

National WEEE Assessment 2026

Cuba



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Cuba

Abstract & Authors

This national assessment report provides a comprehensive assessment of WEEE management in Cuba, including material flow analysis, economic evaluation, infrastructure assessment, and technical capacities.

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List of Abbreviations

Abbreviations	
BAP	Best Available Techniques
BCRC – Carib-bean	Basel Convention Regional Center for Training and Technology Transfer in the Caribbean
CITMA	Ministry of Science, Technology and Environment (Ministerio de Ciencia, Tecnología y Medio Ambiente) in Cuba
CUP	Cuban Pesos
EEE	Electrical and Electronic Equipment
EPR	Extended Producers Responsibility
EU	European Union
GER	Recycling Business Group
GDP	Gross Domestic Product
HRC	Havana Recycling Company
JICA	Japan International Cooperation Agency

Abbreviations	
kg	Kilograms
MEAs	Multilateral Environmental Agreements
MINDUS	Ministry of Industries Cuba
NGOs	Non-Governmental Organizations
ORSA	Office for Environmental Regulation and Safety (Oficina de Regula-ción y Seguridad Ambiental)
PoM	Put on the Market
SIDS	Small Islands Developing States
SMEs	Small to Medium sized Enterprises
SUWAMA	Suriname Waste Management
UERMP	Union of Raw Materials Recovery Companies
UNITAR – Scycle	United Nations Institute for Training and Research – Sustainable Cycles programme
USD	United States Dollars
UNU – KEYS	United Nations University KEYS
WEEE	Waste Electrical and Electronic Equipment



Introduction

Global and regional e-waste situation

Electrical and Electronic Equipment (EEE) refers to all products that have circuitry or electrical components and a power or battery supply (StEP Initiative, 2014). EEE encompasses a wide range of products used by households and businesses, including refrigerators, stoves, washing machines, and hairdryers, as well as electronic devices such as mobile phones, wireless headphones, and tablets.

High-income countries average 109 EEE items per capita, while low-income countries can average as few as 4 items per capita (Baldé et al. 2024). EEE becomes e-waste, or Waste Electrical and Electronic Equipment (WEEE), once it is discarded by its owner with no intention of reusing the item (StEP Initiative, 2014). In this study, the authors decided to use both the term WEEE and e-waste, the first one being more in line with the European Union (EU) terminology and the second one having a more global meaning. The classification of WEEE is illustrated in the next sections (see [chapter 2](#)).

High-income countries average 109 EEE items per capita, while low-income countries can average as few as 4 items per capita.

According to the recently published Global E-waste Monitor 2024 (Baldé et al. 2024), in 2022 a record 62 billion kg of e-waste or Waste Electrical and Electronic Equipment (WEEE) was generated globally (equivalent to an average of 7.8 kg per capita per year). However, only 22.3 per cent of this e-waste mass was documented as formally collected and recycled in an environmentally sound manner.

Since 2010, globally the growth of e-waste generation is outpacing the formal collection and recycling by almost a factor of 5. When the total benefits from viable recovery of metals as secondary resources (USD 28 billion) and the monetized savings of avoided greenhouse gas emissions (GHG) (USD 23 billion) are deducted from the costs of e-waste treatment (USD 10 billion) and externalized costs to human health and the environment (USD 78 billion), the result is a net loss of USD 37 billion in the world's current e-waste management practices.

According to the Global E-waste Monitor, 13.8 billion kg of global e-waste that undergoes environmentally sound treatment at a cost USD 0.36/kg; this is 3 times more than the average cost of e-waste disposed of as residual waste, recycled outside compliant recycling schemes or managed by the informal sector (USD 0.12/kg). The higher treatment costs are mostly attributable to the costs of depolluting e-waste and auditing, administration and attaining the minimum environmental health and safety standards associated with compliant management of e-waste.

The situation related to WEEE management varies significantly in different regions of the world. In the Caribbean, the amount of e-waste grew by more than 60 per cent from 148 million kg in 2010 to 241 million kg in 2022. This equals the generation of 7.6 kg/capita per year of e-waste and is close to the global average of 7.8. The documented formal e-waste collection rate in the Caribbean region was close to 0% in 2022, which is significantly lower than the global average of 22.3 per cent.

Hence, e-waste management poses a pressing challenge in the Caribbean region, in the absence of specific regulations and policies addressing the issue and the absence of a formal e-waste management infrastructure. E-waste management responsibilities in different Caribbean countries are shared among various entities.

Overview of the consultancy

The Sustainable Cycles (SCYCLE) Programme of UNITAR, Division for Planet, has been contracted by the BCRC Caribbean to conduct the activities related to Output 3.1 of the ISLAND project. Representatives of the Suriname Waste Management foundation (SUWAMA), a local organization in Suriname dealing with waste management issues, were hired as individual consultants by UNITAR SCYCLE for assistance and support.

UNITAR SCYCLE is the global scientific leader in e-waste research and information provision to various stakeholders and the public. SCYCLE's mission is to promote sustainable societies. Its activities focus on the development of sustainable production, consumption and disposal patterns for electrical and electronic equipment (EEE), as well as for other ubiquitous goods. SCYCLE leads the global e-waste discussion and advances sustainable e-waste management strategies based on life cycle thinking. Thanks to its scientifically recognized methodology to quantify the e-waste management, which is recognized at the global level, SCYCLE puts its methodology at the service of the project implementation, as further specified below.

As part of **Deliverable 2** of Output 3.1 of the ISLANDS project, this national assessment report provides an overview on the WEEE management situation in the country of **Cuba**, including some conclusive remarks and recommendations on next steps to be taken at national level to further improve the management of a challenging waste stream such as the WEEE.

The report is structured as follows:

- first, a [methodological note](#) explains the main data sources used for the analysis and the analytical approach used for both the qualitative and quantitative sections.
- [Chapter 1](#) presents a country overview, including a socio-economic background introduction and an overview on the legislative landscape specific on e-waste or, when e-waste is not covered by national legislation, the relevant policies and legislations which includes indirectly also WEEE.
- [Chapter 2](#) presents the result of the WEEE flows assessment at national level, from 2010 and with projections up to 2030.
- [Chapter 3](#) presents the analysis of the information collected through a focus group meeting with representatives from the public sector and site visits at recycling companies in Cuba, giving an initial overview and assessment of the technical and infrastructural capacity for WEEE management at national level.
- [Chapter 4](#) goes more into detail in the economic impact assessment of WEEE management in Cuba.
- [Chapter 5](#) presents the main conclusions of the analysis, and some targeted recommendations on possible way forward to improve the WEEE management sector at national level.

Methodological Note

The methodology used for the data collection and analysis for the national assessment report is mixed, both qualitative and quantitative.

The qualitative part included the following main tools:

- A comprehensive survey, mainly distributed online, targeting the main stakeholders in each project country, including governmental officers/policy makers, EEE producers/importers, recycling companies, WEEE importing and exporting companies, CSOs and other relevant organizations.
- Follow-up semi-structured interviews and/or focus groups, based on predefined guidelines and adapted according to the specific needs, also based on the possible gaps in the data collection through the survey.

The structure of the online survey is included in [Annex 1](#).

An in-country mission was also carried out in Belize by representatives of the UNITAR consultancy team from 14th – 16th of September 2025 as recommended by the National Working Group (NWG). During the in-country mission, a focus group meeting and site visits were carried out as part of the methodology used for the drafting of this national report. During this mission, stakeholders from the public sector (10) were engaged.

In terms of gender balance, in Cuba equal respondents were counted: 5 identified as Male and 5 identified as Female.

The mission plan and an overview of meetings held is included in [Annex 3](#) together with pictures taken during the mission.

In addition to the qualitative approach, quantitative data was collected and analysed. These include data on Electrical and Electronic Equipment (EEE) Put on the Market (POM) and customs data on import of EEE, WEEE generated, collected and recycled (if available), economic costs and benefits related to WEEE management by national facilities (if available). The methodology applied on the quantitative data analysis is further detailed under [paragraph 2.1](#), for what concerns the WEEE flows.

The layout of the data gathering structure for the economic impact analysis is presented in [Annex 2](#).

For Cuba, financial information was shared by the Havana Recycling Company (HRC). However, the analysis of the economic impact described in [chapter 4](#) is based on both quantitative and qualitative information collected through the bilateral meeting with HRC and the focus group meeting held on September 15th, 2025, in Cuba.

The draft national assessment report was shared with stakeholders for review and additional input was received by the Ministry of Science, Technology and Environment, Office of Environmental Regulation and Safety Citma Orsa on the 11th of December 2025 by email. All the additional input and relevant comments have been reflected in the final version of the report.





Chapter 1.

Country Profile

1.1 COUNTRY OVERVIEW

Cuba is a Caribbean country, which is made up of the island of Cuba, the Isle of Youth, and over 1 600 surrounding keys and small islets. This island is located to the west of the northern Caribbean Sea, east of the Gulf of Mexico, and south of the Atlantic Ocean. Cuba is a republic with a president as head of the state from the Communist Party of Cuba, which has been in power since the 1959. The party governs Cuba as a one-party state. The capital of Cuba is Havana.

As of 2024, Cuba had an estimated population of 10 979 783. (World Bank, 2024), the largest island country in the Caribbean by land area (109 884 km²) and population.

Cuba



Figure 1. Map of Cuba

Map Source: Cubamap360 (<https://cubamap360.com/cuba-region-map>) The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Table 1. Socio-economic indicators, World Bank

Population	10 979 783 (2024)
Population growth (annual %)	- 0.4 (2024)
Human Capital Index (HCI) (scale 0-1)	n.a.
GDP (current US\$)	107 35
GDP per capita (current US\$)	9 605.3 (2024)
Inflation, consumer prices (annual %)	n.a.
Access to electricity (% of population)	100 (2023)
Individuals using the Internet (% of population)	71 (2023)

Source: Worldbank, (<https://data.worldbank.org/country/cuba>)

Socio-economic environment

Cuba is an associated state of CARICOM, with a state-dominated economy where services, particularly tourism and the export of professional medical services, are significant contributors. Other contributors include certain goods such as nickel, biotechnology, light-manufactured products and agricultural products. However, the economy remains highly vulnerable to external shocks, as demonstrated by a 10.9% contraction in GDP after the COVID-19 pandemic in 2020, which crippled its vital tourism sector¹. According to Cuban economists citing ECLAC data from August 2025, Cuba's economy is forecast to experience a recession with a 1.5% decline in 2025 and minimal growth of 0.1% in 2026².

In 2025, Cuba's GDP per capita is estimated at approximately \$23 700³. The economy has shown tentative signs of recovery from the pandemic low, but growth remains stalled, constrained by structural inefficiencies, the enduring U.S. embargo, and high inflation following the 2021 monetary reform. This economic stagnation, with income poverty affecting a significant portion of the population despite universal social services (UNICEF, 2023⁴). The effects are the continuous high levels of emigration to other countries.

¹ https://bti-project.org/fileadmin/api/content/en/downloads/reports/country_report_2024_CUB.pdf

² <https://canadacaribbeaninstitute.org/2025/08/08/cuba-and-haiti-only-two-regional-economies-set-to-decline-in-2025-according-to-eclac/#:~:text=Cuban%20economist%20Pedro%20Monreal%20noted,growth%20of%200.1%25%20in%202026>

³ <https://www.cia.gov/the-world-factbook/countries/cuba/#economy>

⁴ <https://www.unicef.org/cuba/en/reports/unicef-cuba-annual-report-2023>

Cuba faces increasingly intense threats from climate change, including more frequent and severe droughts, coastal flooding, and hurricanes, which threaten food security and critical infrastructure. As a Small Island Developing State (SIDS), Cuba has adopted a proactive attitude in adaptation, incorporating disaster risk reduction into its national policy and developing a robust early warning system. The country's "Tarea Vida" state plan is a long-term climate resilience strategy that focuses on protecting coastal settlements and revitalizing agriculture⁵. However, these efforts are severely hampered by limited financial resources and restricted access to international financing and technology, partly due to the U.S. embargo.

Despite near-universal secondary school enrolment and high adult literacy rates, Cuba faces challenges in terms of quality and adequacy of education. Teacher shortages and deteriorating school infrastructure have been exacerbated by the economic crisis. Furthermore, a "skills mismatch" is evident, as the state curriculum does not fully align with the demands of a slowly emerging private sector (UNICEF Annual Report, Cuba, 2024). Cuba's renowned primary healthcare system, documented for achieving low infant mortality and high life expectancy, is under severe strain. The system grapples with critical shortages of basic medicines, medical equipment, and power outages that disrupt services. A significant "brain drain" of medical professionals seeking better economic opportunities abroad further challenges the sustainability of its health achievements (PAHO, 2024)⁶.

Technological obsolescence (meaning equipment, infrastructure, and systems becoming old, inefficient, or no longer functional), has significant socioeconomic impacts in Cuba. Because aging technology can increase risks such as system failures, accidents, or security threats, the country had to strengthen and allocate resources in the field of security.

To address these risks, risk assessment procedures have been developed, including studies on hazards and vulnerability related to technological disasters.

In addition, technological deterioration leads to an increase in hazardous e-waste.

Waste management system

In Cuba, Hazardous Waste Management policies are overseen by the Office for Environmental Regulation and Safety (ORSA) of the Ministry of Science, Technology and Environment (CITMA).

General waste management in Cuba is a government system managed by the Municipal Communal Services Administration (Comunales).

The Union of Raw Materials Recovery Companies (UERMP), which is a subordinate of the Ministry of Industries (MINDUS) is responsible for managing and operating all recycling operations, including electronics. Cuba also has a Recycling Act, in force since 1975, which stipulates that everybody and other State-led entity is forced to collect raw material waste, reusable products and materials that aren't then made use of.

Historically, the waste management system in Cuba faced severe setbacks after the collapse of the Soviet Union, when economic decline, fuel shortages, and lack of equipment forced authorities to establish emergency dumpsites across Havana. This created environmental and health problems and highlighted the urgency for reform. In response, the Government of Cuba worked with Japan through a Japan International Cooperation Agency (JICA) technical cooperation project⁷ (2009–2014) to strengthen Havana's solid waste management capacity. The project revised the city's waste master plan, introduced composting pilot projects, improved waste collection routes and vehicle maintenance workshops, and trained hundreds of municipal staff. However, the planned construction of a new sanitary landfill in the east of Havana was delayed due to lack of resources, equipment, and construction capacity.

⁵ <https://www.citma.gob.cu/noticias/cimac-consolida-proyeccion-2026-para-la-resiliencia-costera-en-cuba>

⁶ <https://hia.paho.org/en/country-profiles/cuba>

⁷ <https://openjicareport.jica.go.jp/pdf/12176293.pdf>

Despite these efforts, Cuba continues to struggle with significant challenges. Regular collection is inconsistent due to aging vehicles and poor maintenance, landfill sites are overburdened, and recycling remains limited. Some recycling is carried out informally, with citizens collecting glass, metals, and plastics to resell. According to *Havana Times*⁹, advances in recycling have been slow, hindered by a lack of technology, foreign investment, and consistent collection systems. Awareness campaigns and educational programs have improved public understanding, but structural problems persist.

Looking forward, Cuba's plans emphasize expanding composting initiatives, modernizing landfills, and strengthening environmental education. Progress, however, depends heavily on external cooperation and overcoming deep economic constraints.

1.2 LEGISLATIVE OVERVIEW

Cuba has some laws or regulations addressing WEEE, however not from an environmental point of view as reported during the focus group meeting held on the 15th of September 2025. The National Legislative and Institutional Capacity Assessment Report on Cuba developed under the ISLAND Project (2024) identified some general laws and regulations that could be applied to WEEE as listed below, noting the absence of a comprehensive framework dedicated to WEEE management.

However, reforms are underway. Cuba is in the process of updating existing hazardous waste regulations to include provisions on e-waste within the national convention. Following this update, ORSA issued a Resolution in which the export of any electrical or electronic waste without prior authorization is prohibited.

It is important to emphasize that these legislative measures primarily address hazardous waste generators. Entities are required to manage their hazardous waste responsibly. Under this system, equipment is delivered to designated sites, where components are inspected. Usable and recoverable parts are separated for reuse, while the remainder is classified as electronic scrap. This scrap is subsequently exported. The legislation also requires companies to separate WEEE into distinct material streams—plastics, metals, and electronics—before disposal or export.

Table 2 provides an overview on the country's status of ratification to the main Multilateral Environmental Agreements (MEAs).

Identified legislation that applies and may be of general application to WEEE are:

- Resolution 35/2023 of the Ministry of Industries, published in the extraordinary Official Gazette on April 27, 2023, addresses e-waste, locally known as "Chattara electrica." This resolution introduces new procedures for the recovery, reuse, and recycling of out-of-use equipment.
- Cuba has a Recycling Law No. 1288, in force since 1975, which stipulates that all people and other entities led by the State are obliged to collect waste of raw materials, reusable products and materials that are not used and take them to the UERMP.
- The Constitution of Cuba is the supreme law of the Republic of Cuba: Article 75 establishes that all people have the right to enjoy a healthy and balanced environment.
- Resolution 93/2023 establishes principles for operating a Pollutant Emissions and Transfer Control System under the Ministry of Science, Technology, and Environment to regulate polluting sources.
- Ministry of Science, Technology, and Environment 132/2009 governs the Environmental Impact Assessment Process.
- Law 150 of 2022 "Natural Resources and Environment System" addresses the classification, production, storage, conservation, control, handling, export and import of toxic industrial and consumer chemicals, as well as hazardous wastes (under repeal and revision).
- Resolutions 148/2013 related to the Management of Safety Risks in industrial facilities with Major Danger.

⁹ <https://havanatimes.org/features/greater-recycling-advances-still-pending-in-cuba/>

Policies:

- National Environmental Strategy for the period 2021 to 2025: priority actions presented in the strategy are to strengthen the management of hazardous chemicals and waste.
- Cuba's National Economic and Social Development Plan (2030): Focus on recycling of raw materials amongst other.
- The Policy to Increase the Recycling of Raw Materials was adopted in 2012 and promotes recovery and recycling of recyclable wastes, including plastics and electronic wastes.

The Recycling Business Group (GER), subordinate to the Ministry of Industries (MINDUS), brings together 16 companies throughout the country, responsible for recovering, processing and marketing recyclable waste generated by the population, industry, commerce and services, including Waste Electrical and Electronic Equipment (WEEE). This mission, which brings resources to the economy and benefits the environment and human health, aligns with the Cuban legal framework, including Article 16 of the Constitution, Law 1288/75, the Recycling Policy, and Guideline 141. Precisely, this Law 1288/75 establishes the obligation of state agencies to collect waste for recovery, but it is in the process of being updated to include obligations for natural persons and adapt to the new technological, economic and environmental realities of the country. This update is part of the Recycling Policy, approved in 2012 and under constant review, which includes guidelines such as the development of educational programs, the differentiated treatment of high-impact waste, the integration of recycling in environmental protection, the update of the Recycling Law and the application of tax incentives to promote this activity. Specifically in relation to WEEE, Resolution 35 of 2023 of the Ministry of Industries establishes the procedure for its recovery, reuse and recycling by state entities, requiring a technical opinion prior to the accounting deregistration of the equipment to assess its possibilities of reinsertion into the economy. This resolution, published

in the Official Gazette No. 30 Extraordinary of 2023, reinforces the recycling policy approved in 2012, updating it with a more technical and specific approach for end-of-life equipment, with the aim of reducing environmental impact, taking advantage of parts and materials, and contributing to sustainability and import substitution. On the other hand, the Business Group has a specific procedure for 2018 for the processing and classification of electronic cards from WEEE, which are classified according to their type of quality in High, Medium and Low Grade (e.g. cell phone cards and gold memories, hard disk cards, ceramic processors, large SOCKET motherboards).

Table 2. Status of Multilateral Environmental Agreements – Cuba

Multilateral Environmental Agreement	Entry into force
Basel Convention	01/01/1995
Rotterdam Convention	20/03/2008
Stockholm Convention	30/01/2018
Minamata Convention	Not party

Source: www.brsmeas.org and <https://minamataconvention.org/en/parties>



Chapter 2.

WEEE Flows Assessment: A Country Perspective

2.1 METHODOLOGY

This paragraph describes the methodology used by the UNITAR SCYCLE team to compile the WEEE flows assessment and analysis, under chapter 2. It is based on the standardized methodology developed by the SCYCLE team, in cooperation with other international agencies, as also explained in the international statistical guidelines (Forti et al. 2020).

Due to the wide variety of EEE products available in the market, it is essential to categorize them in groups that reflect their key characteristics. The United Nations University KEYS (UNU-KEYS) and the categories in the EU WEEE Directive can be used to classify EEE products, as explained below:

- The UNU-KEYS are a product categorisation comprised of 54 categories developed by UNU. The UNU-KEYS are constructed in such a way that product groups share comparable average weights, material compositions, end of-life characteristics, and hazardous profile and lifetime distributions. The UNU-KEYS encompass all possible EEE (more than 900 products), and their classifications can be linked to the EU categories.
- The EU WEEE Directive currently covers 6 categories, as listed in Annex III of the WEEE-Directive 2012/19/EC, entered into force in 2018, and before there were 10 categories that are linked to the UNU-KEYS classification system. The data in this study is presented according to the WEEE Directive's 10 categories for harmonization purposes. The 10 e-waste Categories can be found in Table 3.

Table 3. E-waste 10 Categories

E-waste category	Description
CAT. 1	Large household appliances
CAT. 2	Small household appliances
CAT. 3	IT and telecommunications equipment
CAT. 4	Consumer equipment and photovoltaic panels
CAT. 5	Lighting equipment
CAT. 6	Electrical and electronic tools (with the exception of large-scale stationary industrial tools)
CAT. 7	Toys, leisure and sports equipment
CAT. 8	Medical devices (with the exception of all implanted and infected products)
CAT. 9	Monitoring and control instruments
CAT. 10	Automatic dispensers

Understanding the quantities, characteristics and pathways of e-waste – along with collecting accurate and up-to-date data – provides a solid foundation for monitoring e-waste generation and management. The measurement framework, developed by UNITAR-SCYCLE and detailed in the E-waste Statistics Guidelines, follows a mass balance approach over the EEE's entire life cycle. The methodology covers production, trade, placing on the market, e-waste generation, e-waste management, and other e-waste related activities, as represented in [Figure 2](#). It covers any product supplied to the national market for consumption that is used by households, businesses, or public authorities.



The methodology follows four steps:

1. The EEE put on the market (POM) is calculated using the apparent consumption method, as the sum of the domestic production and imports of EEE minus the EEE exported for a specific year. The data sources used in this calculation are the Comtrade trade statistics and data shared by national authorities.

$$POM(t) = \text{Domestic production } (t) + \text{Imports } (t) - \text{Exports } (t)$$

In the case of Cuba, no trade statistics are available in the Comtrade database for the country. The data used to calculate the EEE placed on the market in the country has been the data on domestic production and imports provided by the national authorities. This data, provided in units, has been converted to kilograms and some outliers have been corrected, and then entered into a tool to calculate EEE placed on the market (POM). The values obtained **do not reflect the full reality in Cuba, as the coverage of the existing information is limited**, since the monitoring only includes certain EEE.

2. After the EEE is placed on the market, it remains in use until the product is discarded – this period is referred as the product's lifetime. A product's lifetime profile indicates the obsolescence rate per year following its sale. The total amount of equipment in households, businesses, and the public sector is referred to as the stock.
3. After a certain lifetime, the product is disposed and it becomes waste, which is referred as the e-waste generated, prior to collection. The quantity of e-waste generated is calculated from the product's POM time-series, taking into account their respective rates of obsolescence in the evaluation year.

Given the lack of statistics for Cuba in Comtrade, there is no tool available to calculate the WEEE generated in the country. The tool used to calculate the WEEE generated in Saint Lucia has been used due to its similar GDP per capita.⁹

4. The e-waste follows different flows, including the formal and compliant collection. Data on the e-waste collection is requested to countries and provided by the NSOs. Cuba does not have specific data on the WEEE collection and recycling.

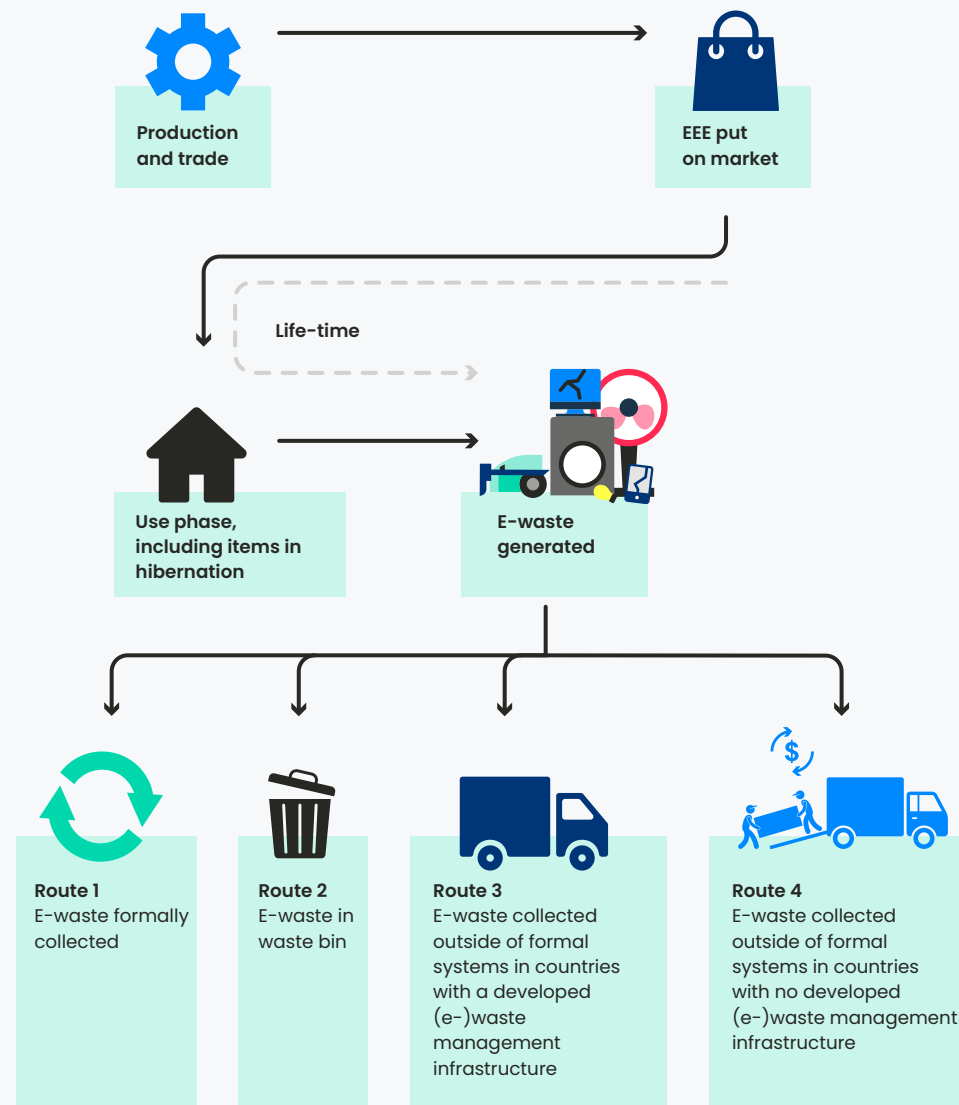


Figure 2. E-waste Statistics Framework

⁹ <https://unstats.un.org/unsd/snaama/Basic>

2.2 WEEE FLOWS AND OUTLOOK, FROM 2010 TO 2030

In Cuba, 6.37 million kg of EEE were placed on the market in 2010. The quantity of EEE sold has fluctuated greatly, reaching 20.07 million kg in 2020 and falling to 10.32 million kg in 2022, the last year for which official data is available. Since 2022, it has been assumed that the annual POM remains stable, given the lack of information to calculate a future projection. This can be seen in Figure 3. The available data correspond to large appliances (Category 1), small appliances (Category 2), consumer equipment and photovoltaic panels (Category 4), and lighting equipment (Category 5).

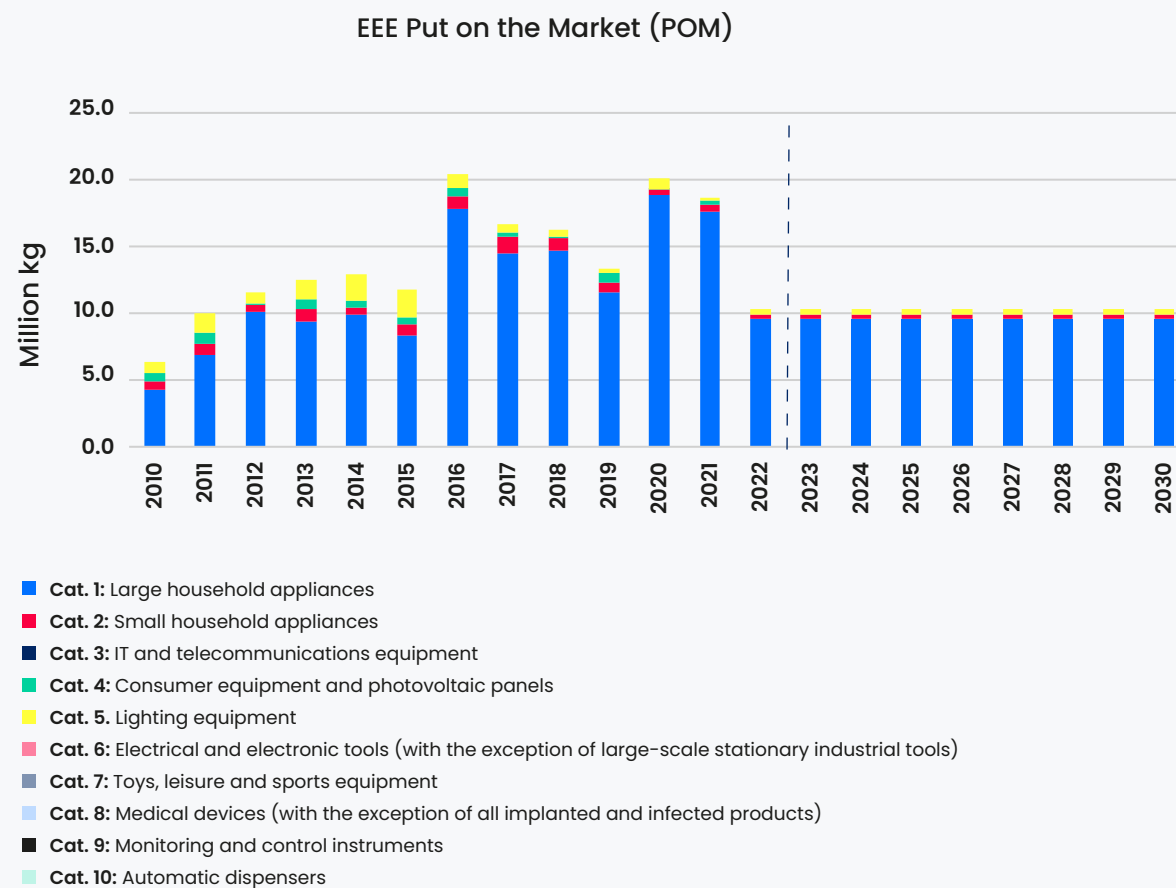
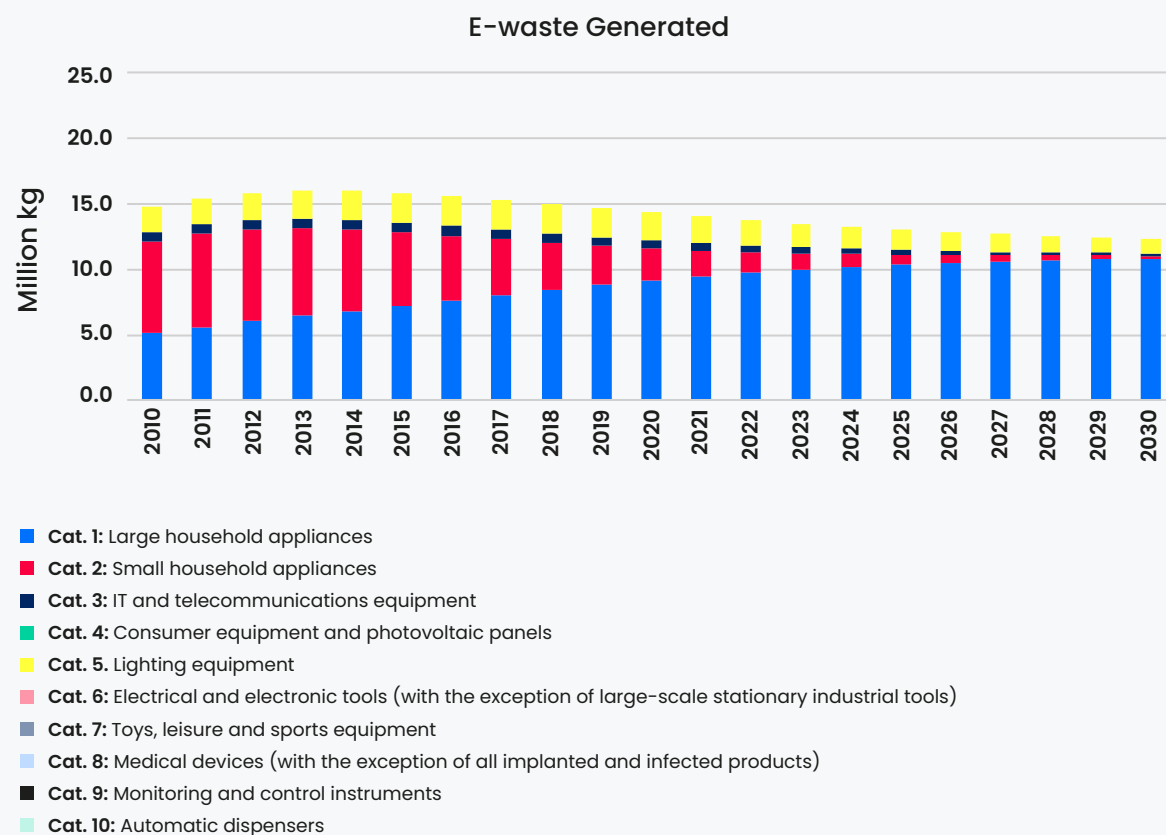


Figure 3. EEE POM in Cuba, 2010–2030



In Cuba, the amount of e-waste generated annually was calculated based on available POM data. In 2010, 14.75 million kg were generated, the amount of e-waste generated decreased slightly to 13.75 million kg in 2022, and the projection is that it will continue to decline slowly until 2030, when 12.29 million kg are expected to be generated. The available data correspond to large household appliances (Category 1), small household appliances (Category 2), IT and telecommunications equipment (Category 3), and lighting equipment (Category 5).

Figure 4. E-waste Generated in Cuba, 2010–2030

Most of the EEE POM (93% in 2022) correspond to large household appliances (Category 1). The products included in the monitoring by the authorities, and therefore in this study, are air conditioning and other refrigeration equipment, and refrigerators. In 2010, 4.29 million kg were sold, and after significant fluctuations over the years, 9.60 million kg were sold in 2022. The quantity of EEE belonging to Category 1 has fluctuated over the years, following the same trend seen in [Figure 3](#), as they make up the majority of the total. With regard to the e-waste generated, Category 1 also accounts for the majority of e-waste generated in Cuba in 2022, 71% of the total, with 9.77 million kg generated. This number has grown annually since 2010, when 5.16 million kg of e-waste were generated, and is expected to remain relatively stable in the coming years.

Lighting equipment (Category 5) sold in 2022 accounts for 4% of the total, 0.40 million kg, a number that has fluctuated over the years. The products included in the monitoring are incandescent and discharge lamps. With regard to e-waste generated, 1.93 million kg were generated in 2022, a significant part of the total (14%). After declining slightly in recent years, this number is expected to continue to fall each year.

Small electrical appliances (Category 2) sold in 2022 account for 3% of the total, 0.32 million kg. Sales have declined since 2017, when 1.24 million kg were placed on the market. The products included in the monitoring are table fans. With regard to e-waste generated, 1.56 million kg were generated in 2022, 11% of the total, having decreased from the 6.96 million kg generated in 2010, and it is expected to continue to decrease in the future.

There is limited data on consumer equipment and photovoltaic panels (Category 4) placed on the market before 2022, less than 1 million kg per year corresponding to television receptors. There is no e-waste generated corresponding to Category 4, probably due to the useful life of the product.

There is no data on computer and telecommunications equipment (Category 3) in Cuba for the years analysed but, given that there was data for radios and transmitters for years prior to 2010, there is data on e-waste generated. In 2010, 0.72 million kg were generated, a figure that has been declining over the years, reaching 0.49 million kg in 2022 (4% of the total), and is expected to continue declining after 2022.

No data is available on toys, leisure and sports equipment (category 7), medical devices (category 8), monitoring and control instruments (category 9) and automatic dispensers (category 10).

With regard to e-waste management, no quantitative data is available on the e-waste that is currently collected and formally recycled in Cuba, and the qualitative information that has been compiled will be presented in the next chapter.





Chapter 3.

Technical and Infra-structural Capacity for WEEE Management

As previously highlighted, chapter 3 analyses the focus group discussions, and insights gathered through bilateral interviews and onsite visits conducted by the consultancy team during their in-country visit in September 2025.

The objective is to outline the current situation in the country regarding the overall infrastructural capacity and the status of other conditions (e.g. level of public awareness, public and private support and funding, etc.) necessary to ensure the establishment and development of a durable and sustainable WEEE management system in Cuba.

INSTITUTIONAL AND ORGANIZATIONAL STRUCTURE

According to stakeholders, **operational bodies in Cuba particularly require resources (safety equipment), expertise, training in dismantling and safety procedures, and access to appropriate dismantling technologies to effectively manage their WEEE.**

At present, **WEEE processing is largely limited to sorting and exporting**, with minimal dismantling taking place. Dismantling involves the removal of plastics and metals to access the electronic components, especially **circuit boards**, which are then sorted by quality and exported.

Stakeholders also noted that **coordination among key actors** (producers, recyclers, and waste managers) **remains weak** and should be strengthened. Additionally, the **private sector**, although relatively new and still developing, has begun to play an **increasingly**

important role in WEEE management. While the public and private sectors often have different priorities, the inclusion of private enterprises is essential, as they were not meaningfully involved in earlier initiatives. Strengthening collaboration across the private sector, academia, and broader society will therefore be crucial to advancing effective and sustainable WEEE management in Cuba.

FINANCIAL MECHANISMS

In Cuba, the electronics market can be considered as **emerging**, with limited local production, reliance on imports, and underdeveloped supply chains.

The main financial instrument currently in place to finance the management of WEEE in the country is **government funding** (via taxes, municipal budgets and public funds). The government has however received international aid and grants via JICA to support the waste management system.

COLLECTION, RECYCLING AND DISPOSAL INFRASTRUCTURE

There is an official WEEE collection system in place in Cuba and as stated before, Cuba has a Recycling Act, in force since 1975, which requires everybody to collect raw waste material, reusable products and materials that aren't used and bring them to the UERMP.

The UERMP has units (transfer stations) throughout Cuba where about 16 types of recyclable wastes can either be delivered or are collected. These recyclable wastes come from companies/enterprises (mostly state owned), households and the informal sector. **All types of WEEE are accepted and collected.** However, according to Law No. 288 (1985), **WEEE must first be dismantled into plastics, metals, and electronic components before delivery.** Exceptions are occasionally made for companies generating large quantities of WEEE, which are then dismantled at the UERMP units themselves.

Enterprises, mainly state-owned, are required to sign contracts with their municipal UERMP units to ensure that end-of-life equipment, such as computers, are properly delivered for collection. The majority of WEEE processed in Cuba therefore originates from these enterprises. Despite this, some individuals and companies still dispose of their WEEE improperly. Stakeholders attribute this behaviour to the outdated nature of the 1975 law and the **low purchase price offered for WEEE, currently 7 Cuban pesos per kilogram** – corresponding approximately to 0.30 USD. In Havana alone, 15 collection units are operational.

At the UERMP units, recyclable materials are sorted and stored, then transferred to processing and sales facilities such as the **Havana Recycling Company (HRC)** for further dismantling, treatment, and resale. The HRC is one of four processing and sales facilities operating in Havana and **has the capacity to process 1 ton of WEEE monthly**. Dismantled WEEE is categorized according to grades (low, medium or high) and then exported to countries including Mexico, Spain, and China. All shipment of WEEE is done via the government agencies as the private sector cannot ship on its own.

The Ministry of Industries (MINDUS) conducts regular inspections to ensure compliance with national regulations, and on-site training is frequently provided to staff.

In recent years, a small but growing number of Small and Medium-sized Enterprises (SMEs) have emerged. These privately owned companies specialize in repairing electrical and electronic devices, such as televisions and mobile phones, and often sell their WEEE to the UERMP. Because private sector development in Cuba is relatively new, having evolved only over the past five years following decades of a centrally planned, state-run economy, regulatory and control systems for this sector have not yet been fully established.

An important characteristic of WEEE generation in Cuba is the extended life cycle of electronic equipment. Due to high prices and limited accessibility, **Cubans strive to prolong the usefulness of devices through frequent repairs and refurbishments**. This practice, deeply embedded in Cuban culture, significantly reduces the amount of electronic waste generated. For example, even LED lighting is repaired and reused whenever possible.

During a site visit to the Havana Recycling Company, it was noted that **WEEE contributes the smallest proportion to the country's overall recyclable waste stream**, largely due to this strong repair and reuse culture. The dismantling **process itself remains largely manual**, employing simple hand tools such as screwdrivers, cutting pliers, and grip pliers.

In order to scale up the existing facilities for WEEE dismantling and treatment, the following is needed according to stakeholders:

- Training and dismantling technology, as everything is done manually and considering updated technology, only some parts of WEEE are dismantled, while other parts might also be valuable.
- Safety training and equipment for personnel.
- Awareness and education for the community.
- Sorting systems at household level and schools.



PUBLIC AWARENESS AND PARTICIPATION

At present, in Cuba, there is **nothing in place to support public awareness and engagement in WEEE disposal and recycling**. No awareness or education programs are in place at country level. NGOs in Cuba focus more on the green sector such as the biodiversity conservation and beach cleaning, and to a lesser extent on the environmental sound management of waste.

However, the following actions were proposed to increase public awareness regarding WEEE:

- ✓ Develop an information and awareness system on WEEE collection points using Python, incorporating an interactive map that explains what WEEE is and displays the locations of collection points across Cuba. The system will facilitate the identification of nearby collection points, making it easier for citizens to properly dispose of electronic waste.
- ✓ In parallel, awareness-raising activities will be implemented through mass media to communicate the importance of WEEE recycling and to inform citizens about how they can participate. These efforts will contribute to increased public awareness and encourage active citizen engagement.
- ✓ In addition, targeted actions will be designed to promote collaboration among the public sector, private sector, academic institutions, and civil society, fostering a coordinated and inclusive approach to WEEE management.

INFORMAL SECTOR

There is **no established informal sector**. There are, however, waste pickers (also called 'divers'), that will recover metals and sometimes some electronics. However, all the electronics must be brought at the UERMP for further processing and arrangements to be shipped, because of the shipping arrangements.

Efforts are being made to get the informal sector into the formal sector by MINDUS and this is working effectively. However, there are some that refuse to get into the formal sector.

READINESS TOWARDS EPR SYSTEM

Extended Producer Responsibility (EPR) is a policy approach that makes producers responsible for the entire lifecycle of their products, particularly for take-back, recycling, and final disposal. In the context of electronic waste (e-waste), EPR shifts the financial and operational responsibility for collection, recycling, and safe disposal from governments and consumers to manufacturers. This encourages producers to design more sustainable, durable, and recyclable electronics.

This approach is increasingly adopted worldwide, including in developing countries. As an example, in India, the E-Waste (Management) Rules mandate that producers of electronic goods must collect and channel e-waste to authorized recyclers through EPR plans approved by the Central Pollution Control Board. This policy has led to the formalization of parts of the informal recycling sector and improved compliance with environmental standards (OECD 2024).

EPR is not legally established in Cuba, and there is currently no law mandating its implementation. Given the present economic situation, introducing EPR is unlikely to be supported. This is primarily because the associated costs would be incorporated into sales prices by importers and distributors, effectively transferring the financial burden to consumers. At this time, Cuban consumers are generally unable to absorb such additional costs, and the government is also unwilling to assume them.

There is, however, a very general law that calls for the establishment of a fund for waste management, with contributions from waste generators. The law does not provide detailed regulations on how this fund should be structured or administered. While similar frameworks exist for liquid waste, no such mechanism has been implemented for hazardous waste. Due to the ongoing economic crisis, high inflation rates, and the additional burden this would place on consumers through tariffs, the Ministry of Finances and Prices has not authorized regulations to operationalize the fund.

There are however some **reported good practices** at country level in Cuba related to **EPR scheme**, on some waste streams, such as:

1. Recovery and recycling of plastics locally into eco-woods (used on floors in many restaurants), tiles used for pathways at hotels, hoses and pipes
2. Acid led batteries recovery rate of 80%. About 3 000 to 4 000 tons of led waste (called led paste) is exported as hazardous waste yearly.
3. Incentive program for Parada beer plastic bottles collection.

ENVIRONMENTAL AND SOCIAL IMPACT

Stakeholders reported no illegal dumps of WEEE, assumed because of the constant reuse and repair of WEEE. However, led contamination from WEEE is a concern.

In terms of social impact, there is **no evidence of possible jobs creation** in the WEEE sector and/or in the green sector for the upcoming years; there is also **no formal evidence of involvement of vulnerable sectors**, including women or children, in the informal sector.

CHALLENGES AND BARRIERS

The following current limitations or weaknesses of the WEEE management system have been reported by stakeholders:

- Manual dismantling and outdated technologies, lead to lower processing rates. WEEE processing is largely limited to sorting and export
- Lack of safety training and equipment.
- Outdated laws.
- Weak coordination between key actors (producers, recyclers and waste managers), with the private sector playing a relevant role in the management of WEEE in recent times.
- There is no mechanism to promote public awareness and citizen participation in the collection and recycling of WEEE.
- There is a lack of awareness or education programs at the national level related to this issue.
- Existence of the so-called Divers, who make up the informal sector in the collection of WEEE.
- Lack of responsibility of the Communal Service Companies

REGIONAL COOPERATION

In terms of policy harmonization and cross-border cooperation at regional level for WEEE management, at the moment, this is reported as minimal. Noting, that Cuba did not give much importance to WEEE, this was only made important in 2024.

No legal or practical initiatives are in place at regional level related to WEEE management.





Chapter 4.

Economic Impact of WEEE Management Facilities at National Level

In consideration of the financial data related to WEEE management and infrastructure (see also the Methodological note), the present paragraph provides an overview of elements offering insights on the economic impact of such activities at national level, mainly based on both the quantitative and qualitative information gathered.

The economic assessment of WEEE management in Cuba reveals the presence of an established formal system, with infrastructure or operational framework. Currently, WEEE collection and recovery, are mainly managed by the formal sector with minimal informal sector influence.

COLLECTION AND FINANCIAL STRUCTURE

All categories of WEEE are accepted at the transfer units of the UERMP, however pre-dismantled into plastics, metals and electronics. The units currently operate both a drop-off and collection system, with active collection service in place. The **UERMP operated nation-wide**.

The WEEE is temporarily stored at the transfer units and after which they are transported to the processing and selling units. The system is financed through government funding, including municipal budgets and taxes. Informal actors are minimally active in the system, indicating a **predominantly public sector system**.

Currently, 3 people are involved in e-waste-related activities at the HRC alone. However, nation-wide it is **estimated that 5 000 people work in the recycling sector**. The percentage of people working specifically in the WEEE sector is unknown. The units pay 7 Cuban Pesos (CUP) per kilogram of WEEE, which is equivalent to USD 0.06 (Official government exchange rate is 1 USD = 120 CUP).

TREATMENT AND MATERIAL RECOVERY

WEEE (especially circuit boards) is further processed at the processing and selling units removing any residual metals and cables and sorted into different grades, but the technical capacity is limited. **Processing is performed manually** with partial compliance to best available techniques (BAT) and best environmental practices (BEP). Safety training and equipment also require attention.

The HRC alone has a processing capacity of 12 ton of WEEE per year (1 ton per month), which is aligned with the government set recycling goal of 12.1 tons per year.

The average sale price of 1 kilogram of low grade WEEE is estimated at 214 CUP (USD 1.79). The price for copper is estimated at 750 CUP per kilogram (USD 6.25). Cuba exports recovered materials primarily to Mexico, China, and Spain countries where they have established trading relationships.

OPERATIONAL COSTS AND ECONOMIC POTENTIAL

The operational expenditure at the units is supported by **revenues** from selling the recyclable wastes and **public funding**. There is currently no cost recovery mechanism in place such as producer fees or extended producer responsibility (EPR) frameworks.

The **operational costs** (costs to buy the WEEE at 7 CUP per Kg, fuel for transportation, wages for 3 people) are averaged at **5 500 – 6 000 CUP (USD 46 – 50) per month** at the HRC.

Given the existing sales prices of recovered materials and the operational costs, the activity appears very profitable with potential economic gains, should processing volumes increase and markets be secured for recovered materials.



Chapter 5.

Conclusions and Way Forward

CONCLUSIONS

- The annual amount of EEE POM in Cuba was 10.32 million kg in 2022, with Category 1 being the largest contributor to WEEE POM with 93% of the total in 2022.
- The annual amount of WEEE generated in 2022 was 13.75 million kg, with Category 1 being the largest contributor with 71% of the total.
- The data used to calculate the POM and EEE generated in Cuba were provided by the national authorities and do not reflect the whole picture, as the coverage of the existing information is partial.
- As there is no specific WEEE legislation, there are no targeted e-waste strategies. Cuba does not have a national framework tailored to Extended Producer Responsibility (EPR) in this sector.
- Currently, Cuba has an established formal WEEE management system. There are established collection schemes, dismantling/recycling operations for WEEE, which are primarily public sector owned and operated.
- Operational bodies in Cuba require expertise, resources, training and technology to effectively manage WEEE.

- Other challenges for adequate WEEE management are currently a lack of technology and expertise, outdated laws, weak coordination among key stakeholders, lack of awareness and no programs in place for this.
- An EPR scheme is not supported by the stakeholders, as the financial burden will be transferred to the community.

WAY FORWARD

Considering the current situation with regard to WEEE management in Cuba, summarized above in the conclusions, the following items are indicated as possible recommendations and way forward to the relevant stakeholders, to improve the current system:

- Establish dedicated WEEE management regulation with clear enforcement mechanisms, and support relevant authorities in the following enforcement phases
 - Inspection and monitoring: for compliance with environmental, health and safety regulations and reporting requirements.
- Support a public private partnership approach towards WEEE management and/or create a supportive environment for the private sector e.g. tax exemptions
- Establish transition mechanisms for informal WEEE sector into formal WEEE management facilities
- Establish a system for regular monitoring of WEEE flows through dedicated data collection and analysis
 - Estimates of POM and WEEE generated in the country are more accurate when using official data. The analysis showed that applying the SCYCLE methodology using official data provided by national authorities helped to outline a picture of the actual situation in the country.
 - Include in the monitoring system, measures to quantify the WEEE collected and recycled at national level (including costs of fractions, shipments costs etc.)
- More accurate estimates of WEEE generated and relevant future projections could help in establishing an efficient system for WEEE management what would take in consideration the current situation but also the expected needs
- Provide education and guidance. Providing information and support to help the community understand and comply with the legislation.
- A coordinated approach should be adopted that combines digital tools, public awareness, and multi-stakeholder collaboration to strengthen WEEE management in Cuba. This includes developing a Python-based information and awareness system with an interactive map to help citizens understand WEEE and easily locate nearby collection

points. This digital solution should be complemented by sustained mass media campaigns to raise awareness about the importance of WEEE recycling and to encourage active public participation. At the same time, structured mechanisms should be established to bring together the public and private sectors, academic institutions, and civil society, ensuring a collaborative, inclusive, and sustainable framework for effective WEEE collection and recycling.

- Strengthen capacities: related to health and safety and updated EEE market
- Support in advanced technology, allowing for efficient processing

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Annex 1. Online Survey

1. THE AIM OF THE SURVEY IS TO GATHER QUALITATIVE INFORMATION CONCERNING THE CURRENT WEEE MANAGEMENT SITUATION IN THE SURVEYED COUNTRIES.

The survey covers the following aspects: legislative and regulatory framework; institutional and organizational structure; financial mechanisms; collection, recycling and disposal infrastructure; data and monitoring; public awareness and participation; informal sector; readiness towards EPR system; environmental and social impacts; transboundary movements; challenges and barriers; regional cooperation.

Countries in scope: Antigua and Barbuda, The Bahamas, Barbados, Belize, Cuba, Dominica, The Dominican Republic, Guyana, Saint Kitts and Nevis, Saint Lucia, Suriname and Trinidad and Tobago.

Target audience: main actors involved in the WEEE management and in the possible establishment of a regional EPR system. This includes national stakeholders from the 12 project countries, including governmental authorities, recycling companies, WEEE importers/exporters, EEE producers (if existing), CSOs, NGOs, representatives from the informal sector etc.

Instructions: Kindly answer all sections / questions relevant to your field of work/expertise. You can skip those questions that are not relevant to your area of work.

Contacts: If you require assistance, including if you'd like to discuss a different way to compile the survey (through interview, offline format etc.), please contact the Project Coordinator elena.dangelo@unitar.org.

2. GLOSSARY

Electrical and Electronic Equipment (EEE): all products with circuitry or electrical components and a power or battery supply. It encompasses a wide range of products such as refrigerators, stoves, washing machines and hairdryers, mobile phones, wireless headphones and tablets, etc.

Waste Electrical and Electronic Equipment (WEEE or e-waste): EEE that has been discarded by its owner as waste, without the intent for reuse

Extended Producer Responsibility (EPR): policy approach that makes producers responsible for the entire lifecycle of their products, including collection, recycling and disposal. It aims to reduce waste and encourage sustainable product design by shifting the burden from governments to manufacturers. In practice, EPR can involve setting up take-back systems for recycling, paying fees to fund collection and recycling programs, or ensuring products are designed for easier recycling.

Best Available Techniques (BAT): refers to the most effective and advanced stage in the development of activities and their methods of operation, which indicate the practical suitability of particular techniques for providing the basis for emission limit values and other permit conditions designed to prevent and, where that is not practicable, to reduce emissions and the impact on the environment as a whole. In the context of waste management facilities, BAT includes techniques that are economically and technically viable for reducing emissions and environmental impacts.

Best Environmental Practices (BEP): are the application of the most appropriate combination of environmental control measures and strategies. BEP aims to prevent or minimize the generation of waste and its harmful effects on the environment. This includes practices such as waste prevention, reduction, reuse, recycling and proper disposal methods.

Informal sector: the informal sector in waste management refers to unregulated, small-scale activities where individuals or groups collect, sort, and recycle waste materials outside formal systems, often without legal recognition or protection.

3. CONTACT INFORMATION

First Name

Last Name

Phone Number

Email Address

Organization

Country

Gender: How do you identify?

- ☐ Man
- ☐ Woman
- ☐ Non-binary
- ☐ Other

4. LEGISLATIVE AND REGULATORY FRAMEWORK

If WEEE legislation of WEEE-related policy are in place in your country, which are the products covered? (Please copy paste the list of products from the relevant legislation/policy).

If there is no specific WEEE legislation in the country, are any of the products listed in the 'Correspondence table with UNU-KEY' (included in the data gathering excel) covered in the general waste legislation or specific legislation? If yes, please provide below the official title of the legislation and possibly a link to access it.

Which elements are most needed, in your country's legal framework, to effectively support the EPR implementation? (Please rank from the most to the least needed).

- Clear definition of producer responsibilities – law must outline the obligations for producers to manage end-of-life products _____
- Improved collection and recycling systems – regulations should enhance the creation or support of infrastructure for collecting and recycling products _____
- Capacity building – initiatives to train stakeholders in maintaining collection and recycling systems _____
- Enforcement mechanisms – strong measures to ensure compliance with EPR requirements, including proportional penalties for non-compliance, combined with capacity building for inspectors _____
- Funding and financial mechanisms – legal provisions for financing EPR schemes, such as producer fees or eco-taxes _____
- Transparency and reporting requirements – laws should mandate regular reporting and transparency in the handling of waste and recycling efforts, supported by capacity building initiatives _____
- Consumer engagement & Awareness – regulations to promote public participation and education on EPR practices _____
- Other _____

5. INSTITUTIONAL AND ORGANIZATIONAL STRUCTURE

Do you believe the operational bodies in your country have sufficient resources, expertise and infrastructure to effectively manage WEEE?

- ☐ Not adequate at all
- ☐ Very little adequate
- ☐ Adequate
- ☐ Fully adequate
- ☐ I don't know

How would you assess the current level of coordination among key stakeholders (producers, recyclers and waste managers) in your country's waste management sector? (Select the most appropriate option).

- ☐ Very effective – there is already strong collaboration, with clear roles and effective communication between stakeholders
- ☐ Somewhat effective – stakeholders communicate regularly, but coordination could be improved in certain areas
- ☐ Ineffective – stakeholders rarely coordinate, resulting in inefficiencies in waste management and unclear communication channels
- ☐ Uncertain – it is unclear how well stakeholders coordinate in the waste management sector
- ☐ Other _____

Which main public and private actors in your country should be involved in the implementation of an EPR scheme? (Please rank from the most – 1 – to the least important – 7).

- Government agencies – responsible for setting regulations, monitoring compliance and ensuring enforcement _____
- Private sector / producers – accountable for financing/organizing collection and recycling systems + ensuring product design for recyclability _____
- Producers Responsibilities Organizations (PROs) – coordinating collection, recycling and reporting compliance with EPR regulations _____
- Recycling facilities / industry experts – managing the infrastructure for recycling and disposal of WEEE, ensuring efficient processing _____
- Consumers – engage in proper disposal and circular strategies (reuse, recycle..) _____
- NGO / Civil society – support in public awareness, education and monitoring efforts to promote effective recycling/circular strategies _____
- Other _____

Are you aware of voluntary initiatives or measures put in place by the industry to contribute to WEEE management?

- ☐ Yes
- ☐ No

Please specify below, by providing title/info or the link to the relevant initiatives.

6. FINANCIAL MECHANISMS

How would you describe the structure and maturity of the electronics market in your country? (Select the most appropriate option).

- ☐ Well-developed and competitive – mature market with strong local and international producers, diverse product offerings, and advanced supply chains
- ☐ Growing, but still in development
- ☐ Some established players, increasing local production, and expanding market potential, but with room for growth
- ☐ Emerging market
- ☐ Limited local production, reliance on imports, and underdeveloped supply chains
- ☐ Nascent or underdeveloped
- ☐ Minimal local production, few market players, and heavy dependence on imports with weak industry infrastructure
- ☐ Other

What are the financial instruments currently in place to finance the management of WEEE in your country? (Select all options that apply).

- ☐ Government Funding
- ☐ Taxes, municipal budgets, and public funds
- ☐ Waste Collection Fees – Households and businesses pay for waste services
- ☐ Landfill Tipping Fees
- ☐ Charges for waste disposal at landfills
- ☐ Private Sector Contributions – Voluntary recycling programs by businesses
- ☐ International aid and grants – Funding from NGOs and or global organizations
- ☐ Extended Producer Responsibilities (EPR) schemes

- ☐ Advanced Deposit Fee / deposit refund fee (= a refundable deposit is added to the price of a product, which is refunded to consumers when they return the used product or packaging)
- ☐ Advanced Disposal Fee (= a non-refundable fee added to the price of a product and paid by the consumer to cover future disposal and recycling costs)
- ☐ Other
- ☐ None

Which other economic and market-based instruments could be used to support WEEE management / EPR system (Select all options that apply).

- ☐ Government Funding – Taxes, municipal budgets, and public funds
- ☐ Waste Collection Fees – Households and businesses pay for waste services
- ☐ Landfill Tipping Fees – Charges for waste disposal at landfills
- ☐ Private Sector Contributions – Voluntary recycling programs by businesses
- ☐ International aid and grants – Funding from NGOs and or global organizations
- ☐ Extended Producer Responsibilities (EPR) schemes
- ☐ Advanced Deposit Fee / deposit refund fee (= a refundable deposit is added to the price of a product, which is refunded to consumers when they return the used product or packaging)
- ☐ Advanced Disposal Fee (= a non-refundable fee added to the price of a product and paid by the consumer to cover future disposal and recycling costs)
- ☐ Other

7. COLLECTION, RECYCLING AND DISPOSAL INFRASTRUCTURE

Is there a WEEE collection system in place in your country?

- ☐ Yes
- ☐ No

How is WEEE collected in your country? (Please select all options that apply).

- ☐ Collection points (e.g. bin/boxes in streets or retail stores, collection centers etc.)
- ☐ Pickup at household by informal sector (e.g. informal waste pickers, local collectors)
- ☐ Door-to-door collection system (formal sector)
- ☐ Other

Are there dismantling / recycling facilities in place in your country?

- ☐ Yes
- ☐ No

Are existing facilities implementing best available techniques (BAT) and best environmental practices (BET)?

- ☐ Yes
- ☐ No
- ☐ Partially
- ☐ I don't know

Do WEEE recycling and disposal practices in your country comply with environmental standards?

- ☐ Yes
- ☐ No
- ☐ Partially
- ☐ I don't know

Are dismantling / recycling facilities equipped with proper tools and safety equipment?

- ☐ Yes
- ☐ No
- ☐ Partially
- ☐ I don't know

Are workers in the WEEE management sector duly trained to handle collection, dismantling, recovery processes etc.?

- ☐ Yes
- ☐ No
- ☐ Partially
- ☐ I don't know

What is needed to scale up existing WEEE dismantling / treatment facilities? (Please rank from the most to the least relevant).

- Expansion of facility capacity and land availability _____
- Investment in advanced recycling technologies _____
- Increased access to specialized equipment for dismantling _____
- Technical expertise for the efficient management of the other WEEE categories _____
- Training and development of skilled workers _____
- Better waste sorting and pre-processing system _____
- Other _____

8. DATA AND MONITORING

Who is responsible for collecting WEEE data? (Select all options that apply).

- ☐ National statistic body
- ☐ Ministry of Environment (or other GOV institutions)
- ☐ International organizations
- ☐ WEEE collection companies
- ☐ WEEE treatment companies
- ☐ Other

Is there a regular (e.g. annual) reporting system in place on EEE and WEEE.

- ☐ Yes
- ☐ No
- ☐ Not yet, but it is planned
- ☐ I don't know

9. PUBLIC AWARENESS AND PARTICIPATION

What is currently in place in your country to support public awareness and engagement in WEEE disposal and recycling? (Select all options that apply).

- ☐ Efficient network of collection points
- ☐ Public awareness campaign and education programs
- ☐ Incentive programs (e.g. consumers are rewarded through financial incentives for returning WEEE to formal collection points or recycling centers)
- ☐ Other

Can you specify which awareness and education programs are in place?

How do consumers typically dispose of their WEEE ? (Select all options that apply).

- ☐ Drop off at designated collection points or recycling centers (formal channel)
- ☐ Dispose through informal collectors
- ☐ Dispose with other waste (e.g. household waste)
- ☐ Uncertain or unknown

10. INFORMAL SECTOR

At which stages is the informal sector involved in WEEE management? (Select all options that apply).

- ☐ Collection
- ☐ Sorting
- ☐ Dismantling
- ☐ Treatment
- ☐ None
- ☐ Other

Can you assess the size of the informal sector, in the WEEE management sector in your country?

- ☐ <25% of the overall WEEE management?
- ☐ Between 25–50%
- ☐ Between 50–75%
- ☐ >75%
- ☐ Unknown

Are there any programs/initiatives aimed at integrating the informal sector into formal systems? (If yes, please provide title, short description and website if available).

11. READINESS TOWARDS EPR SYSTEM

Are the main challenges foreseen in the adoption of an EPR for WEEE management sector in your country? (Please rank from most (1) to least (6) important).

- Legal & regulatory - lack of specific legislation, enforcement challenges or unclear responsibilities _____
- Financial & Economic - High implementation costs, insufficient funding mechanisms or resistance from producers _____
- Technical and infrastructure - Limited recycling facilities, collection systems, or technology for proper WEEE processing _____
- Stakeholder Cooperation - Lack of coordination among government, businesses and informal sector _____
- Public awareness and participation - Low consumer awareness or engagement in proper WEEE disposal _____
- Other _____

Do you have good practices related to EPR scheme in your country or outside to share (e.g. some steps taken to implement in EPR in WEEE or in another waste stream such as plastic waste etc.)? (If yes, please provide title, short description and website if available).

12. ENVIRONMENTAL AND SOCIAL IMPACT

Do you have evidence, in your country or in the region, of landfills or dumping sites where WEEE is disposed of if a non-environmentally sound manner (including mixed with other types of waste, ELVs, metals etc.)?

- ☐ Yes
- ☐ No
- ☐ I've heard about them but never saw them
- ☐ I don't know

Have new jobs related to the WEEE sector been created in the last 5 years in your country?

- ☐ No
- ☐ It is possible, but we do not have evidences
- ☐ Yes, but we do not have specific data
- ☐ Yes, and data are available from responsible entities (please provide information)

Are there plans, at national level, that envisage the creation of new jobs related to the WEEE sector and/or green sector in the next 5 years?

- ☐ No
- ☐ It is possible, but we do not have evidences
- ☐ Yes, but we do not have specific data
- ☐ Yes, and references are available from the responsible entities (please provide reference information)

Are women, children and/or other vulnerable groups involved in the informal sector – e.g. in the collection, dismantling of WEEE?

- ☐ Yes
- ☐ No
- ☐ Unknown

13. TRANSBOUNDARY MOVEMENTS

Does your country export WEEE for treatment purposes?

- ☐ Yes, to other countries in the region
- ☐ Yes, globally
- ☐ No
- ☐ Unknown

Please list the main receiving countries.

Does your country import WEEE for treatment or other purposes?

- ☐ Yes, from other countries in the region
- ☐ Yes, from other countries globally
- ☐ No
- ☐ Unknown

Please list the main sending countries.

14. CHALLENGES AND BARRIERS

What are the current main limitations of the WEEE management systems (please rank/order them from the most to the least important).

- Gaps in legislation _____
- Gaps in infrastructure, technology and expertise related to WEEE management _____
- Lack of financing _____
- Lack of political commitment _____
- Lack of effective enforcement _____
- Competition from the informal sector _____
- Illegal exports _____
- Political and economic stability _____
- Lack of consumers' interest and commitment to properly dispose of WEEE _____
- Other _____

What are your suggestions for improvements of the WEEE management system in your country?

15. REGIONAL COOPERATION

What is the current level of policy harmonization and cross-border cooperation in the region for WEEE management (please select all options that apply).

- ☐ Well established – Formal policies, agreements and active collaboration exist between countries
- ☐ Moderate – Some cooperation exists, but it is limited in scope or effectiveness
- ☐ Minimal – Few cross-border initiatives, with occasional ad-hoc cooperation.
- ☐ Non-existent – No formal cooperation or coordination between countries

- ☐ Regulatory barriers – Legal or policy restrictions hinder cross-border collaboration
- ☐ Ongoing discussions – Efforts are in progress to establish cross-border partnerships
- ☐ Other

Are there any legal or practical initiatives in place at regional level related to WEEE management (e.g. bilateral or regional agreements, regional recycling centers etc.)?

- ☐ Yes
- ☐ No

Please provide details.

Would a regional approach facilitate the implementation of an EPR scheme? (Please select all options that apply).

- ☐ Yes, it would reduce implementation costs – shared infrastructure and systems can help reduce the financial burden on individual countries
- ☐ Yes, it would create harmonized regulations – a regional approach can ensure consistency in EPR requirements across borders, making compliance easier for producers and stakeholders
- ☐ Yes, it would enhance cross-border cooperation – collaboration between countries can improve recycling and waste management systems, benefiting the region as a whole
- ☐ No, it may create additional complexity – differences in national laws, political systems, and waste management capacities might complicate a regional approach
- ☐ No, each country context is too different – local needs and conditions may require tailored, country-specific EPR schemes rather than a regional approach
- ☐ Uncertain – it is unclear whether a regional approach would be beneficial for EPR implementation in my country
- ☐ Other

Annex 2.

Economic Impact Analysis Template

COLLECTION INFORMATION

COLLECTION						
Which e-waste category is collected in your country?	Comment (if the 10 categories are not used, please provide national code or description of the products collected)	How is the category (Column A) or product (Column B) collected in your country?	How is the system (Column C) currently financed ?	Comment (if 'Other' in Column D, further detail here)	What is the estimated number of people involved in the collection in your country?	What is the estimated price for the collection of one tonne of e-waste category (Column A) or product (Column B) in your country? [USD\$]
Example						
Cat 1		Formal	Extended Producer Responsibility (EPR) scheme		50	300
Cat 1		Formal	Extended Producer Responsibility (EPR) scheme		50	300
Cat 1		Formal	Extended Producer Responsibility (EPR) scheme		50	300
Cat 1		Formal	Extended Producer Responsibility (EPR) scheme		50	300
Cat 1		Informal	Self-financing		200	150
Cat 1		Informal	Self-financing		200	150
Cat 2		Informal	Self-financing		200	120
Cat 3		Informal	Self-financing		200	160
Cat 4		Informal	Self-financing		200	300

TREATMENT OPERATION

TREATMENT													
Is the collected e-waste category (Column A) or product (Column B) treated in your country?	If 'No, outside the country' (Column H), to which country the e-waste category (Column A) or product (Column B) is sent to?	What is the average sale price of one tonne of e-waste category (Column A) or product (Column B) exported for recycling [+ or - USD\$]	What is the treatment capacity of the e-waste category (Column A) or product (Column B) in your country? [tonne]	Comment (Column K – specify if the treatment capacity refers to a mix of e-waste categories, codes or products)	What is the estimated number of people involved in the treatment in your country?	Which processes are mainly used to dismantle, treat or recycle the e-waste category (Column A), code or product (Column B) in your country?	Comment (if 'Other' in Column N, further detail here)	What are the main output fractions that are separated?	Comment (if 'Other' in Column P, further detail here)	How much of the output fraction (Column P) is produced yearly in your country? [tonne]	What is the average sale price of the fraction (Column P)? [+ or - USD\$]	Where is this fraction (Column P) usually traded?	To which country this fraction (Column P) is traded to?
Example													
Yes, in the country	USA	150	2000	this is valid for cat 1 and 2	50	Physical Treatment – magnetic separation		Metal frame		250	50	In the country	
Yes, in the country	USA	150	2000	this is valid for cat 1 and 2	50	Automated separation/ dismantling		Compressor		5	25	In the country	
Yes, in the country	USA	150	2000	this is valid for cat 1 and 4	50	Automated separation/ dismantling		Metal fraction		90	30	In the Caribbean region	SUR
Yes, in the country	USA	150	2000	this is valid for cat 1 and 5	50	Physical Treatment – magnetic separation		Plastic fraction		80	-10	In the Caribbean region	TTO
Yes, in the country	MEX, USA	50	500	this is valid for cat 1 and 6	50	Physical Treatment – separation		PCB		2	72	Outside the Caribbean region	USA
Yes, in the country	MEX, USA	50	500		600	Manual separation/ dismantling		Magnet		6	20	Outside the Caribbean region	MEX, USA
No, outside the country	MEX, USA, EU	-50	150		600	Manual separation/ dismantling		Ferrous metals		20	50	I do not know	
No, outside the country	MEX, USA, NLD	100	200		600	Manual separation/ dismantling		Compressor		4	20	I do not know	
I do not know	MEX, USA, NLD	100	350		600	Manual separation/ dismantling		Compressor		2	20	I do not know	

Annex 3.

In-country Mission Plan and Stakeholders

OVERVIEW OF MEETINGS/SITE VISITS

Country	Organization/company	Representative	Date	Address
Cuba	ORSA	Focus Group (see details stakeholders in the table below)	September 15 th , 2025	Melia Habana Hotel Conference Room
Cuba	Site visit Havana Recycling Company (HRC)	Ms. Miriam Rodrigues Babastro (Director Unit UEB, Non-Ferrous materials) and Mr. Mauricio Chirino (Assistant Director	September 16 th , 2025	

ATTENDEES FOCUS GROUP MEETING ON THE 15TH SEPTEMBER 2025

Name	Organization
Mr. Antonio Casanova Guilarte	ORSA
Mr. Carlos Ernesto Álvarez Pérez	ORSA
Mr. Jorge Alvares Wong (Director General of the Office of the Environmental Security Regulation)	ORSA
Ms. Laura Escalone	ORSA
Ms. Arlettis Mas Ramos	ORSA
Ms. Olga Quiala	MINSAP
Ms. Vivian Sánchez	MINDUS
Mr. Michel Chong	MINAG

PICTURES TAKEN DURING THE FOCUS GROUP MEETING AND THE SITE VISITS



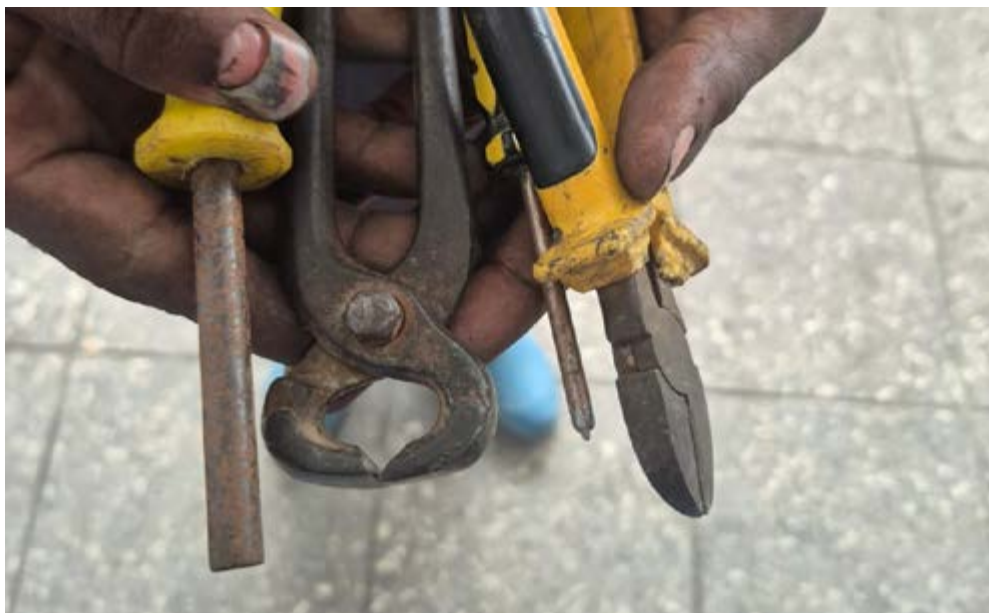
Group photo: Focus Group meeting held on the 15th of September 2025



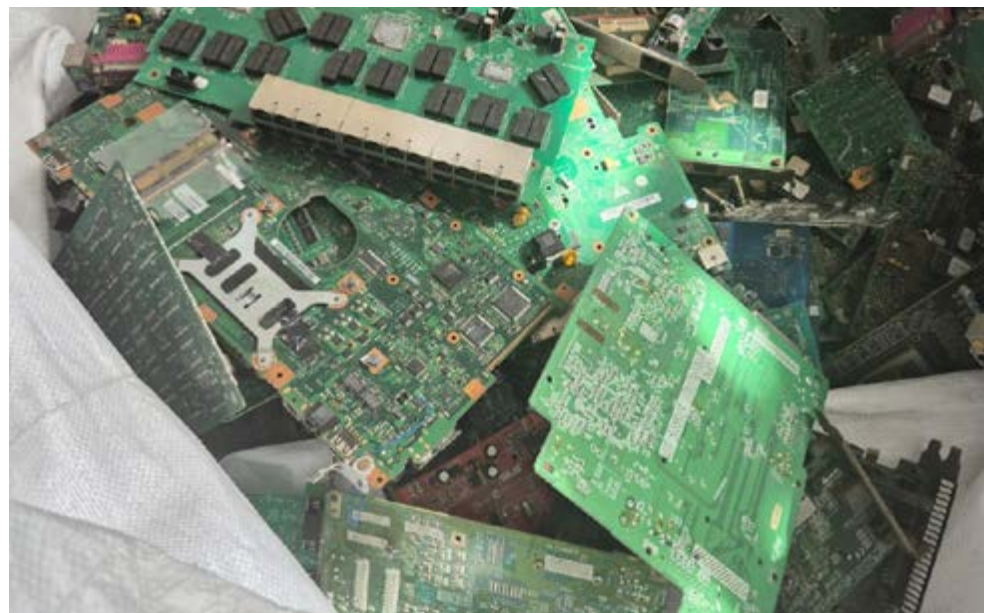
Focus Group meeting discussion held on the 15th of September 2025



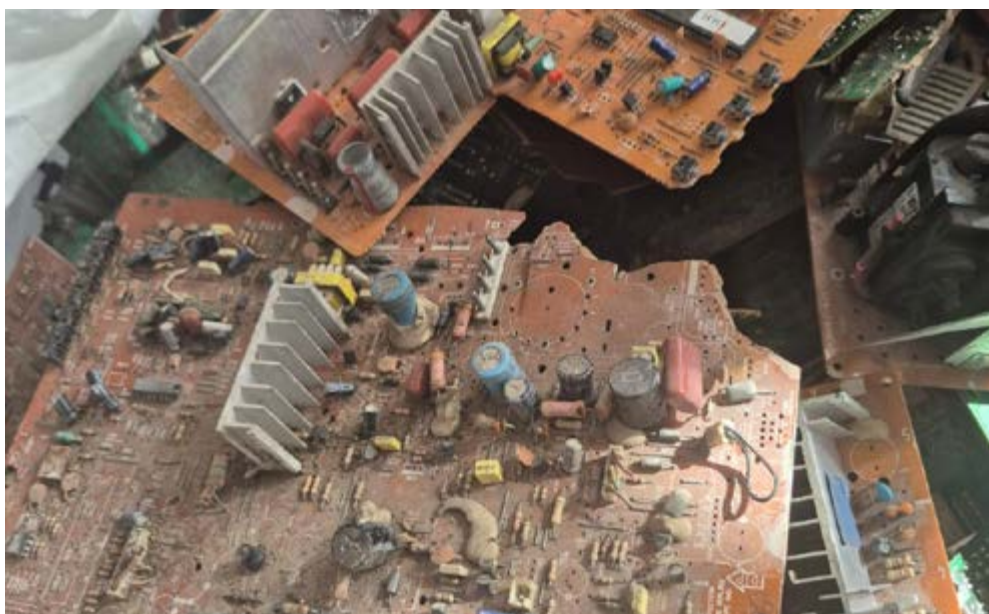
Manual recycling of WEEE (circuit boards) at Havana Recycling Company – September 16th, 2025



Tools used for WEEE processing at Havana Recycling Company – September 16th, 2025



Processed and sorted WEEE at the HRC, September 16th, 2025



Processed and sorted low grade WEEE at the HRC, September 16th, 2025



Sorted and stored WEEE (ready for sales for shipment) at the HRC, September 16th, 2025





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