
Ensure sustainable e-waste management with accountability of all actors while considering resource conservation, circularity and economic efficiency of all stages in the lifecycle

4. Key Policy Principles

It is crucial for all citizens to recognise the dangers of Electronic Waste (e-waste) and to acknowledge their responsibility in ensuring its proper and environmentally friendly disposal. The presence of well-defined policy principles is imperative to offer direction on the appropriate management of e-waste and promote effective governance in the field. This approach not only safeguards the environment, economy, and society at large but also guarantees positive outcomes for the nation's overall well-being.

Principle 1:
Social transformation

Principle 2:
Precautionary Principle

Principle 3:
Circular economy principle and Sustainable Consumption and Production

Principle 4:
Whole-of-government and whole-of-society inclusive approach

Principle 5:
Good Governance

Principle 6:
Research Governance

Principle 7:
Polluter pay, Circular economy and Extended Producer responsibility

5. Policy Statements

The Policy statements are the main element/ body of this policy. Ten Policy statements have been identified and formulated in achieving the objectives of the National Policy on Electrical and Electronic Waste Management in Sri Lanka which leads to improve the quality of life while minimizing the environmental degradation without compromising the resource needs of the future generations.

Policy Statement 1:
Ensure Awareness creation and attitudinal transformation

Policy Statement 2:
Improve Knowledge, Skill Development and Capacity building

Policy Statement 3:
Ensure Preparedness for Disaster situations

Policy Statement 4:
Ensure minimization of e- waste

Policy Statement 5:
Ensure accountability while considering economic efficiency of all stages in the lifecycle

Policy Statement 6:
Ensure Occupational Health and Safety throughout the lifecycle management

Policy Statement 7:

Establish policy, legal measures and mechanisms and maintained continuously

Policy Statement 8:
Promote Research & Development

Policy Statement 9:
Ensure International Cooperation for e-waste management

Policy Statement 10:
Ensure Resource Mobilization

6. Policy Goals

- **Goal 01**: Environmentally sound, safe, economically viable, socially responsible, and accountable e-waste management is in place supporting to an integrated waste management in the country
- **Goal 02**: Extended Producer Responsibility (EPR) is applied along the supply chain strategically to facilitate life cycle management in an environmentally sound and economically viable manner

7. Applicability and Scope

This policy is developed as a sectoral policy of the National Policy on Waste Management, approved by the Cabinet of Ministers in 2019. E-waste is one of the nine (9) waste streams identified under the 'solid waste' category of the "National Policy on Waste Management," and all the provisions of the national policy are applicable to the implementation of this policy.

The development of this sectoral policy results from the understanding that the e-waste stream is highly complex, potentially hazardous, and yet a waste stream with significant economic value.

In this policy, e-waste covers all types of waste electrical and electronic equipment and its parts discarded by the user. Used electrical and electronic equipment that is destined for reuse, resale, salvage recycling through material recovery, or disposal is also considered e-waste.

The different types of waste electrical and electronic equipment covered by this policy are presented in Annex 1.

8. Policy Implementation

The National Policy on Electrical and Electronic Waste Management in Sri Lanka includes specific strategies for the policy goals listed in Section 6 above as Annexure 2: Policy Thrust Table, which is part and parcel of this policy document and will serve as the base document for implementation.

i)   **Responsibility and Authority**

The strategies listed in Annexure 2 above serve as the foundation for facilitating the principles of the policy and shall be carried out in accordance with the corresponding Acts. The regulatory bodies would have had the power to put them into effect.

The Central Environmental Authority in Sri Lanka has been given authority over the management of electronic waste. The collection of electronic waste, which is managed by that authority, is currently responsible for waste management.

The responsible authorities and ministries for key focused areas of waste management are given in Annexure 3.

Condition element –

ii)   **Monitoring and Evaluation**

A governing body established under the subject ministry to environment which CEA is assigned would have responsibility and authority over the implementation of this policy. This entity may establish necessary committees for the purposes of grant allocation, facilitating training and coordination between the sub committees if necessary, establishing and managing the activities, and any other aspect of the implementation of this policy.

Condition element in General:

Stakeholders who will feel the effects of these policies during implementation are the entities affected by these policies, particularly the public and the industry. The relevant representatives will work with these stakeholders to complete the regulatory documentation once regulatory bodies have cooperatively established an acceptable framework. These documents contain elaborate operational plans, execution strategies, and related information.

Waste Electrical and Electronic Equipment (**WEEE/e-waste) Categorization**

Waste Electrical and Electronic Equipment WEEE (e-waste) is a broad and a generic term describing all types of old, end-of-life, obsolete or discarded electrical and electronic equipment. In an equipment all components, sub-assemblies, and consumables, which are part of the item at the instance of discarding is defined in this manner. WEEE (e-waste) can generate across the value chain from industry, delivery and in retail and consumption. The consumption can be at an institutional level as well as an individual. In setting up the e-waste listing the entire value chain is addressed.

In this policy, WEEE(e-waste) is categorized into two parts considering the consumption of Electrical and Electronic Equipment (EEE) at Industry/Commercial level and small scale and household level as follows.

Part 1: Manufacturing and Delivery Value chain e-waste Opportunities (bulk
        generation potential as well as intermittent generation) not listed in part 2.

Part 2: Institutional and User generation (generation possible at any given time) (54 Products grouped based on the EU 6 categorization).

Part 1: Manufacturing and Delivery Value chain e-waste Opportunities (bulk generation potential as well as intermittent generation)

Part 2: Institutional and User generation (generation possible at any given time)

Serial no.	Product	EU 6
	Temperature exchange equipment	
1.	Fridges (incl.combi-fridges)	**01**
2.	Freezers	
3.	Air conditioners(household installed and portable)	
4.	Other cooling equipment(dehumidifiers, heat pump dryers)	
5.	Professional cooling equipment(large air conditioners, cooling displays)	
6.	Cooled Dispensers (for vending, cold drinks)	
	Screens, monitors, and equipment containing screens	
7.	Laptops(incl.tablets)	
8.	Cathode Ray Tube Monitors	

9.	Flat display panel monitor(LCD,LED)	**02**
10.	Cathode Ray tube TVs	
11.	Flat display Panel TVs(LCD, LED & Plasma)	
	Lamps	
12.	Compact Fluorescent lamps (incl. retrofit & non retrofit)	**03**
13.	Straight Tube Fluorescent lamps	
14.	Special Lamps (professional mercury, high and low pressure sodium)	
15.	LED Lamps (incl. retrofit LED lamps)	
	Large Equipment	
16.	Central Heating (household installed)	**04**
17.	Photovoltic Panels (incl.inverters)	
18.	Professional heating & Ventilation(excl.coolin equipment)	
19.	Dishwashers	
20.	Kitchen equipment(large furneces, ovens, cooking equipment)	
21.	Washing machines(incl.combined dryers)	
22.	Dryers(washdryers, centrifuges)	
23.	Household heating & ventilation, space heaters)	
24.	Professional IT equipment(servers, router, data storage, copiers)	
25.	Professional tools(for welding soldering, milling)	
26.	Leisure equipment (sports equipment, electric bike, juke boxes	
27.	Professional Medical equipment(hospital dentist, diagnostics)	
28.	Professional Monitoring & Control equipment (laboratory, control panels)	
29.	Non-cooled Dispensers(for vending, hot drinks tickets, money)	
	Small Equipment	
30.	Microwaves(incl.combined excl.grills)	**05**
31.	Other household equipment(small ventilators, irons, clocks, adapters)	
32.	Equipment for food preparation(toaster, grills, food processing frying pans)	
33.	Small household equipment for hot water preparation(Coffee,tea, water cookers)	
34.	Vacuum cleaners (excl. professional)	
35.	Personal care equipment (toothbrushes, hairdryers, razors)	
36.	Small consumer electronics(headphones, remote controls	
37.	Portable audio & video (MP3, e-reader, car navigation)	
38.	Music instruments, Radio, Hi-Fi(incl. audio sets)	
39.	Video (Video recorder, DVD, Blue Ray, set-topboxes) and projectors	
40.	Speakers	
41.	Cameras(camcorders, photo &digital still cameras)	
42.	Small lighting equipment(excl. LED & incandascen	

43.	Household Luminaires(incl. household incandescent fittings & household LED luminaires	
44.	Professional Luminaires(office, public space, industry)	
45.	Household Tools(drills, saws, high pressure cleaners, lawn mowers	
46.	Toys(car racing sets, electric trains, music toys, biking computers, drones)	
47.	Household medical equipment (thermometers, blood pressure meters	
48.	Household Monitoring & control equipment(alarm, heat, smoke, excl.screens)	
	Small IT and telecommunication equipment	
49.	Small IT equipment (routers, mice, keyboards, external devices, & accessories)	**06**
50.	Desktop PCs (excl.monitors, accessories)	
51.	Printers (scanners, multi-functionals, faxes)	
52.	Telecommunication equipment (cordless phones , answering machines	
53.	Mobile phones(incl.smart phones, pagers)	
54.	Game consoles	

Annexure 02: Policy Thrust Table (Goals-Objectives-Strategies)

Thrust Table – National Policy on Waste of Electrical Electronic Equipment (WEEE/e-waste)

Policy Principle	Policy Goal	Policy Statement	Policy objectives	Strategies
Social transformation	Environmentally sound, safe, economically viable, socially responsible, and accountable e-waste management is in place supporting to an integrated waste management in the country	7.7 Ensure Awareness creation and attitudinal transformation	7. Build an informed society characterized by proficient e-waste management awareness and a conscientious mindset embracing environmental sustainability principles	7.7.1 Develop strategies to make the public aware on proper handling of EEE to maximize inhouse usage and facilitate resource circulation after end-use in an environmentally sound manner minimizing wastage and maximizing economic benefits.
				7.7.2 Set quantitative and qualitative targets in promotion of e-literacy of all strata of the community integrating the possible environmental impacts of mismanagement of e-products and equipment.
				7.7.7 Facilitate attitudinal transformation towards sound e-waste management through informal and nonformal education in all levels of the society (early childhood, primary school, secondary school, university/tertiary, technical/vocational, adulthood)
		7.8 Improve Knowledge, Skill Development and Capacity building	5. Enhance/Develop knowledgeable and skilled human resources base in the business and service sectors that supports environmentally sound and economically viable e-waste management.	7.8.1 Build capacity of e-waste handling sector on proper handling, transportation, storage, and networking with circularity systems to facilitate integrated e-waste management in the country in an environmentally sound manner.
				7.8.3 Develop a dedicated workforce with enhanced competencies in functionality tests, evaluation and testing, recording, verification, reporting on used e-products and equipment including capacities to evaluate whether there are outdated components or technology
				7.8.4 Develop a dedicated human capital to bridge the gaps of e-waste management with circular principles in an environmentally sound manner minimizing residual wastage and maximizing resource recovery

Policy Principle	Policy Goal	Policy Statement	Policy objectives	Strategies
				7.8.5 Include e-waste reuse, resale, refurbish, remanufacture, repurpose, and material recovery systems, and treatment and final disposal systems in an environmentally sound manner maximizing the circularity aspects in the National Vocational Qualification (NVQ) system and Sri Lanka Qualifications Framework (SLQF).
				7.8.9 Make all the public and private institutions mandatory to develop and implement programs to build capacities on proper handling and maintenance of e-products and equipment in line with circular economy principles as part of their human resource development system
Precautionary Principle	Environmentally sound, safe, economically viable, socially responsible, and accountable e-waste management is in place supporting to an integrated waste management in the country	7.5 Ensure Preparedness for Disaster situations	Make necessary infrastructure facilities to face with all types of disasters	7.5.2 Include e-waste management also in disaster prevention plans by all the institutions as part of waste management at appropriate levels based on the risk levels to minimize negative impacts to the people and to the environment.

Policy Principle	Policy Goal	Policy Statement	Policy objectives	Strategies
Circular economy principle and Sustainable Consumption and Production	Environmentally sound, safe, economically viable, socially responsible, and accountable e-waste management is in place supporting to an integrated waste management in the country	7.2 Ensure minimization of e- waste	6. Secure Social Responsibility towards sustainable production and consumption of e-products 4. Promote integrated e-waste management by looking at all phases of the life cycle of the product and act where it is most effective to prevent haphazard disposal of e-waste while ensuring maximum resource recovery.	7.2.1 Promote/enhance sustainable production and consumption practices of EEE amongall citizens.
				<mark>7.2.2 Strengthen the implementation of EEE lifetime extension as a formal business practice to accelerate the transition of businesses towards circular economy</mark>.
				7.2.3 Enhance the capacity of proper selection, handling and maintenance, to ensure optimal utilization of e-products and discarded items to minimize final disposal.
				<mark>7.2.5 Establish a mechanism to formalize and upgrade the capacities of those involved in collection, repair, and maintenance sector.</mark>
Whole-of-government and whole-of-society inclusive approach		7.3 Ensure accountability while considering economic efficiency of all stages in the lifecycle	3. Ensure all users of e-products in the country to be responsible for their end-of-life asset management 2. Make producers and importers responsible for end-of life management of e-products they place on the market.	**7**.3.1 Establish dedicated e-waste collection Networks including temporary storage, intermediate storage, and transportation systems island wide to prevent haphazard disposal of e-waste and mixing with other waste streams with tracking systems.
				7.3.2. Promote the private and public sector institutions including Provincial and Local Authorities and Private-Public partnerships to establish e-waste reuse, resale, refurbish, remanufacture, repurpose and material recovery systems, in an environmentally sound manner

				maximizing the circularity aspects covering the entire country
				7.3.3 Establish cluster-based e-waste treatment and final disposal facilities for non-usable, non-recyclable e-waste items in an environmentally sound manner at strategic locations in the country ensuring maximum resource recovery prior to final disposal
				7.3.4 Make all the e-waste handling institutions legally responsible to join the authorized entities and ensure environmentally sound residual waste disposal arising from their internal processes
				7.6.7 Ensure effective law enforcement as a means of enhancing the accountability of stakeholders throughout the life cycle of e-products and management of e-waste.
		7.4 Ensure Occupational Health and Safety throughout the		7.4.1 Develop guidelines on occupational health and safety in receiving, transportation and distribution of e-waste covering inside and outside workforces including tools and checklists, and occupational exposure standards.

		lifecycle management		7.4.2 Ensure the workforce in both formal and informal sector to use these guidelines and periodically monitor and evaluate the performance for its efficiency and effectiveness with feedback systems.
Policy Principle	**Policy Goal**	**Policy Statement**	**Policy objectives**	**Strategies**
Good Governance	Environmentally sound, safe, economically viable, socially responsible, and accountable e-waste management is in place supporting to an integrated waste management in the country	Establish policy, legal measures and mechanisms and maintained continuously	**9**.Make all the EEE consumers legally responsible for proper handling of e-products in house and be responsible to hand over to registered collectors after end of use to maximize resource recovery and minimize final disposal	7.6.2 Ensure incorporation of e-waste management systems with sufficient storage capacity for temporary storage of e-waste with large scale users of e-products and equipment.
				7.6.3 Make the owners of the construction and demolition work be responsible for proper handling of e-waste separately and be responsible for waste management up to final disposal
				7.6.4 Make the owners of the e-products and equipment repair shops be responsible for proper handling of e-waste inhouse and be

			10. Strengthen the existing regulatory mechanisms through appropriate legal reforms to ensure lifecycle e-waste management in the country in an environmentally sound manner	responsible for waste management up to final disposal.
				7.2.9 Facilitate implementation of green procurement and green financing policies to minimize e-waste generation.
				Make all retailer shops of EEE to maintain a temporary storage facility proportionate to their size of the business.

Policy Principle	Policy Goal	Policy Statement	Policy objectives	Strategies
Research Governance	Environmentally sound, safe, economically viable, socially responsible, and accountable e-waste management is in place supporting to an integrated waste management in the country	Promote Research & Development	**8.** Promote circular solutions to e-waste management with sustainable business models assisted by green financing schemes, technology transfer and research & development	7.9.1 Promote and widely publish research and development on upgrading the present e-waste management system in line with the circular economy principles related to waste reduction by design, user to user, user to business and business to business.
				7.9.2 Promote research and development on comparative ecological and economic benefits of e-waste management in line with the circular economy principles.
				7.9.3 Promote research and development to identify direct and indirect business opportunities in e-waste management in line with circular economy principles
				7.9.4 Promote research and development to identify the skilled workforce necessary to

				support an effective and efficient e-waste management in line with circular economy principles, and the potential of creation of jobs at different levels
				7.9.5 Promote research and development to identify technology needs to reach zero e-waste residues minimizing the need for final disposal.
	Environmentally sound, safe, economically viable, socially responsible, and accountable e-waste management is in place supporting to an integrated waste management in the country	7.10 Ensure International Cooperation for e-waste management	Strengthen International Cooperation for responsible e-waste management	7.10.1 Ensure compliance to the Basel Convention on the Control of Transboundary Movements of Hazardous Waste and their Disposal and other related conventions and treaties ratified by Sri Lanka.
				7.10.2 Secure international cooperation to regulate importation of used and outdated electrical and electronic equipment
				7.10.3 Secure international cooperation to implement Extended Producer Responsibility (EPR) principle in and outside the country with proper monitoring, verification, and reporting systems.
				7.10.4 Secure international cooperation to enhance knowledge with best practices of application of lifecycle approaches and circular economy principles in e-waste management in the country
				7.10.5 Secure international cooperation to enhance knowledge and skills in functionality tests, evaluation and testing, recording, verification, and reporting on used e-products, equipment and its components including capacities to evaluate whether there are outdated components or technology.
				7.10.6 Secure international cooperation to maximize e-waste reuse and recovery in the

				country in an environmentally sound manner through technology innovation and transfer
				7.10.7 Secure international cooperation to develop sustainable digital data/information management systems for monitoring, evaluation, verification, and reporting systems.
				7.10.8 Secure international cooperation for capacity building of the technical workforce in waste management through technical skills development training programs.
Policy Principle	**Policy Goal**	**Policy Statement**	**Policy objectives**	**Strategies**
Whole-of-government and whole-of-society inclusive approach		7.11 Ensure Resource Mobilization	Promote business models in an all management of the lifecycle	7.11.1 7.11.1 Introduce and use market-based instruments to ensure efficient and effective management of e-products and e-waste
				7.11.3 Enable innovative green financial mechanisms to promote efficient use of e-products and management of e-waste to provide a circular solution to WEEE.
				7.11.4 Facilitate Provincial Councils and Local Authorities in resource mobilization to ensure

				efficient e-waste management systems in the country
				7.13.4 Establish an evaluation and verification mechanism based on the information gathered from National, Provincial and Local levels and publish performance of the e-waste management in the country periodically to facilitate prudent decision making by all sectors.

Policy Principle	Policy Goal	Policy Statement	Policy objectives	Strategies
Good governance	Environmentally sound, safe, economically viable, socially responsible, and accountable e-waste management is in	7.12 Strengthen Institutional Mechanism	**1.**Ensure all e-waste operators involved in the life cycle of electrical and electronic equipment are	7.12.3 Use multiple strategies such as law enforcement, economic instruments, product stewardship and voluntarily participation as appropriate to improve the e-waste management system throughout the country.

	place supporting to an integrated waste management in the country		engaged to improve performance to prevent environmental problems	7.12.4 Establish an institutional mechanism to promote public-private (PPP), private-private (PPP), and public-private-people partnerships (PPPP) to maximize e-waste reuse, recovery, and recycling with performance monitoring systems.
Good governance	Environmentally sound, safe, economically viable, socially responsible, and accountable e-waste management is in place supporting to an integrated waste management in the country	7.13 Strengthen Monitoring, Evaluation, Verification, and Reporting	All decisions are made based on data and information	7.13.3 Link Provincial Level and Local Authority level performance monitoring systems into the National level monitoring system.
Polluter pay, Circular economy and Extended Producer responsibility	7.2.4 Extended Producer Responsibility (EPR) is applied along the supply chain strategically to facilitate life cycle management in an environmentally sound and economically viable manner	Make sure EPR principle is in place to change the behavior of all members in the lifecycle	1. Ensure all members (importers, whole sellers, retailers, customers and collectors, temporary storage operators, recyclers and entities involved in environmental disposal of e-waste)are involved in lifecycle management play their role for the systems	Establish a data and information platform with access to all partners of the system
				Introduce economically and socially acceptable system to implement EPR
				Establish Producer Responsible Organization /Organizations for each equipment /group of equipment considering their similarities
				Introduce independent fund management boards with the participation of public and private sector organization

| | | | introduced under the principle of EPR | |
| | | | | |

1. **Circular Economy**

   The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the life cycle of products is extended.

2. **Environmental Social Governance**

   ESG has become a significant element that consumers, businesses, and civil societies look for in a product, and the demand for ESG management is ever-growing. **E**nvironmental **S**ocial and **G**overnance and refers to the three key factors when measuring the sustainability and ethical impact of an investment. The Environmental Social and Governance factors are a subset of non-financial performance indicators which include ethical, sustainable, and corporate governance issues such as making sure there are systems in place to ensure accountability and manage the corporation's carbon footprint

3. **Extended Producer Responsibility (EPR**)

   EPR is an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle.

4. **Good Governance**

   Good governance is an essential complement to sound economic policies and is central to creating and sustaining an environment which fosters strong and equitable development**.** Good governance has 8 major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law

5. **Life cycle approaches**

   Life cycle approaches aim to contribute to sustainability over chains of production, consumption and waste management processes. They complement to a focus on specific, localized activities. Life cycle approaches try to reach this aim by shaping relationships between activities and connected stakeholders in the life cycle 64 chains, thus realizing life cycle management

6. Polluter Pays Principle

This is commonly accepted practice that those who produce pollution should bear the costs of managing it to prevent damage to human health or the environment.

7. Precautionary Principle

Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental damage

8. Product Stewardship

Product stewardship is a principle that directs all actors in the life cycle of a product to minimize the impacts of that product on the environment. What is unique about product stewardship is its emphasis on the entire product system in achieving sustainable development. All participants in the product life cycle –designers, suppliers, manufacturers, distributors, retailers, consumers, recyclers, and disposers – share responsibility for the environmental effects of products

9. Recovery

Any operation wherein products, components of products, or materials that have become waste are prepared to fulfill a purpose in place of new products, components, or materials that would otherwise have been used for that purpose

10. Recycle

Reprocessing of products or components of products that have become waste, to make new materials

11. Refurbishment:

Refers to the modification of an object that is a waste or a product that takes place within maintenance or intermediate maintenance operations to increase or restore performance and/ or functionality or to meet applicable technical standards or regulatory requirements, with the result of making a fully functional product to be used for a purpose that is at least the one that was originally intended. The restoration of functionality, but not value, enables a partial new service life for the product

12. Remanufacturing:

Refers to a standardized industrial process that takes place within industrial or factory settings, in which cores are restored to original as-new condition and performance, or

better. The remanufacturing process is in line with specific technical specifications, including engineering, quality, and testing standards, and typically yields fully warranted products. Firms that provide remanufacturing services to restore used goods to original working condition are considered producers of remanufactured goods

13. **Repair:**

Refers to the fixing of a specified fault in an object that is a waste or a product and/or replacing defective components, in order to make the waste or product a fully functional product to be used for its originally intended purpose

14. **Research Governance Principle**

Research Governance concerns setting standards to improve research quality and safeguard the public. It involves enhancing ethical and scientific quality, promoting good practice, reducing adverse incidents, ensuring lessons are learned and preventing poor performance and misconduct

15. **Reuse**

Checking, cleaning, or repairing operations, by which products or components of products that have become waste are prepared to be put to use for the same purpose for which they were conceived

16. **Waste Electrical and Electronic Equipment (WEEE)**

WEEE refers to the waste of any equipment that is dependent on electric currents or batteries to work; basically, anything that you need to plug in to a socket or needs batteries to function.

17. **Whole-of-Government and whole-of-society approach**

The Whole-of-Government emphasizes the need for greater collaboration and coordination across departmental boundaries to eliminate duplication, optimize resources, create synergies among agencies, and deliver seamless services to the citizens and businesses. whole-of-society approach to public integrity requires companies, civil society organizations and individuals to ensure that their engagement with the public sector respects the shared ethical norms, principles and values of society.

E waste categorization definition in accordance with the EU - 6 categorization

1. *Temperature exchange equipment*
   Temperature exchange equipment is electrical and electronic equipment ("EEE") with internal circuits where substances other than water – e.g. gas, oil, refrigerant or a secondary fluid - are used for the purpose of cooling and/or heating and/or dehumidifying

2. *Screens and monitors*
   Screens and monitors are EEE intended to provide images and information on an electronic display - regardless of its dimension - such as cathode ray tubes (CRT), liquid crystal displays (LCD), light-emitting diode displays (LED) or other kind of electronic displays. Additionally, WEEE2 includes under category 2 other equipment containing screens having a surface greater than 100 cm2. However, WEEE2 FAQ2 clarify that not every equipment containing a screen greater than 100 cm2 falls under category 2. Only EEE with a screen- surface greater than 100 cm2 and whose intended usage focus is displaying images or information on a screen is allocated to category 2. Equipment such as Laptops, Notebooks, Tablets, eBook-/e-Readers with a screen surface greater than 100 cm2 shall be considered under category 2, but not equipment like washing machines, refrigerators, printers, mobile phones (smartphones, phablets etc.), even if they have a screen surface greater than 100 cm2, because their intended usage focus is not displaying information on a screen.

3. *Lamps*
   Lamps are replaceable electrical devices that produce light from electricity, amongst that they can also have other functions*. They are intended to be used in luminaires amongst other devices. These lamps usually have a base made of ceramic, metal, glass or plastic, which secures the lamp in a standardized socket, which may be made with a screw thread base, two metal pins, two metal caps or a bayonet cap (see CEI/IEC 60061-1 standard) to allow the replacement of the lamp without tools.

4. *Large equipment*
   EEE that is not allocated to categories 1, 2 or 3. Any external dimension is more than 50 cm.
   The external dimensions of the equipment need to be measured in a status ready for use. For correct measurement of EEE see under 3

5. *Small equipment*
   EEE that is not allocated to categories 1, 2, 3, 4 or 6. No external dimension is more than 50 cm. The determination of dimensions follows the definition provided for category 4 above. If then the largest outer dimension is 50 cm or less and it's not IT or telecommunication equipment it meets the definition of category 5.

6. *Small IT and telecommunication equipment*
   EEE that is not allocated to categories 1, 2, 3, 4 or 5.

Information equipment is equipment that can be used for collecting, transmitting, processing, storing and showing information. Telecommunication equipment is equipment designed to transmit signals – voice, video and data – electronically over a certain distance. The determination of dimensions is the same as for category 5. If then the equipment is IT or telecommunication equipment it meets the definition of category 6.

Key focused areas	Responsibility
Overall aspects of the policy (formulation, monitoring & Evaluation)	MOE/CEA
Import & Export	MOF/DI &EC /SLC /CEA/Private sector/BOI
Waste Minimization	MOE/CEA/ MPC&LG /Consumers /Private Sector/ TVES/WMAWP/BOI/MOIn/IDB/NWPEA
Waste Collection, Storage, Transportation, Treatment and Disposal	MPC&LG/LA/MOIn/CEA/Collectors/Recyclers/Private Sector/ WMAWP/BOI/IDB/ICTA
Awareness creation, knowledge management and capacity building	MOE/ MOIn/ MPC&LG /ICTA/ MEdu/MOH/BOI/CEA/MOF/IDB/ WMAWP/NAITA
Skills development, knowledge management and capacity building	MOE/ MPC&LG / MOIn/ CEA/ BOI/NERD/Academia/IDB/TVES/ICTA /NAITA
Occupational health and safety	MOH/ MPC&LG /MOIn/ML&FE/BOI/IDB/Private Sector
Preparedness for disaster situations	CEA/NWS&DB/NBRO/BOI/MOIn /MOH/ML&FE
Research and Development	Academia/ Research Institutes/ Private Sector/ MOE/ MOIn
Legal Framework and Enforcement	CEA/ DIEC/ MOH/MOIn/
Institutional mechanism for policy implementation and coordination	MOE/ MPC&LG /CEA/ Private Sector/
International Cooperation	MOFA/MOE/CEA/MOIn

If any other agencies that would have related activities could be added to the list of responsibilities,

Annexure   5

Abbreviations

BOI	Board of Investment Sri Lanka
CEA	Central Environmental Authority
CRT	Cathode ray tubes
DI &EC	Department of Import & Export
EEE	Electrical and electronic equipment
EPR	Extended Producer Responsibility
GDP	Gross Domestic Product
ICTA	Information & Communication Technology Agency of Sri Lanka
IDB	Industrial Development Board
LA	Local Authorities
LCD	Liquid crystal displays
LED	light-emitting diode displays
MEdu	Ministry of Education
ML&FE	Ministry of Labor and Foreign Employment
MOE	Ministry of Environment
MOF	Ministry of Finance
MOFA	Ministry of Foreign Affairs
MOH	Ministry of Health
MOIn	Ministry of Industries
MPC&LG	Ministry of Provincial Councils & Local Government
NAITA	National Apprentice & Industrial Training Authority
NBRO	National Building Research Organization
NERD	National Engineering Research &Development Center
NVQ	National Vocational Qualification
NWPEA	North Western Province Environmental Authority
NWS&DB	National Water Supply & Drainage Board
PPP	Public-private partnership/ private-private partnership
PPPP	Public-private-people partnerships
SLC	Sri Lanka Customs
SLQF	Sri Lanka Qualifications Framework
TVES	Tertiary and Vocational Education Commission
UN	United Nations
WEEE	Waste electrical and electronic equipment
WMAWP	Waste Management Authority, Western Province