



RECOMMENDATIONS FOR IMPROVEMENT E-WASTE MANAGEMENT IN UZBEKISTAN

August 2022





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Symbols and abbreviations

WEEE - Waste Electrical and Electronic Equipment

EEE - Electrical and Electronic Equipment

RLA – Regulatory Legal Act

EPR - Extended Producer Responsibility

PPP - Public-Private Partnership

BAT - Best Available Technologies

NGOs - Non-governmental Non-profit organizations

EBT - Electrical beam tube



Introduction

Waste Electrical and Electronic Equipment (hereinafter WEEE) management is an integral part of a country's overall waste management system.

The effective management of WEEE in countries requires certain conditions, including legal requirements, infrastructure development and awareness.

These Recommendations for improving e-waste management in Uzbekistan (hereinafter Recommendations) have been developed in accordance with the Guidelines for e-waste management system development and legislation¹, prepared by e-Waste Solutions (StEP), which is part of the United Nations University.

The recommendations describe the ten steps that are necessary to build an e-waste management system in the country, including recommendations from international experience, the current situation in Uzbekistan and suggestions for improvement within each step.

The recommendations were prepared by the Centre for Promotion of Sustainable Development during the evaluation of e-waste management in Uzbekistan carried out within the framework of the project on implementation of EPR concept in e-waste management policies and regulations, implemented by the International Telecommunication Union and the United Nations Environment Programme.

¹ https://www.step-initiative.org/files/documents/whitepapers/Step_WP_WEEE%20systems%20and%20legislation_final.pdf



1. Improving the legal framework

Recommendations based on international experience:

To establish a system for WEEE collection and recycling, a *clear legal framework for WEEE collection and recycling needs to be developed*.

At the very least, WEEE legislation should include the following elements:

- Clear definition of the role of the local municipality and the national government;
- A clear definition of who is responsible for organizing collection and recycling;
- Clear definition of who is responsible for financing WEEE collection and recycling;
- National agreement on definitions of waste;
- Permit and licensing framework for WEEE collectors and processors;
- Requirements for the implementation of extended producer and importer EEE liability;
- A clear description of the purpose of the legislation so that it can be measured whether stakeholders are complying with it;
- Licensing and/or certification of WEEE collection for the recycling facility, where appropriate for licensing and operation of industrial facilities.

Current situation in the country:

Nowadays the main law for waste management in Uzbekistan is the Law " Waste Act " (№362-II from 05.04.2002) and a number of by-laws. There is no separate by-law on WEEE. However, the existing RLAs regulate some issues of WEEE handling. These include:

- Decree of the Cabinet of Ministers of the Republic of Uzbekistan "On regulation of activities of enterprises on use and disposal of mercury-containing lamps and devices" (No. 405 of 23.10.2000);
- - Decree of the Cabinet of Ministers of the Republic of Uzbekistan "On approval of the Regulation on collection and disposal of mercury-containing lamps" (No. 266 of 21.09.2011);
- - Decree of the Cabinet of Ministers "On Approval of Normative and Legal Acts in the Field of Waste Management" №95 on 06.02.2019, which partially regulates the issues of waste management of electronic and electrical equipment, including large-sized EEE and waste mercury-containing lamps.

Current legislation of the Republic of Uzbekistan prescribes the following requirements in the field of EEE waste management:

1. Regulation of the management of mercury-containing waste.



In particular, enterprises, organizations and institutions, regardless of departmental affiliation or form of ownership, are required to deliver used or defective mercury-containing lamps, devices, products, semi-products and industrial waste to enterprises and organizations authorized by the State Committee of Ecology of Uzbekistan to dispose of or neutralize (dimercuries) mercury-containing products.

Legal entities which use mercury-containing lamps shall deliver spent resource and defective mercury-containing lamps only to disposal organizations. The procedure of collection of mercury-containing lamps by legal entities and individuals; the procedure of accumulation of mercury-containing lamps, the procedure of storage of mercury-containing lamps that have reached the end of their lifespan are also specified. Disposal and recycling of mercury-containing lamps are carried out by disposal organizations that ensure their decontamination and recycling by methods ensuring compliance with the established sanitary, environmental and other requirements.

2. Requirements for large-sized municipal waste.

Among other things, large-sized household waste includes municipal solid waste resulting from the replacement of outdated and obsolete household appliances (refrigerators, washing machines, televisions, etc.), office equipment (computers, printers, etc.), technical equipment.

Consumers are obliged to store large-sized household waste in special temporary locations and not to allow it to be thrown into containers at waste collection sites. Requirements for the collection, storage and removal of large-sized household waste are established.

3. The procedure for dealing with scrap, non-ferrous and ferrous metal waste and the list of domestic non-ferrous metal scrap and waste allowed to be accepted from private entities.

From 1 January 2019 physically and morally outdated equipment that contains non-ferrous and ferrous metals, which is written off in the prescribed manner during bankruptcy, liquidation, reconstruction and modernization procedures of organizations, except for those that have their own foundry and metal-rolling facilities (except in cases of bankruptcy and liquidation), is subject to delivery to JSC "Uzmetcombinat" and JSC "Uzvtorcvetmet" for free (negotiated) price.

As of 1 June 2019, organizations in the electrical industry were allowed to recycle non-ferrous metal scrap and waste from production activities at their own facilities or on a give-and-take basis at specialized organizations producing the relevant non-ferrous metals, with recycling of the recycled raw materials into production.

In general, the regulatory framework in Uzbekistan partially regulates the issues of WEEE management. At the same time, there are shortcomings in the legislation of the Republic of Uzbekistan with regard to ensuring environmentally safe management of WEEE.

Proposals for improvement:

In terms of improving the legislation of the Republic of Uzbekistan in the area of WEEE management, it is recommended that.

Proposal 1. Amendments and additions to the Law of the Republic of Uzbekistan " Waste Act»

The Waste Act should be amended to include, as a minimum, the following:

- definition of waste electronic and electrical equipment;



- obligatory requirements for the delivery of spent WEEE for further disposal and recycling by specialized companies;
- national targets for WEEE collection and recycling;
- classification of WEEE as hazardous or non-hazardous
- reporting requirements for WEEE management and others.

It is also necessary to introduce amendments and additions to other legislative acts of the Republic of Uzbekistan on WEEE management issues. In particular, it is necessary to introduce amendments and additions into the legislative acts on waste classification, accounting and reporting, and other issues.

Proposal 2. Elaboration of a by-law setting requirements in the field of WEEE management

In order to establish detailed specific requirements, a specific regulation for EEE waste management needs to be developed. This document could be developed in the form of Regulations approved by the Cabinet of Ministers or in the form of a standard. This RLA should include, inter alia, classification of waste electronic and electrical equipment with recognition as "hazardous" or "non-hazardous" in accordance with the Basel Convention; a list of hazardous substances and materials subject to mandatory extraction from WEEE during its processing; reporting requirements for WEEE management.



Table 1 - Recommended Measures to Improve Uzbekistan's WEEE Management Legislation

No	Actions	Approximate delivery time
1	Development of a draft Law "On Amendments and Additions to the Law of the Republic of Uzbekistan "Waste Law"" on WEEE management issues	2022-2023
2	Development of a related draft law "On Amendments and Additions to the Legislative Acts of the Republic of Uzbekistan on Electronic and Electrical Waste Management	2022-2023
3	Development of a draft Regulation/Standard for Waste Electronic and Electrical Equipment	2024

Available resources involved:

- State Committee on Ecology of the Republic of Uzbekistan;
- International and national experts.



2. Implementation of the principle of extended producer responsibility

Recommendations based on international experience:

Extended Producer Responsibility (EPR) needs to be implemented for *successful WEEE management*

The EPR concept will stimulate reuse and recycling. According to the EPR concept, producers are the main stakeholders responsible for the entire product life cycle, including the final stage. EPR programmes include three types of instruments:

- Administrative instruments: e.g., requiring producers to fund product take-back programmes and/or setting content requirements and limits on waste disposal;
- Economic instruments: e.g. the requirement to finance the costs of waste management (including collection and recycling) through taxes or a centralized fee structure;
- Information tools: governments can require producers to report to relevant authorities and post specific information about the consumer of a product.

Current situation in the country:

The Republic of Uzbekistan has already implemented the EPR principle for wheeled vehicles, self-propelled vehicles and trailers. The recycling fee for these types of products is collected by the State Customs Committee and the State Tax Committee of the Republic of Uzbekistan.

Proposals for improvement:

In order to support the WEEE collection and processing system in Uzbekistan, it is necessary to introduce the EPR principle for WEEE. In this direction, the following is recommended

Proposal 1. Amendments and additions to the “Waste Law”

The “Waste Law” should be amended to include general requirements for the implementation of EPR, in particular basic requirements for producers of products; collection procedures for used products and waste (independently or with collection, disposal and/or recycling entities); subsequent management of this waste, etc.



Proposal 2. Development of the EPR Rules, including a list of products covered by the EPR requirements

The rules for the implementation of the EPR should be developed and approved, which will detail all the details of the functioning of the EPR system. It is also important to define the list of EEEs covered by the EPR. This list may be an annex to the above rules or be adopted as a separate regulatory document.

Proposal 3. Implementation of the Roadmap for Extended Producer Responsibility in Uzbekistan

In order to implement the EPR principle in Uzbekistan, a Road Map has been developed (link to the document will be added later). The implementation of the measures provided in the Road Map will allow introducing the EPR implementation mechanism in the country as quickly and efficiently as possible.

Table 2 - Recommended measures to implement the EPR principle

	Actions	Approximate delivery time
	Additions to the “Waste Law”, which will contain general requirements for EPR	2022-2023
	Development of EPR Implementing Rules and a list of products falling under the EPR requirements	2022-2023
	Implementation of the Roadmap for the Introduction of EPR in Uzbekistan	2022-2023

Resources involved in the establishment of the EPR system:

- State Committee on Ecology of the Republic of Uzbekistan;
- Association of Electrotechnical Enterprises of Uzbekistan (Uzeltekhsanoat Association);
- International and national experts.



3. Monitoring and enforcement mechanisms

Recommendations based on international experience:

Legislation needs to be enforced for all stakeholders and a monitoring and enforcement mechanism needs to be put in place.

Enforcement is crucial to the success of WEEE legislation as it helps to ensure that all stakeholders (collectors, processors and producers) are compliant and will create a level playing field for all companies. The aim should be to avoid companies that offer their products and services at a lower price and ignore environmental, health and safety standards. To this end, a list of penalties and sanctions should be developed to help stakeholders understand that compliance with legislation is a priority.

Monitoring and enforcement mechanisms should be developed alongside compliance with legislation. Stakeholders can develop public monitoring systems.

Current situation in the country:

Nowadays in Uzbekistan there is administrative responsibility for non-compliance with the requirements on waste management. Thus, according to article 91 of the Administrative Code, violation of environmental requirements for the collection, transportation, disposal, neutralization, storage, utilization, processing, and sale of industrial, domestic and other wastes entails a fine from \$82 to \$136 for citizens², and for officials from \$136 to \$191. Disposal of solid domestic and construction waste as well as discharge of liquid domestic waste in unauthorized places according to Article 91-1 is punishable by a fine from \$27 to \$82 for citizens and from \$273 to \$546 for officials. Also, Article 91-1 provides for a fine of \$136 to \$273 for citizens and \$546 to \$820 for officials for dumping waste to be disposed at landfills for domestic and construction waste in undesignated places.

Thus, certain mechanisms for monitoring compliance with the law have been established. However, in order to establish an effective system, these measures need to be strengthened and various mechanisms for monitoring legislation need to be developed.

² Hereinafter, the basic calculation values established by the Administrative Code are recalculated at the current dollar exchange rate



Proposals for improvement:

In order to ensure compliance with the legal requirement, the following is proposed.

Proposal 1. Monitoring and enforcement of legislation on WEEE management

It is necessary to ensure monitoring and control of implementation of legislation in the field of WEEE management by the state authorities. This will create a level playing field for all companies and physical entities dealing with WEEE.

Such control should be carried out by the State Committee on Ecology and Environmental Protection, as well as other state bodies within its competence, as part of planned and unplanned inspections in accordance with the established procedures for inspections.

Supervisors who carry out inspections of economic operators should include in their checklists the correct handling of WEEE in enterprises.

The control of individuals (citizens) on the implementation of requirements for the collection and transfer of WEEE for recycling to specialized enterprises should also be strengthened.

Considering the policy of the Uzbekistan state authorities to minimize inspections of small and medium-sized businesses, a phased introduction of monitoring and control mechanisms is recommended. At the first stage, it is important to inform stakeholders about the applicable legal requirements. Subsequently, it is necessary to fully introduce compliance monitoring by including these issues in the checklists and inspections.

Proposal 2. Stricter liability for those who do not comply

Sanctions for non-compliance with WEEE legislation should be enforced. Existing fines do not establish sanctions for WEEE. In this regard, it is necessary to introduce amendments and additions to the Code of the Republic of Uzbekistan on administrative responsibility in order to establish liability for violation of legislative requirements in the area of separate collection of WEEE by population, creation of infrastructure for its collection and further safe recycling.



Table 3 - Recommended monitoring and enforcement measures

No	Actions	Approximate delivery time
1	Raising awareness among business entities and the public of current legislation on WEEE management	2022-2023
	Introduction of appropriate additions to the Administrative and Tax Codes of the Republic of Uzbekistan	2023-2024

Available resources involved:

- State Committee on Ecology of the Republic of Uzbekistan;
- State Tax Committee of the Republic of Uzbekistan;
- Ministry of Justice of the Republic of Uzbekistan;
- International and national experts.



4. Creating an attractive investment environment for qualified recyclers

Recommendations based on international experience:

There is a critical requirement to *create favorable investment conditions for experienced recyclers*.

The development and implementation of favorable investment conditions internally can lead to the development of national recycling technology. Such recycling technology would keep WEEE management closer to the source, generating employment and supporting national environmental goals. New WEEE recycling technologies that meet environmental standards will require additional funding for research, technology development, etc..

It is necessary to provide investors with a favorable and stable environment based on fair competition. These conditions can be either economic or regulatory. Profitable investments will benefit not only the WEEE processing sector, but also the processing industry in general.

Current situation in the country

At present, Uzbekistan's electrotechnical industry is actively growing. Favorable conditions have been created for industry enterprises to modernize and increase output. In particular, until 1 January 2022, they were exempted from customs duties on the import of equipment, materials and components as part of the implementation of projects included in the Programme of Measures for the Further Development and Diversification of the Electrical Industry.

At the same time, there are several enterprises for WEEE recycling in Uzbekistan. The country recycles and recycles end-of-life mercury-containing lamps, as well as recycles obsolete equipment containing non-ferrous and ferrous metals. At the same time, there are quite a few enterprises in Uzbekistan, which could engage in WEEE recycling, provided that the state creates favorable conditions for this type of activity.



Proposals for improvement

To develop existing waste collection and recycling capacity, the following are recommended.

Proposal 1. Include WEEE management as a priority in the development of support programmes for the electricity sector in Uzbekistan

WEEE collection and recycling projects with the aim of involving secondary resources in the production of new products should be included in the list of priority investment projects, along with the creation of new, technical and technological upgrading of existing production facilities in the electro-technical industry.

Proposal 2. Preferential conditions for WEEE processors

It is necessary to create favorable investment conditions for qualified recyclers of WEEE, which can be created by granting exemptions from customs duties on imports of equipment, materials and components, tax incentives to investors, creating preferential conditions for public-private partnerships (PPPs).

Table 4 - Recommended measures to create an attractive investment environment for qualified recyclers

	Actions	Approximate delivery time
	Include WEEE collection and recycling projects with the aim of involving recycled resources in the production of new products in the list of priority investment projects along with the creation of new, technical and technological upgrading of existing production facilities in the electro-technical industry	Period of development of the new Electrical Industry Development Programme
	Development of a legislative amendment to support the WEEE collection and recycling sector in the Republic of Uzbekistan	2022-2023

Available resources involved:

- State Committee on Ecology of the Republic of Uzbekistan;
- Tax Committee of the Republic of Uzbekistan;
- Association of Electrical Enterprises of Uzbekistan (Uzeltekhsanoat Association);
- International and national experts.



5. Establishment of a licensing or certification system according to international standards

Recommendations based on international experience:

In order to protect the environment and effectively restore natural resources, *a system of licensing or certification according to international standards for collection and recycling should be established*

The application of an effective licensing or certification system is key to ensuring that all collectors and processors have the appropriate authority to carry out specific activities. The licensing system should address risks to the environment and human health, and reflect the country's ability to manage such a system in terms of enforcement, institutional capacity, training, etc.

The licensing system should be developed step by step. First, all WEEE collection points should be licensed or comply with national regulations for waste management, sorting and storage. All recyclers should be licensed or certified for WEEE disposal, sorting, treatment and storage activities and be proficient in final recycling technologies. Collectors at collection points must be trained in their activities and instructed in safe WEEE management. The company must be licensed to carry out its activities. If national licensing systems are not available or are insufficient to address environmental and health risks, recyclers are recommended to be certified according to international standards for treatment/disposal of EEE and WEEE.

Current situation in the country:

Under the Law of the Republic of Uzbekistan on Licensing, Permitting and Notification Procedures, the following types of permits are established in the country:

- License for refining activities, including the collection, transport, disassembly, pretreatment, sorting, recycling and disposal of secondary resources, scrap and waste containing precious metals;
- notification of the beginning or ending of work with precious metals and stones, including for activities of collection (stockpiling), disassembly, sorting, preliminary (primary) processing of secondary resources, scrap and waste containing in their composition precious metals for further delivery to processing (refining) enterprises.

However, in order to ensure the safe management of WEEE, additional requirements for WEEE collection and recycling facilities should be established.



Proposals for improvement

The following is recommended to establish a licensing and certification system.

Proposal 1. Amend and supplement the Law on Licensing, Permitting and Notification Procedures

It is necessary to establish the requirement to have a license or notification for WEEE collection, disassembly, recycling activities. To this end, the list of licenses, permits and notifications to the Act should include relevant WEEE collection, disassembly and recycling activities.

Proposal 2. Elaborate an RLA to set the qualification requirements for the specialized enterprises

In order to establish detailed qualification requirements for specialized enterprises, it is necessary to develop a by-law that defines the concept of "specialized enterprise" itself and establishes requirements regarding infrastructure, equipment, technology, human resources, safety, etc.

Table 5 - Recommended measures to establish a licensing or certification system in line with international standards

No	Actions	Approximate delivery time
1	Development of amendments and additions to the Law on Licensing, Permitting and Notification Procedures to include a license or notification to engage in WEEE collection, harvesting and recycling activities	2022-2023
2	Development of a RLA to define qualification requirements for WEEE collection, collection and recycling activities	2022-2023
3	Maintain an electronic register of issued licenses/notices for WEEE collection, collection and recycling activities	2023-2024

Available resources involved:

- State Committee on Ecology of the Republic of Uzbekistan;
- Uzbek Agency for Technical Regulation "Uzstandart";
- International and national experts.



6. Relationship between informal waste collection industry and licensed recyclers

Recommendations based on international experience:

The informal system of collecting WEEE should not be prohibited, but there should be an incentive *to send WEEE to licensed recyclers*.

In many countries, without legislation regulating the management of WEEE, an unregulated network of collectors and recyclers exists. It is important for governments to develop guidelines or regulations that define the specific activities of both formal and informal WEEE collectors and recyclers. For informal collectors to hand over WEEE to regulated recyclers, awareness and incentives need to be created for consumers (business, government, general public). The incentive needs to be defined. type of incentive (financial or other) in accordance with national legislation. The incentive should generally be more attractive than payment to informal recyclers and encourage collection of whole items instead of partially dismantled items.

The current situation in the country:

Informal WEEE collectors exist in the country, but there is no engagement with the informal sector by the government and other stakeholders.

Proposals for improvement:

To reduce the negative impact of the informal WEEE collection sector and the resulting disruption of safe WEEE management processes, it is recommended that.

Proposal 1. Developing partnerships between the formal and informal sectors

Development WEEE collection and recycling companies operating formally should work through agreements with informal collectors. This cooperation should consist in transferring WEEE collected by informal collectors to formal recyclers. There should be appropriate compensation on the part of the formal collectors, which will encourage them to transfer the waste in its entirety without extracting valuable components.



6 – Recommended measures for the relationship of informal WEEE collectors with licensed processors

№	Actions	Approximate delivery time
1	Identification of informal collectors and conclusion of cooperation agreements on WEEE collection from the population of the Republic of Uzbekistan	On a regular basis
2	Developing a transparent compensation scheme for the cost of collecting WEEE	

Available resources involved:

- WEEE collection, harvesting and recycling companies;
- State Committee on Ecology of the Republic of Uzbekistan;
- International and national experts.



7. Best available technologies for recycling

Recommendations based on international experience:

Access to *internationally licensed* processing plants should be ensured in the unavailability of *equipment for the final processing of WEEE fractions in the country*

However, countries usually develop their own pretreatment facilities for the separation of fractions (pretreatment). To some extent, they also carry out recycling (final processing) of materials such as plastics and steel, which can be efficiently processed at a relatively low technological level and cost. After processing, these materials can be sold as raw materials locally or abroad. Obtaining precious metals from printed circuit boards, cobalt from batteries or less valuable but potentially toxic materials such as EBT-glass and flame retardant plastics is expensive. Major international factories can only make a profit by processing large volumes of material, which is not possible on a national level. There are only a few such processing plants in operation worldwide. It is important that countries allow certain fractions of material to be exported and imported into these facilities without inconvenient bureaucracy. The requirements of the Basel or Bamako Conventions must be met without causing long delays in exporting waste fractions to these licensed international facilities.

Current situation in the country:

In the Republic of Uzbekistan, pre-treatment of WEEE fractions is mainly used either for the treatment of small parts.

Proposals for improvement:

The following are recommended for the development of best available technologies in Uzbekistan.

Proposal 1. Develop a Best Available Techniques Guideline which describes the level of waste recycling as well as the ways in which WEEE can be recycled

The BAT guidelines will allow all WEEE processors to follow the same rules and at the same time choose the most appropriate way to process waste.

Proposal 2. Develop a layout of collection points and recycling facilities for WEEE and its individual components



Technological solutions for the recycling of WEEE and its individual components should be provided. For those components that cannot be recycled in Uzbekistan, provision should be made to export such components to other countries for safe recycling.

Table 7 - Recommended BAT measures for recycling WEEE

No	Actions	Approximate delivery time
1	Development of BAT instructions describing the level of waste recycling and how WEEE can be recycled	2022-2023
2	Development of a layout of collection points and recycling facilities for WEEE and its individual components	2023

Available resources involved:

- State Committee on Ecology of the Republic of Uzbekistan;
- International and national experts.



8. Stimulating competitiveness in the waste collection and recycling system

Recommendations based on international experience:

The costs of operating the system should be transparent and encourage competition in the collection and recycling system

Transparency of the actual costs of recycling should aim to increase the awareness of consumers and the general public of the financial costs required to collect and recycle WEEE. Fair competition between logistics service providers and recyclers should be established to ensure the long-term cost-effectiveness of the system.

The key elements of cost-effectiveness are:

- Establishing and maintaining minimum quality standards;
- Justification of treatment cost reductions;
- Monitoring the disposal of hazardous fractions;
- Compliance with standards to protect the environment or the health of workers.

Transparency of total technical costs along the chain can encourage fair competition, highlighting areas where profitability can be improved and identifying where lower competition costs pose serious risks.

Current situation in the country:

Currently there are few WEEE management companies operating in the country and, consequently, competition is underdeveloped.

Proposals for improvement:

In order to stimulate the development of competition in the field of WEEE management in Uzbekistan, the following is recommended.

Proposal. Elimination of disincentives to establishing WEEE management enterprises on a competitive basis

The Government of Uzbekistan should encourage the opening of new WEEE collection and recycling facilities that operate on the basis of fair competition. This will increase the level of WEEE collection.



9. Building stakeholder capacity

Recommendations based on international experience:

All *stakeholders involved in WEEE* collection and recycling should be *encouraged to be aware of their potential environmental and health impacts*

It is important to ensure that all stakeholders (producers, collectors, recyclers, government and finance providers) are aware of the potential environmental and human health impacts of WEEE resulting from improper handling and legal requirements.

Current situation in the country:

Partly a public information campaign on the need for and benefits of separate waste collection, including e-collection, for the public and organizations.

Proposals for improvement:

To enhance the capacity of stakeholders in Uzbekistan, the following are recommended.

Proposal 1. Capacity building on WEEE management through training seminars and trainings for WEEE trainers, specialized enterprises, service centers.

Key issues for capacity building are: international requirements for WEEE management, statistics on WEEE generation, effective waste collection and recycling systems, EPR implementation mechanisms.

Proposal 2. Capacity building for WEEE collection and recycling staff through training and information provided by employers.

Producers and suppliers of equipment should collect and provide employees with health and safety information on the chemicals they work with during the production of EEE.

Proposal 3. Involvement of NGOs, independent experts and the media for information campaigns on WEEE management.

Such activities will contribute not only to increasing the knowledge capacity on WEEE, but also to the transparency of the whole process of managing WEEE at the national and regional level.



Table 9 - Recommended measures to improve stakeholder capacity

№	Actions	Approximate delivery time
1	Training seminars and workshops for WEEE trainers, specialized enterprises, service centers.	2022-2023 rr.
2	Development of instructions and requirement for mandatory training of WEEE collection and recycling staff through training and information provided by employers.	2022-2023 rr.
3	Information campaigns on WEEE management; public reviews of projects; public monitoring and control of WEEE formation.	permanently

Available resources involved:

- State Committee on Ecology of the Republic of Uzbekistan;
- Local executive bodies;
- International and national experts;
- Media, NGOs, public



10. Public awareness

Recommendations based on international experience:

Awareness among consumers of the environmental benefits of recycling *must be ensured*

All waste collection programmes start with consumers (individual households or organisational units). It is therefore important that consumers turn to licensed recyclers instead of sending waste to landfill, substandard recycling or incineration. Decisions to send product to a licensed recycler may depend on incentives and awareness that recycling provides environmental benefits over other disposal options. The consumer should also understand how to gain access to appropriate recycling facilities.

Current situation in the country:

The process is at an early stage. Individual consumers (mostly organizational units) know where the WEEE collection and recycling points are located.

Proposals for improvement:

In order to raise public awareness in the Republic of Uzbekistan, the following is recommended.

Proposal 1. Raise public awareness of the dangers of EEE and WEEE through seminars, explanatory talks, information posters, banners, leaflets, etc..

There is a need to raise public awareness of hazardous chemicals in WEEE, the negative effects on the environment and human health of WEEE, the environmental benefits of recycling them, and the costs of proper recycling.

Proposal 2. Conduct an information campaign among the population of the Republic of Uzbekistan on available WEEE collection points

Information campaigns should be carried out by producers, importers, public authorities, NGOs, WEEE management companies.

Proposal 3. Inclusion of WEEE management in state educational standards

WEEE management should be included in the curriculum for college and higher education students.



Table 9 - Recommended measures to improve stakeholder capacity

No	Actions	Approximate delivery time
1	Development of information materials (posters, brochures, videos, etc.)	2022
2	Public information campaigns on accessible WEEE collection points and ways to manage waste	2022-2023
3	Amendments and additions to state education standards	2023

Available resources involved:

- State Committee on Ecology of the Republic of Uzbekistan;
- Ministry of Public Education of the Republic of Uzbekistan;
- Local executive bodies;
- International and national experts;
- Media, NGOs, public, schools, universities



Conclusions

In the Republic of Uzbekistan, it is necessary to strengthen the establishment of a system for the rational regulation of WEEE, using international experience. In accordance with international experience, building an effective WEEE collection and recycling system should be built in the following steps:

1. Establish a clear legal basis for the collection and recycling of EEE
2. Introduce producer responsibility to ensure that producer financing for WEEE collection and recycling
3. Ensure that legislation is enforced by all stakeholders and that country-by-country monitoring and compliance mechanisms are strengthened to create a level playing field
4. Create favorable investment conditions for WEEE processors to attract the required technical expertise
5. Establish a licensing system or encourage certification of collection and recycling to international standards
6. Use the informal system for collecting WEEE, while ensuring through incentives that licensed processors receive WEEE
7. Where there is no local capacity for final processing of WEEE fractions, provide access to internationally licensed processing facilities
8. Ensure transparency of the system cost formation and encourage competition of WEEE collection and recycling systems to improve cost efficiency
9. Ensure that all stakeholders involved in WEEE collection and recycling are aware of the possible environmental and health impacts, and possible approaches for environmentally safe WEEE management.
10. Create awareness of the environmental benefits of WEEE recycling among consumers

Recommended measures proposed in this document are directed to the development of a system of rational management of WEEE in Uzbekistan. The ultimate goal of all recommended measures is to ensure that WEEE is rationally managed throughout its life cycle in such a way as to minimize significant adverse effects on human health and the environment.