



Workshop

E-waste: Improving Implementation

25 August 2022 | 2:00 PM - 3:30 PM (EAT)



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E-waste Management

Improving practices for EARF borrowers

Rebecca Rhodes
Snr PM, GOGLA

25 Aug 2022



Poll 1:

I understand e-waste management and how it affects my business:

1. Yes
2. No
3. Not sure
4. What exactly is e-waste?!



1 Re-cap: E-waste 101 for OGS companies

2 Assessing your e-waste footprint

3 Training, awareness raising and implementation

4 Discussion / Q&A



E-waste 101 for OGS: Re-Cap

- Globally, e-waste has grown by **21%** in 5 years – to 54million mt in 2020.
- Mainly due to **high consumption rates, short life cycles, and few options for repair.**
- Value of this e-waste was **US \$57 billion**



Credit: Solibrium, Kenya

Sources:



Repairs and returns



Write-offs and repossessions



Broken in transit



Customer take-back schemes

Barriers:



Lack of consumer awareness



Expensive



Lack of recycling infrastructure



Difficulty accessing spare parts



Nascent legislation

Imperatives for business action on e-waste





Product Quality Standards

Ensuring high quality products **prolongs the life-span** of products and **reduces the likelihood of malfunction or breakage**.

Make sure your products are certified to IEC standards (via VeraSol).

Compliance with national laws

Understanding the legal requirements for e-waste management is key, especially as where laws are in place, the common principle is **Extended Producer Responsibility**.

Review at least annually.

Safe management of hazardous waste.

Know what components are in your products and what the hazards are.

Implement procedures and training for **safe handling and storage** of e-waste as a minimum.

Implement an e-waste management plan

Setting out your **ambitions and planning** for e-waste management before it becomes a problem is key.

This helps your **financial planning** and **demonstrates responsibility**.

Educate your customers

Small changes can make a big difference in awareness.

Make sure disposal information is **clearly labelled** in product manuals, and **communicated during installation**, and at the **end of the warranty period/expected lifespan**.



Understanding your e-waste footprint

Company assessment matrix – What is your baseline?



OGS E-WASTE MANAGEMENT ASSESSMENT FRAMEWORK					
	E-WASTE MANAGEMENT POLICY	How is this being met?	Notes/Comments (achievements & existing gaps)	Recommendations (what can be done)	
2	EMPO	There is an e-waste management policy / plan in place. The policy/management plan has been signed off by Senior Management and adopted company-wide.			1. Adapt the Blueprint e-waste policy. Review with senior stakeholders and obtain sign-off for compar
3	EMP1	The e-waste management policy is cross departmental and clearly defines how different parts of the business (nationally and internationally) will execute the e-waste management policy.			1. Define all e-waste roles and responsibilities 2. Assign different roles and responsibilities to various departments or person(s) 3. Each department or person(s) has adopted e-waste roles and responsibilities as part of their job de 4. Each department or person(s) is tracking their e-waste efforts through the company's performance
4	EMP2	The policy includes a clear statement of ambition for e-waste management and outlines the long term goals for e-waste management. There is a direct connection to becoming a more sustainable company that embraces wider e-waste management principles (i.e. circularity), and links are made to e-waste as a value added business function with clear impact that benefits different stakeholders (e.g. consumers, community, and company/staff).			1. Define an e-waste mission and vision statement 2. Connect the e-waste vision and mission to the company's greater vision and mission 3. Clearly define the impacts of e-waste management upon various stakeholders (e.g. customer, local 4. Integrate wider e-waste management principles into the e-waste initiative, which include extended Industry Opinion on Lifecycle and Recycling
5	EMP3	The policy explicitly details and adheres to e-waste legislation(s) that affect the company's countries of operation. There is a clear plan to stay updated on new e-waste legislations across all countries of operations.			1. Identify and interpret the e-waste legal framework for each country of operation within the e-waste 2. Ensure legal compliance of the standard operating procedures for each country(ies) of operation th 3. Track legal changes through an e-waste legislation repository or industry association updates for cu
6	EMP4	The policy is reviewed regularly, at least annually and whenever there are changes to the organisation that affect the responsibility and roles of the people and departments involved. The review includes an assessment of forecast e-waste and ensure that the policy enables efforts to increase e-waste management capacity accordingly.			1. Define a review schedule of the e-waste management policy 2. Describe how the company deals with future e-waste through clear budgets and resource allocatio
7					
8					
9	E-WASTE ACTIVITIES AND OPERATIONS	How is this being met?	Notes/Comments (achievements & existing gaps)	Recommendations (what can be done)	
10	AOP0	There is a process flow chart for e-waste management activities showing how e-waste is managed within operations. The process covers collection, storage and handling, transportation, and treatment. It distinguishes between products that are in warranty and out of warranty and links are made to related processes for circular activities such as repair and refurbishing			1. Refer to and adapt GOGLA's Blueprint for e-waste process flows, ensuring that is aligns with your o 2. Define how non-functioning products return to the company's ecosystem, and how they reach disp 3. The flow chart should explicitly show how different warranty products are dealt with in the compar control)
11	AOP1	Roles and responsibilities for e-waste management are clearly defined and individuals are aware of their responsibilities via job descriptions or role-based KPIs.			1. Define who is responsible for each activity within the e-waste process flow, from non-functioning p 2. Update job descriptions to include e-waste responsibilities
		If for OGS companies operating in multiple markets the e-waste process is adopted is applied to each country of			1. Adopt the e-waste flow chart to the on-ground operations (e.g. operational capacity and departme procedures

Company assessment matrix – What is your baseline?



E-WASTE MANAGEMENT POLICY	
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AOp1	Roles and responsibilities for e-waste management are clearly defined and individuals are aware of their responsibilities via job descriptions or role-based KPIs.
CONSUMER AWARENESS & STAKEHOLDER ENGAGEMENT	
CSEO	Consumers/end-user are informed on how to take care of the product, their warranty period, end of life disposal, and what to do if any technical issues arise with the product.
E-WASTE PROCESSOR PARTNERSHIP CRITERIA	
EPCO	The company has identified an appropriate waste processor / recycling partner in each operational country/region. If the company can not identify appropriate local partner(s), it has established a way to safely store e-waste or transport e-waste across borders to alternate facilities.
DATA COLLECTION AND MONITORING	
DCMO	The company collects and records relevant e-waste data (e.g., total weight of e-waste collected, products failure rate, e-waste safely treated) on a periodic basis. Data is accessible to all responsible persons and departments.

(Example)

- Fit to company context
- Assign an overall owner, and clear responsibilities
- Plan to review periodically
- Monitor external factors, such as regulations and development of national facilities
- Consider trigger points; e.g., [n] years after first sales, we will do xyz.



Policy – How does your company approach e-waste?



- Content to consider includes:
 - Company mission with regards to e-waste
 - Your role in the e-waste value chain (whether you are a manufacturer or distributor)
 - Local regulatory environment
 - Roles and responsibility within the company
 - Financial planning for e-waste management
 - KPIs
 - Consumer and/or partner engagement
 - Processes / procedures

KPIs: Monitoring for continuous improvement



	A	B	C	D	E	F	G	H	I	J
8	C- Operations									
9	E-waste generated	1	C0	Number of products that reached end of life in period: = Sales volume from (current period - product failure lag)	- kg/quarter (use average product weight) - cumulative	n/a	- per country/region	This measure provides a forecast of the e-waste generated per quarter (e.g. distributed products reaching end of life). Once the forecast is understood, companies are able to better plan their e-waste management activities. N.B. This calculation does not account for hibernation of product post end of life.		
10	C1- Take Back and Collection									
11	Access to e-waste	1	C1-1	Total weight of e-waste collected	- kg/quarter	Ascending	- In warranty/out of warranty - per country / region - product type/component (lanterns, solar home systems, bulbs, PCBs etc.)	This defines how much e-waste is collected by the company and what type of waste is collected. The weight is more important than the product type/components. However, this information is often provided by a quality waste processor in the goods received note upon delivery to the designated	[Insert Company] collected X,000 kg of e-waste this year.	
12	Access to e-waste	2	C1-2	Number of e-waste collection points	- number of collection bins/points.	Ascending	- by country or region.	This measures the number of collection points implemented by the company (e.g., bins/container placed at shop). This does not include agents or technicians.	There are X e-waste collection points across [insert company]'s operating country(ies)	
13	Access to e-waste	2	C1-3	% of products that are collected upon reaching their end of life	- number/quarter as a % of expected products reaching EoL in that quarter (C0)	Ascending	- per country/region - product type (lantern, solar home systems)	Upon figuring out a company's product failure lag time (C2-4), the company can estimate the percentage of end-of-life products that are collected after their sale and usage. (E.g., Number of returned products / Number of sales from [(quarter date) - [expected product lifespan]]%)	X% of expected end-of-life products this year were collected, ensuring that we divert waste from unsafe disposal or hibernation	
14	Access to e-waste	3	C1-4	Number of take-back schemes (if any)	- number of take-back and/or incentive schemes	-	- by countries or regions - active and inactive schemes	This defines the number of incentives or campaigns that have been tested or implemented by the company to encourage customers to return their non-functioning products.	There are X active take-back schemes across the company	
15	C2- Repair									
16	Servicing	1	C2-1	Number of products repaired	- number/quarter	Ascending	per country/region and product type (lantern, solar home systems)	Track products that go through the repair process internally and calculate the number of products repaired per quarter. Disaggregating the repair data by product will inform fault	[Insert Company] has repaired X% of products that are repairable. This reinforces our desire to provide the best service to our customers	

- Where to start?
 - Estimate the product failure lag. E.g., how long do you estimate each product or component will be in use for?
 - E-waste generated = sales volume (kg) from (period-failure lag (yrs.))
 - E-waste collected, stored and recycled (kg) and as % of e-waste generated
 - No./% employees trained on e-waste management

E-waste Toolkit

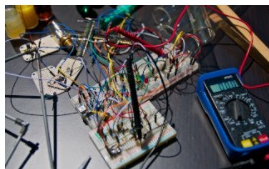
Off-grid solar is delivering **huge social impact to customers**, mitigating greenhouse gas emissions from traditional polluting lighting sources, and supporting economic development in low-income countries. As the sector grows, companies and investors are increasingly focusing on resource efficiency and lifecycle of products – from design and manufacturing to end of life. In this hub, you will find resources aimed at helping address the main challenges in setting up sustainable recycling chains. This **toolkit is a work in progress** and content will be added regularly as modules are developed.

Looking for additional learning materials about e-waste management in the off-grid solar sector? Download materials from [the e-waste festival](#).



Introduction to Recycling

Module 1 is a high-level technical understanding of how each component is recycled and where to begin with identifying recycling partners. [Learn more](#)



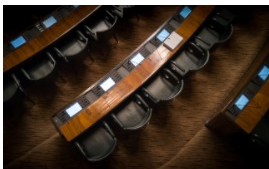
Design for Reduction of E-Waste

Module 2 will focus on waste reduction strategies within the off-grid solar sector, looking at circular design principles and how they can be applied. [Learn more](#)



Financials of Solar E-Waste

Module 3 will look at the financials of solar e-waste by breaking down its supply chain, identifying where the costs lie and who is responsible for them. [Learn more](#)



Policy and Regulation

Module 4 of the E-waste toolkit aims to provide a high level introduction to e-waste legislation, existing typologies and their financing mechanisms. [Learn more](#).



E-waste and the Consumer

Module 5 focuses on the consumer experience, awareness and disposal behaviors upon product end-of-life. [Learn more](#)



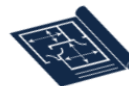
Take-back and Collection

Module 6 of the toolkit focuses on take-back and collection channels, challenges and incentive. [Learn more](#).

Circularity Toolkit: E-waste Blueprints

These E-waste Blueprints have been created to help off-grid solar companies implement and improve e-waste management across their operations.

Companies are encouraged to follow the **user journey** and adapt the Blueprints to their business, operational, geographical and resource context.



[Start here: E-Waste Blueprints User Guide](#)



1. Assess

Use our assessment tool and conversation guide to better understand how e-waste management activities can be tailored to meet your company's goals.



2. Plan

Once you are ready to begin your e-waste journey, start by building your OGS e-waste management policy, design e-waste processes and establish roadmap.



3. Execute

Find tools and resources to help you implement your e-waste management plan, including recommended KPIs, waste-processor selection and contracting, and training content.

Storage and handling of components

While handling e-waste, health and safety and environmental considerations are relevant for both regulatory and operational reasons. Although there are some general principles to be upheld when handling and storing e-waste, risks derived from fraction handling (not inherent hazards of fractions) can be mitigated by following good practices and a focus on quality operations. For example, while Pb [Lead] acid batteries should be transported whole, plastics should often be chipped and sent to plastic manufacturers. This section will dive into how handling needs differ for each fraction, as well as provide practical information for storage and transportation.

Staff safety – equipment and training

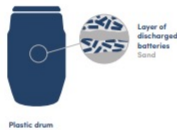
Staff health and safety is paramount, staff should be properly trained and use the correct personal protective equipment (PPE). The appropriate PPE depends on the components or fractions being handled by the facility and staff as well as the machinery used.

Common PPE to be used across most facilities include:

- Chemical resistant and sturdy gloves to protect hands from cuts, harmful dusts and chemicals.
- Safety glasses to prevent dust and debris from entering the eyes during dismantling.
- Coveralls to protect against dust. These should be removed after exiting the facility to avoid track dust and chemicals to other areas.
- Work boots to protect against heavy objects and sharp punctures from dismantled sectors.
- In some cases, a respirator and personal ventilation systems when handling fractions that contain hazardous dust.

Lithium Batteries

It is crucial that lithium batteries are either stored in their original product (i.e. not removed) or in a plastic drum between layers of sand (see below). E-waste management companies sometimes provide plastic bins for the storage in an exchange program (i.e. they loan you six, and, upon collection, replace with another set).



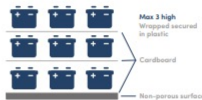
Plastic drum

The main risk of lithium-based batteries at end-of-life is fire. Lithium-Iron-Phosphate batteries (most common in off-grid solar) are the lowest risk in terms of fire but should still be handled with care. Risks from lithium:



Example of poor storage. Photo Recycling

Lithium-Iron-Phosphate batteries are less prone to thermal runaways (short circuit) than other lithium-based batteries, but they should still be stored within layers of sand and with their terminals taped and covered.



Lead-acid Batteries should be stored and transported on pallets (see image below). Similar sized batteries are placed next to each other. Every layer of batteries includes a layer of thick cardboard in between to absorb any leakage of battery acid. The batteries are stacked no further than 3 layers high.

Lead acid Batteries should be stored and transported on pallets (see image below). Similar sized batteries are placed next to each other. Every layer of batteries includes a layer of thick cardboard in between to absorb any leakage of battery acid. The batteries are stacked no further than 3 layers high. Once stacked, the pallets are wrapped and sealed with airtight covers.



ABOUT US PORTFOLIO IMPACT FINANCING SUPPORT RESOURCES NEWS PUBLICATIONS



Off-grid solar (OGS) technologies provide life-changing access to modern energy services for people and communities currently living without electricity. Yet these products can have negative impacts on human and environmental health if not disposed of properly. The risk of the adverse effect is particularly high for women and children.

Investment in anticipatory e-waste management strategies will reduce these risks and ensure the OGS industry's growth is sustainable over the long term. Efforts to recapture and recycle e-waste are gaining ground in Africa, but they are still limited by uneven regulations, low infrastructure and capacity, and a lack of consumer awareness.

Mapping Report

Approaches to e-waste management

...for the off-grid solar sector. Solar e-waste and solar-powered appliances at their end-of-life SHSs have already reached their end-of-life. Of the 55,000 tons of total e-waste produced in Africa, off-grid solar e-waste is particularly challeng-

...in remote areas. The cost is high for two-way transport of dispersed users' homes and returning



Wear personal protective equipment



Avoid dust to babies



Training, awareness raising and basic operations

Building your internal capacity



WeTu: Kenya

Staff were not enthusiastic about e-waste management...

Until after they had received training!

Afterwards, many wanted to know how they could be more involved in the company's e-waste project.

Building your internal capacity

OGS E-waste training needs matrix	Senior management	Operational management	Commercial	Procurement / Logistics / Warehouse	Referralsales management	Technical management	Customer service	Referralsales agents	Sales team (incl. agents)	Frequency	Proposed Content
An introduction to e-waste what it is and why it matters	X	X	X	X	X	X	X	X	X	Onboarding for all new staff	<ul style="list-style-type: none"> What is e-waste, why it matters to consumers, the environment and the business Company e-waste ambitions and goals Overview of company e-waste management processes
Your company and e-waste	X	X								At start of e-waste initiative and for new staff	<ul style="list-style-type: none"> forecast e-waste generated Legal context Business and operational environment, such as availability of recycling resources and organisational capacity
E-waste process flows, safe storage and handling				X	X	X				During induction and annual refresher training	<ul style="list-style-type: none"> Overview of company e-waste process flows and SOPs Guidance on safe handling of e-waste Provisions for safe storage of e-waste Health and safety, including use of PPE
Identifying and selecting credible e-waste partners		X	X							As required for staff with a responsibility in the identification, selection or management of e-waste partners	<ul style="list-style-type: none"> How to identify and partner with e-waste service providers Management of e-waste service providers Risks and challenges with waste disposal partners in off-grid markets
Data, monitoring and reporting	X	X								At start of e-waste initiative and for new staff	<ul style="list-style-type: none"> Overview of e-waste KPIs Data management tools and process How to share progress and share the e-waste story
Consumer awareness raising							X	X	X	During induction and annual refresher training	<ul style="list-style-type: none"> How to communicate with consumers about e-waste Communication campaigns and/or take back schemes

Operational guidelines for storage and handling

OPERATIONAL GUIDELINES FOR HANDLING USED BATTERIES IN THE OFF-GRID SOLAR SECTOR

BATTERY

sofie

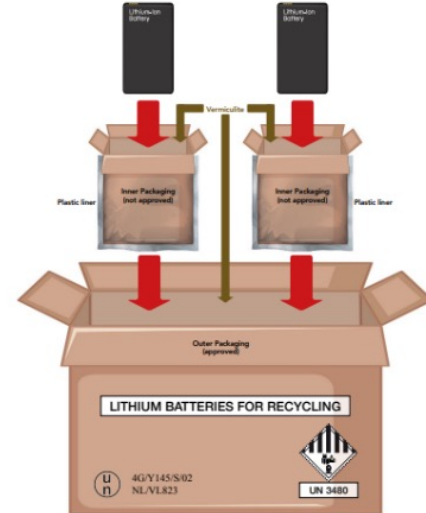
5 TRANSPORT OF USED BATTERIES AND EQUIPMENT

Table 4: Packaging instructions from ADR for lithium batteries

P909	PACKING INSTRUCTION	P909
This instruction applies to UN Nos. 3090, 3091, 3480 and 3481 carried for disposal or recycling, either packed together with or packed without non-lithium batteries.		
(1)	<p>Cells and batteries shall be packed in accordance with the following:</p> <p>(a) The following packagings are authorised, provided that the general provisions of 4.1.1 and 4.1.3, are met: Drums (1A2, 1B2, 1N2, 1H2, 1D, 1G); Boxes (4A, 4B, 4N, 4C1, 4C2, 4D, 4F, 4G, 4H2); and Jerrycans (3A2, 3B2, 3H2)</p> <p>(b) Packagings shall conform to the packing Group II performance level.</p> <p>(c) Metal packagings shall be fitted with an electrically non-conductive lining material (e.g. plastics) of adequate strength for the intended use.</p>	
(2)	<p>However, lithium-ion cells with a Watt-hour rating of not more than 20Wh, lithium-ion batteries with a Watt-hour rating of not more than 100Wh, lithium metal cells with a lithium content of not more than 1g and lithium-metal batteries with an aggregate lithium content of not more than 2g may be packed in accordance with the following:</p> <p>(a) in strong outer packaging up to 30kg gross mass meeting the general provisions of 4.1.1, except 4.1.1.3, and 4.1.3.</p> <p>(b) Metal packagings shall be fitted with an electrically non-conductive lining material (e.g. plastics) of adequate strength for the intended use.</p>	
(3)	For cells or batteries contained in equipment, strong outer packagings constructed of suitable material, and of adequate strength and design in relation to the packaging capacity and its intended use, may be used. Packagings need not meet the requirements of 4.1.1.3. Equipment may also be offered for carriage un packaged or on pallets when the cells or batteries are afforded equivalent protection by the equipment in which they are contained.	
(4)	In addition, for cells or batteries with a gross mass of 12kg or more employing a strong, impact resistant outer casing, strong outer packagings constructed of suitable material and of adequate strength and design in relation to the packaging's capacity and its intended use, may be used. Packagings need not meet the requirements of 4.1.1.3.	
Additional requirements:		
1	Cells and batteries shall be designed or packed to prevent short circuits and the dangerous evolution of heat.	
2	Protection against short circuits and the dangerous evolution of heat includes, but is not limited to: <ul style="list-style-type: none"> - Individual protection of the battery terminals, - Inner packaging to prevent contact between cells and batteries, - Batteries with recessed terminals designed to protect against short circuits, or - The use of an electrically non-conductive and non-combustible cushioning material to fill empty space between the cells or batteries in the packaging. 	
	Cells and batteries shall be secured within the outer packaging to prevent excessive movement during carriage (e.g. by using a non-combustible and electrically non-conductive cushioning material or through the use of a tightly closed plastics bag).	

10

Package shall bear "LITHIUM BATTERIES FOR RECYCLING" or "LITHIUM BATTERIES FOR DISPOSAL" with lettering size of at least 12 mm high



UN approved packaging mark

11

Operational guidelines for storage and handling

1. Provide PPE for staff (e.g., protective gloves and glasses).
2. Ensure staff are trained about health, environmental and safety aspects of used electrical equipment.
3. Allocate dedicated storage space to End-of-life equipment.
4. Know the risks – lead-acid vs lithium batteries have different storage requirements.

Storage and handling of components

Lithium Batteries
 While handling – waste, health and safety and environmental considerations are relevant for both regulatory and operational reasons. Although there are some general principles to be upheld when handling and storing – waste, risks derived from fractions handling (not inherent hazards of fractions) can be mitigated by following good practices and a focus on quality operations. For example, while Pb (lead) acid batteries should be transported whole, plastics should often be shipped and sent to plastic manufacturers. This section will also outline handling needs after each fraction, as well as provide practical information for storage and transportation.

Staff safety – equipment and training
 Staff health and safety is paramount; staff should be properly trained and use the correct personal protective equipment (PPE). The appropriate PPE depends on the components or fractions being handled by the facility and staff as well as the machinery used.

Common PPE to be used across most facilities include:

- Chemical resistant and sturdy gloves to protect hands from cuts, harmful dusts and chemicals.
- Safety glasses to prevent dust and debris from entering the eyes during dismantling.
- Coveralls to protect against dust. These should be removed after exiting the facility to avoid transferring dust and chemicals to other areas.
- Work boots to protect against heavy objects falling and sharp punctures from dismantled equipment.
- In some cases, a respirator and personal air-space ventilation systems when handling fractions that contain hazardous dust.

The main risk of lithium-based batteries of end-of-life is the Lithium-Iron-Phosphate battery (most common in off-grid solar) as the liquid salt in terms of the fuel should still be treated with care. Fires from Lithium batteries are due to uncontrolled "thermal runaway", which are caused by either deep discharging, short circuiting or overcharging. Therefore, Lithium batteries should be fully discharged prior to storage. Other key storage protocols include:

- Avoid any damage to the cells, do not try to dismantle battery packs.
- Cover the poles of the batteries with insulated tape.
- Storage area should be sheltered from heat and rain.
- Lithium batteries should always be stored in a separate area of the warehouse, to mitigate the risk of fire spreading in the event of an incident.
- Batteries should be discharged, then stored in plastic containers covered with sand. The sand will absorb any thermal runaway, and create a glass around the battery, stopping the spread of any fire.

Lead-acid Batteries
 Lead-acid Batteries should be stored and transported on pallets (see image below). Similar sized batteries are placed next to each other. Every layer of batteries includes a layer of thick cardboard in between to absorb any leakage of battery acid. The batteries are stacked no further than 3 layers high.

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Transportation of Lithium batteries
 Similar protection measures should be followed to when transporting Lithium batteries to protect against the risks during transport. Prior to long distance or extended transport (such as in the case of transboundary movement), it is recommended to have stored the batteries for a long time, thus making use of Lithium battery self-discharging properties and helping to ensure that the batteries are fully discharged.

Lead Acid Batteries (Pb/Acid)
 Lead-acid batteries are hazardous because of their two primary components: Lead and Battery Acid. Most solar batteries are gel or maintenance-free type Pb/Acid batteries. If undamaged, these should be transported whole to the recycler.

Lead-acid batteries should be kept out of direct sunlight. Wet batteries (those that require an addition of distilled water to their electrolyte) should be drained, and the acid stored in secure bins. Sealed batteries should not be opened and kept on a non-permeable surface.

Wear personal protective equipment

Avoid damages to batteries

Change clothes after work

Maintain high personal hygiene standards

Consumer awareness raising



Enviroserve Rwanda @EnviroserveRw · Oct 26, 2020 ...
Tubararikiye gukurikira ikiganiri #Imboni kuri @RwandaTV kuva saa 9-10pm kigamije kw'ibutsa abanyarwanda imicungire myiza y'ibisigazwa bikomoka kw'ikoranabuhanga (e-waste) mu Rwanda.
[@peterkagabo](#)

Enviroserve Rwanda @EnviroserveRw · Oct 26, 2020 ...
Ikiganiri kiritabinwa na Enviroserve Rwanda ihagarariwe n'umuyobozi waye @MberaOliver ndetse nabafatanyabikorwa bayo aribo @RURA_RWANDA ihagarariwe na Charles Gahungu ushinzwe ikoranabuhanga na @REMA_Rwanda ihagarariwe na Twiringire Samson. Turengere ibidukikije n'ubuzima bwacu.

Enviroserve Rwanda @EnviroserveRw · Oct 24, 2020 ...
Happening Now: Enviroserve Rwanda, General manager, @MberaOliver and General Manager in charge of ICT @RURA_RWANDA, Mr. Charles Gahungu, are live on @Radiorwanda_RBA, discussing about the proper management of e-waste in Rwanda and regulations that governs e-waste.



WeCollect



Reuse and recycling WeTu

14 OCTOBER 2022



International E-Waste Day

Recycle it all, no matter how small!



- Outlined in the EARF ESMS
 - User manual – include disposal information
 - Ensure the information is communicated during installation and at end of warranty period.
- Some tips:
 - Utilise your existing communication channels and identify key points in the customer journey where messaging may make an impact.
 - Use simple language, e.g., 'broken lamp' instead of 'e-waste' or 'end of life'
 - Give your agents and call centre staff a script to enable them to easily recall disposal instructions.
 - Use the communication as a way to reconnect with your customers further down the product lifecycle...anticipating they may want to replace the product, re-engagement can help with customer retention.
 - International e-waste day – 14th October 2022

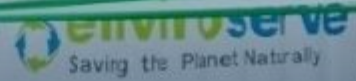
Companies that have the basic requirements already in place can go further, but this depends on company size, market reach and availability of recycling infrastructure.

- Your consumers:
 - Consider take-back and incentivisation schemes.
 - Offer an extended warranty to ensure products are repaired and / or collected at EoL.
 - Implement communication campaigns on local radio/TV.
- Your partnerships:
 - Establish a partnership with a recycler / waste management service. Audit them annually and ensure you obtain certificate of disposal.
 - Join a producer responsibility organisation.
- Your products:
 - Use recycled plastics and easy-to-recycle materials.
 - Consider access for repairability.

E-WASTE COLLECTION POINT

EWASTE DROPOFF

CAUTION
Mind Your Fingers
While using the facility



enviroserve E-waste Solutions
Pioneering E-waste Management in East Africa

- Electronic waste collection
- Battery collection and recycling
- Data destruction
- Professional repair and refurbishment
- Electronic waste de-branding and recycling
- Technical training in waste/electronic repair, Refurbishment, reuse and recycling
- Technical Assistance and maintenance

enviroserve GLOBAL LEAD

Responsible collection and treatment of end of life electrical and electronic equipment in E-waste

“Let's protect our environment by ensuring that our end of life electrical and electronic equipment are collected and treated properly”

Discussion / Q&A

- For manufacturers / B2B companies:
 - What is your e-waste footprint?
 - How can you help your partners implement these basic steps?
- For distributors / B2C companies:
 - Do your contract agreements with OEMs outline e-waste responsibilities?
 - How can you integrate e-waste messaging into your existing operations / customer communications?

The best way to manage e-waste is to reduce it!

- Circularity is the process of designing out waste and extending use of materials.
- **Manufacturers:**
 - Are encouraged to consider how to improve product design for longevity, ease of repair, and use of recyclable/recycled materials.
 - Make spare parts and simple repairs accessible
- **Distributors:**
 - Factor in repair and refurbishment into your operating model
 - Choose high-quality, robust products
 - Consider extended warranties

Poll 2:

There are some simple steps that I can take to improve e-waste management...

1. Agree
2. Disagree - we're doing all we can
3. Not sure, we need more help

Reach out to the helpdesk:

GOGLA



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Energy Access Relief Fund Help Desk

A resource centre to support and provide technical assistance to beneficiaries of the Energy Access Relief Fund.

Thank you!

GOGLA

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